

STRESS AND ANXIETY AMONG BLACK PREGNANT AND POSTPARTUM WOMEN:
STRATEGIES TO IMPROVE SCREENING PRACTICES AND HEALTH OUTCOMES

By

KANDYCE MICHELLE HYLICK

(Under the Direction of Pamela Orpinas)

ABSTRACT

Significant racial disparities in maternal health in the United States have persisted, with the highest mortality and morbidity among Black women. Mental health problems are the most common pregnancy-related complications. This study explored the perceptions of the Strong Black Woman, or Superwoman role, stress, and anxiety and the cultural equivalence of the Perceived Stress Scale (PSS) and the State-Trait Anxiety Inventory (STAI) among Black perinatal women. The study consisted of three phases. Phase 1 analyzed data from a survey of 134 Black perinatal women to assess how their experiences as Black women impacted their stress and anxiety levels. Phase 2 consisted of semi-structured interviews and responses to the PSS and STAI of 18 Black perinatal women. Using the sample from Phase 2, Phase 3 combined the qualitative and quantitative data to examine how participants conceptualize stress and anxiety and interpret items in the PSS and STAI using the Rasch model.

In Phase 1, the SWS, PSS, and STAI correlations were moderate. Higher education, but not socioeconomic status, was associated with lower stress and anxiety. Only 50% of the PSS and 30% of the STAI items were in the expected range. However, in Phase 3, the number of items in the expected range was much lower. Three themes emerged from the participant

interviews: 1) Black Women had strong, diverse, and polarizing opinions of the Strong Black Woman and Superwoman roles. 2) American history, culture, and lived experience impacted the mental health of Black perinatal women. 3) Black perinatal women fear losing their lives while navigating the healthcare system in the United States. Women emphasized how stress and anxiety frequently manifest physically first. However, the PSS and STAI do not include physical items. Many indicated rephrasing the items to improve clarity and specificity.

This study addresses critical gaps in current knowledge about maternal mental health measurement and assessment among Black perinatal populations. Findings extend previous research in documenting the significance of understanding Black maternal mental health and the need for developing culturally competent measures, the quality of the assessment process, and healthcare modifications for Black perinatal women.

Keywords: Black perinatal women; Maternal health; Mental health; Stress; Anxiety; Measurement; maternal mental health; Strong Black Woman

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By

KANDYCE MICHELLE HYLICK

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MPH, Mercer University, 2019

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By

KANDYCE MICHELLE HYLICK

Major Professor: Pamela Orpinas

Committee: George Engelhard
Nathan Hansen
Karen Sheffield-Abdullah

Electronic Version Approved:

Ron Walcott
Dean of the Graduate School
The University of Georgia
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DEDICATION

To my Lord and Savior Jesus Christ, who gave me the strength to persevere through this journey
and still consider it all joy.

To my grandmother, Linda, who showed me the world; I wish you were here for this day, but I
hope I made you proud.

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To my husband, I love you and I thank you for your continuous support. You made space for me to reach higher and dream bigger. To the little people who call me Mommy, I love you so much! I hope this reminds you that you can do anything your heart desires. To my favorite lady, Madre, I love you so much! I couldn't have done this without you. Sister, thank you for your support, encouragement, and style tips to help me look the part. I wouldn't trade our trio for the world. To the many other family and extended family members who have prayed for me, checked in on me, and helped in any way, I couldn't thank you enough for your support.

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CHAPTER 1:

INTRODUCTION

Black pregnant women in the United States experience a unique burden of mental health problems. Specifically, exposure to racial discrimination during the critical time of pregnancy may lead to postpartum psychological distress, including high levels of anxiety, depressed mood, and psychological stress (Guardino et al., 2014). In addition, Black women may be at elevated risk for perinatal depression (Keefe et al., 2016; Tandon et al., 2011). While psychological distress during pregnancy is common, affecting an estimated 20% of childbearing women, Black women manage additional stressors caused by pregnancy-related stress and racial discrimination. Racial and ethnic minority women encounter higher exposure to chronic stressors throughout their lifetime, which increases their risk of adverse pregnancy outcomes (Alhusen et al., 2016). While the prevalence of psychological distress during pregnancy is similar among different racial groups, racial discrimination and stigma associated with mental illness lead to suffering on multiple levels for Black women.

First, although 70% to 80% of new mothers experience mood swings or negative feelings during the first few days postpartum, Black women have higher rates of perinatal mood disorders than other racial groups (CDC Foundation, 2018; Howell et al., 2005). Psychological distress and other maternal mental illnesses impact women's well-being and relationships with their children, partners, loved ones, and communities. Additionally, experiencing mental health disorders during pregnancy and postpartum is associated with decreased mother-infant attachment (Satyanarayana et al., 2011). Postpartum depression, stress, and anxiety are associated with less

intimacy, increased stress on their partner, and feelings of inadequacy in their partner (Johansson et al., 2020). While Black women are more likely to experience psychological distress, they have additional barriers that may prevent them from seeking treatment.

Second, aside from the adverse outcomes due to potential maternal mental health disorders, Black women face the societal impacts of racial discrimination. Racial discrimination can sometimes impact their health by restricting access to beneficial resources. Such limitations include lack of employment, limited access to fair housing, lower education, and poor quality healthcare, providing women seeking care with additional barriers to mental health specialists (Berger, 2015; Pass et al., 2019). Perceived and objective discrimination have been linked with poor physical and mental health outcomes, with perceived discrimination directly associated with health-related stress (Evans & Sheu, 2019). The authors noted the association of frequent and perceived discrimination with delaying or avoiding seeking services. While discrimination directly impacts the mental health of Black women, it also acts as a barrier to accessing mental health services when needed.

Finally, the stigma associated with mental illness in the Black community leaves some women fearful of the impact of being diagnosed with a maternal mental illness because it could challenge their custodial rights (McLoughlin, 2013). Stigma combines lack of knowledge, negative attitudes, and avoidant behaviors (Thornicroft, 2008). In the Black community, stigma related to mental health may act as a barrier for women to seek care for perinatal mental health concerns. Whether due to misinformation, discrimination, or prejudice, individuals with a mental illness are not valued as highly as those without one, which may prevent some from seeking a diagnosis or receiving treatment (Thornicroft, 2008).

The exact prevalence of maternal stress and anxiety is uncertain (Robertson et al., 2004). Significant cultural norms and societal pressures on mental illness leave Black women to believe that “strong women” do not develop mental illnesses, which are constructs of the Strong Black Woman or Superwoman role (Karras et al., 2018; Mullings, 2006). The Strong Black Woman and Superwoman terms are often used interchangeably when alluding to the cultural expectations placed on Black women in the United States (Nelson et al., 2023). Such cultural expectations have led Black women to feel that admitting those feelings would make them unfit mothers (Karras et al., 2018). Community perceptions lead many women to delay or decline seeking treatment, which can harm the mother or the baby (McLoughlin, 2013). The likelihood that the woman has been experiencing mental health symptoms for a substantial amount of time when finally seeking treatment highlights the urgency to ensure that the variables of current mental health measures accurately detect mental illness in Black perinatal women.

The samples used to develop and validate existing mental health measures have been primarily White, middle-class women in countries outside of the United States. Because of the complex history of U.S.-born Black women, the items included in the questionnaires may not identify stress and anxiety levels among Black perinatal populations. Although investigators and healthcare workers use established measures to diagnose perinatal stress and anxiety among women of all races and ethnicities, the research results yield inconsistencies among populations (Chiu et al., 2017). The variation in factor structures may be due to various cultural nuances, languages, ethnicities, and socioeconomic groups and how they interpret and respond to the questions (Chiu et al.). In addition to the factor structure of the measures, this study investigated how the Strong Black Woman role impacts Black women’s perceptions of the items included in the measures. Furthermore, the study examines how societal expectations and community

perceptions influence how Black women respond to the items included in stress and anxiety measures. Given the impact stress and anxiety have on women during the perinatal period, the screening tools must be effective and appropriate among Black perinatal populations.

1.1 Study Purpose

The purpose of this three-phase study was to explore the Strong Black Woman or Superwoman role and the mental health of pregnant and postpartum Black women, utilizing these three measures: Superwoman Schema (SWS; Woods-Giscombé et al., 2019), Perceived Stress Scale (PSS; Cohen et al., 1983), and the State-Trait Anxiety Scale (STAI; Spielberger, 1983). The study follows the multiphase mixed-methods approach defined by Decuir-Gunby and Schultz, with Phase 3 incorporating a quantitative-led mixed-methods study design.

Phase 1 is a secondary analysis of a 2018 dataset of 134 Black perinatal women who completed the SWS, PSS, and STAI. Phase 1 investigated the measurement equivalence of the stress and anxiety scales and how specific items function among the population. This phase also examined how Black women's level of education, income, and association with Strong Black Woman identity impacted their stress and anxiety levels. Findings from Phase 1 will influence the interview guide for the qualitative data collection in Phases 2 and 3.

For Phases 2 and 3, I collected survey and interview data from 18 pregnant and postpartum Black women. Phase 2 used a qualitative approach to examine the individual interviews. The purpose was to understand the participants' perspectives on the Strong Black Woman role. In addition, this phase explored their views of how their identity as a Black woman impacted their mental health and maternal health care.

Phase 3 incorporated a mixed-methods approach using the survey and interview responses captured in Phase 2. Interview questions about specific items from the stress and

anxiety measures were influenced by Phase 1 results. This phase examined participant responses to the three measures. It also explored the relationship between how they responded to the items in the survey and their understanding of the concepts in the measures.

Relevant constructs derived from the Socio-Ecological Model and the Black Feminist Theory guided this study. The research objectives for the study are:

PHASE 1 QUANTITATIVE ANALYSIS – OBJECTIVES

- 1.1** Examine the impact of the Strong Black Woman role on the stress and anxiety levels of Black pregnant and postpartum women.
- 1.2** Explore how socioeconomic status and education levels affect how Black pregnant and postpartum women respond to stress and anxiety levels.
- 1.3** Examine the measurement equivalence of the stress and anxiety measures among Black pregnant and postpartum women.
- 1.4** Develop an interview guide for Phase 2 based on the results of the analyses.

PHASE 2 QUALITATIVE ANALYSIS – OBJECTIVES

- 2.1** Explore the perspectives on the Strong Black Woman role and how it impacts Black perinatal women's mental health.
- 2.2** Explore the impact culture and the Strong Black Woman role have on Black perinatal women's mental health.

PHASE 3 MIXED-METHODS ANALYSIS – OBJECTIVES

- 3.1** Examine how Black pregnant and postpartum women respond to standard mental health measures.
- 3.2** Explore the perspectives of Black pregnant and postpartum women on how they define and interpret stress and anxiety.

1.2 Implications for Future Research

The findings derived from this study will 1) provide a better understanding of the factors that contribute to stress and anxiety among pregnant and postpartum Black women; 2) add to the empirical research on the role of culture in measurement, measurement development, and validation; and 3) provide a methodology for analyzing mental health measures for cultural competency.

Study results provide a basis to understand whether the items included in the PSS and STAI accurately capture symptoms of stress and anxiety in Black perinatal women. It also provides a deeper understanding of the Strong Black Woman's impact on Black perinatal women's mental health. In addition, the data from this study can influence future studies on how to better assess maternal mental health disorders among Black perinatal women or aid in developing culturally relevant mental health measures for minority populations.

CHAPTER 2:

LITERATURE REVIEW

Chapter two covers topics relevant to Black women's mental health in the United States and the impact of culture and lived experiences on their maternal health outcomes. This chapter consists of four sections. The first section provides an overview of maternal mortality globally and in the United States, emphasizing Black maternal mortality. The second section details mental health, focusing on stress and anxiety; it also discusses the Superwoman Schema. The third section explains the theoretical framework used in this study. The fourth section covers measurement development and its role in assessing mental health disorders throughout pregnancy and postpartum and amongst different cultures.

2.1 Maternal Mortality

Maternal mortality is an ongoing crisis that harms populations and communities worldwide. One definition for maternal mortality is death during pregnancy or within a year from the end of pregnancy (Centers for Disease Control and Prevention, 2021a), a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy (Centers for Disease Control and Prevention). Maternal mortality refers to maternal deaths extending to one year post-birth, irrespective of the cause of death. Table 2.1 provides specific definitions for maternal death, including term limitations and causes. These distinctions are crucial because the prevalence of direct and indirect maternal deaths vary by regions, and this knowledge will help improve the outcomes.

The World Health Organization (World Health Organization, 2019, 2023) reported that approximately 810 women died each day from preventable causes related to pregnancy and childbirth, with 94% of all maternal deaths occurring in low- and middle-income countries.

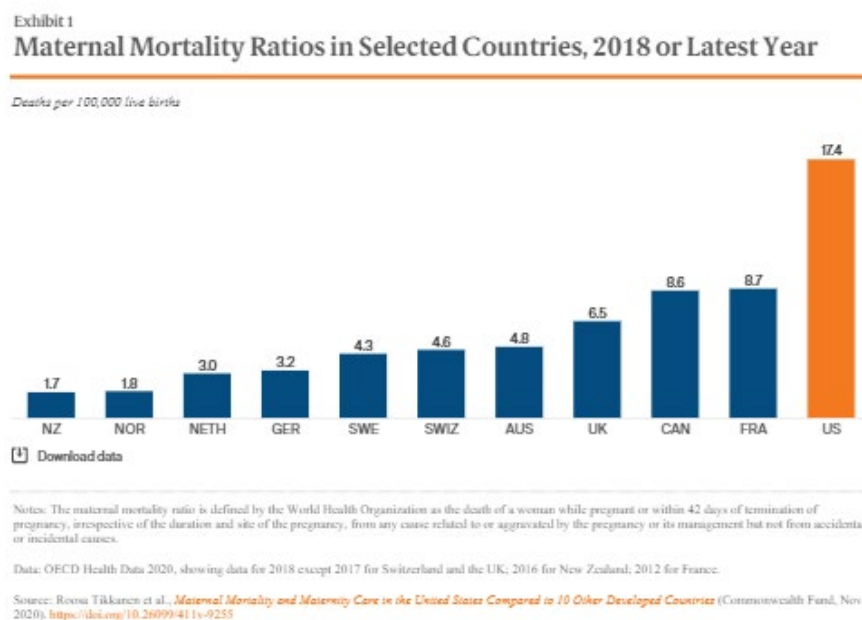
Table 2.1 Relevant Definitions of Maternal Mortality

Term	Definition
Severe maternal morbidity	Unexpected outcomes of labor and delivery that result in significant short- and long-term consequences to health (The Global Health Observatory, 2021)
Maternal mortality ratio	The number of maternal deaths per 100,000 live births (Collier & Molina, 2019)
Maternal death or maternal mortality	The annual number of female deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy (The Global Health Observatory, 2021).
Late maternal death	Death of a woman from direct or indirect obstetric causes more than 42 days but less than one year after termination of pregnancy (The Global Health Observatory)
Direct obstetric deaths or direct maternal deaths	Death that results from obstetric pregnancy and labor complications, interventions, omissions, incorrect treatment, or a chain of events resulting from previous events (The Global Health Observatory)
Indirect obstetric deaths, or indirect maternal deaths,	Death due to pre-existing disease or disease that developed during pregnancy and not due to direct obstetric causes but by the physiologic effects of pregnancy (The Global Health Observatory).
Pregnancy-related death	Death of a woman while pregnant or within one year of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or by the aggravation of an unrelated condition by the physiologic effects of pregnancy (Tikkanen et al., 2020)
Pregnancy-associated death	Death while pregnant or within one year of the end of pregnancy, irrespective of cause (Tikkanen et al.). While maternal deaths include different subcategories, they are all included in the overall maternal mortality rates.

From 2000 to 2017, the global maternal mortality ratio (MMR, number of maternal deaths per 100,000 live births) dropped by about 38% worldwide (World Health Organization, 2019). The 2017 MMR for low-income countries was 462 per 100,000 compared to 11 per live births in high-income countries (World Health Organization). Compared to the other ten high-income countries, such as Australia, Canada, Sweden, and the United Kingdom, the maternal

mortality rates in the United States are more than double that of the other countries (Figure 2.1; Tikkanen et al., 2020). For example, in 2018, the MMR in New Zealand, Norway, and the Netherlands was 3 per 100,000 or fewer compared to 17 per 100,000 in the United States (Tikkanen et al., 2020). While global MMRs are declining in low- and middle-income countries or declining or remaining low in high-income countries, the MMR in the United States is steadily increasing (Tikkanen et al.).

Figure 2.1: Maternal Mortality



A 2023 report on maternal mortality by the World Health Organization showed no improvements in maternal mortality. A maternal death occurs almost every two minutes, with nearly 800 deaths occurring daily due to preventable causes associated with pregnancy and childbirth (World Health Organization, 2023). In addition, close to 95% of maternal deaths occurred in low- and middle-income countries, which is close to the data from 2017.

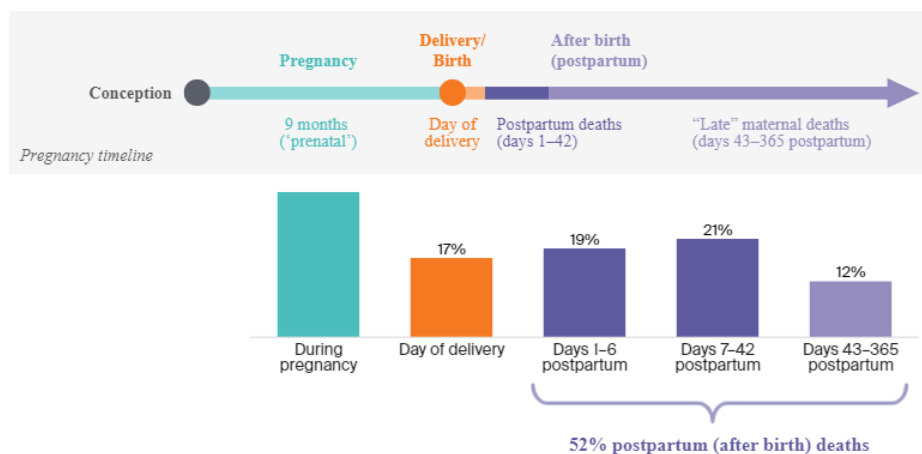
Maternal Mortality in the United States

Although most maternal deaths are preventable, the number of maternal deaths in the United States has increased since the 1980s (Centers for Disease Control and Prevention, 2021a;

Tikkanen et al., 2020). The U.S. pregnancy-related mortality rate was 17.4 per 100,000 live births in 2017, increasing steadily from 7.3 per 100,000 in 1987 (Centers for Disease Control and Prevention, 2021a). Close to one-third of U.S. pregnancy-related deaths occur during pregnancy, with 17% on the day of delivery and 53% after delivery (Figure 2.2; Tikkanen et al., 2020).

Forty percent of all maternal deaths in the United States occur between one and six weeks postpartum, and 12% are known as late maternal deaths occurring after six weeks postpartum and within a year postpartum (Figure 2.2; Tikkanen et al., 2020). Research indicates that women in the United States experience more late-term maternal deaths than women in other high-income countries (Tikkanen et al.). In addition to noting the time maternal deaths occur, researchers and medical professionals should also consider the cause of death. Although the maternal mortality rates are high overall for the country, the maternal mortality rates vary from state to state. Some states report more than 30 maternal deaths per 100,000 births, and others report fewer than 15 per 100,000 (Declercq & Zephyrin, 2020).

Figure 2.2: Pregnancy Related-Deaths



Data: Centers for Disease Control and Prevention Pregnancy-Related Mortality Surveillance data from: Emily E. Petersen et al., "Vital Signs: Pregnancy-Related Deaths, United States, 2011-2015, and Strategies for Prevention, 13 States, 2013-2017," *Morbidity and Mortality Weekly Report* 68, no. 18 (May 10, 2019): 423-29.

Source: Roosa Tikkanen et al., *Maternal Mortality and Maternity Care in the United States Compared to 10 Other Developed Countries* (Commonwealth Fund, Nov. 2020). <https://doi.org/10.26099/411v-9255>

Causes of pregnancy-related deaths vary based on health status, healthcare access, race/ethnicity, and timing of death. Cardiovascular conditions (e.g., cardiomyopathy, hemorrhage, embolism) and hypertensive conditions (e.g., pre-eclampsia and eclampsia) are the most common causes of pregnancy-related deaths. They also contribute to maternal death and severe maternal morbidity (Centers for Disease Control and Prevention, 2021a). Treatment provided during pregnancy, increasing prevalence of chronic diseases (especially obesity), and rising cesarean delivery rates are also causes of maternal death and maternal mortality increase (Joseph et al., 2017). According to the CDC, severe maternal morbidity affected more than 50,000 people giving birth in the United States in 2014 (2021). One in six severe maternal mortality-causing events occurs among women living in low-income conditions (Centers for Disease Control and Prevention, 2021a).

Attention to maternal mortality and morbidity primarily focused on provider, hospital, and systems-based strategies to address this crisis. These efforts are necessary but insufficient. Solutions focused on the time and setting of births address only a fraction of the problem. Notably, one-third of pregnancy-related deaths occur after the first week of delivery through one-year post-delivery, when women interact *less* with the healthcare system (Centers for Disease Control and Prevention, 2021a). Many low-income women without private insurance qualify for Medicaid coverage when they become pregnant, extending until 60 days after pregnancy. Over 20% of pregnant women become uninsured between two to six months postpartum if their state has not chosen to expand postpartum coverage (Centers for Medicare and Medicaid Services, 2020). Community-based support and healthcare in the year following pregnancy are equally important ((Julian et al., 2020; Zephyrin et al., 2021). Moreover, experts increasingly call for better financing and evidence-based approaches for group pregnancy care, enhanced prenatal

care, freestanding birth centers, and a care team that includes doulas, midwives, and community health workers (Zephyrin et al., 2021).

Variability in the risk of pregnancy-rated death by race/ethnicity is associated with multiple factors such as structural racism and its impact on access to care, health care quality, the prevalence of chronic diseases, and implicit racial biases in the health care system (Artiga et al., 2020; Declercq & Zephyrin, 2020; Howell, 2018; Petersen et al., 2019). Significant disparities exist by race/ethnicity, with roughly 41 deaths per 100,000 live births among Black or African American women, 28 for American Indian or Alaska Native, and less than 14 for White, Asian/Pacific Island, and Hispanic individuals (Artiga et al., 2020; Petersen et al., 2019). The disparities among minority groups in the United States are higher than those of White, non-Hispanic individuals despite their socioeconomic status or education level (Declercq & Zephyrin, 2020; MacDorman et al., 2021). Therefore, addressing the Black maternal mortality crisis must be the main priority to reduce maternal mortality in the country.

Black Maternal Mortality

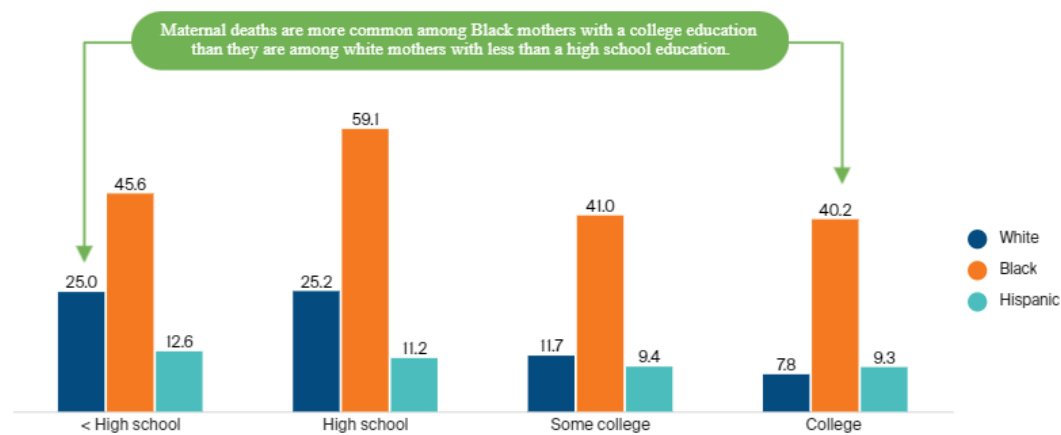
The maternal mortality rate is 2.5 to 3.5 times greater for Black women than non-Hispanic, White women in the country (MacDorman et al., 2021). Much of the excess mortality is preventable (MacDorman et al.). The maternal mortality risk was five times higher for Black women than their White, non-Hispanic counterparts for eclampsia and pre-eclampsia. However, 60% of maternal deaths related to pre-eclampsia are preventable (MacDorman et al.). When considering cardiomyopathy, Black women's maternal mortality rate was five times higher (MacDorman et al., 2021). The late-term maternal mortality rate was six times higher in Black women than in White, non-Hispanic women (MacDorman et al.). The third-largest cause of death among Black women was obstetric embolism, with obstetric hemorrhage being the fourth,

and maternal mortality rates are 2.6 and 2.3 higher for Black women (MacDorman et al., 2021). Yet, around 70% of the deaths attributed to hemorrhage are preventable.

Significant disparities in maternal mortality between Black and White women have been present in the United States for nearly 100 years (Chinn et al., 2021). Race, ethnicity, and gender are sociocultural constructs that reflect common geographic origins and cultures, and these constructs may impact Black women's health outcomes (Chinn et al.). Systematic oppression, bias, and unequal treatment have affected Black women on multiple levels, including lived environment, housing, education, and income. Social determinants of health have been associated with pregnancy-related mortality, especially considering the high mortality rates among Black perinatal women in the United States. Racial differences in education, employment, and housing result from discrimination, segregation, and laws that oppress Black people (Chinn et al.). In addition, the intersection of race and gender increases the impact that either race or gender alone has on Black women. They are subject to higher levels of sexism, racism, and discrimination than Black men or White women experience. The intersectionality of race and gender, accompanied by the history of racism in the United States, has contributed to high maternal mortality among Black women.

In many instances, lower socioeconomic factors, such as income and education, and lack of prenatal care contribute to the disparities associated with poor health outcomes for Black women (Lister et al., 2019). Yet, that may not be the case. For instance, Black mothers with a college education are at a 60% greater risk for maternal death than White, non-Hispanic women with less than a high school education (Figure 2.3; Declercq & Zephyrin, 2020).

Figure 2.3: Pregnancy-Related Mortality Ratios per 100,000 Births in the U.S., 2007-2016



Even when Black women receive prenatal care throughout the three trimesters and postpartum, the disparity of maternal mortality is still present; Black women still have four times the risk of maternal death compared to White women (Lister et al., 2019). Possible explanations are comorbidities, hospital quality, and differential treatment. First, Lister et al. showed that, in hospitals that treat a high number of Black people, Black patients were more likely than White patients to have comorbidities, like hypertensive disorders of pregnancy, asthma, gestational diabetes, obesity, and cardiac disease.

Second, the hospital quality (defined as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes) and quality of care that patients received were responsible for the health outcomes (Chinn et al., 2021; Lister et al., 2019). Black women who give birth in low-performing hospitals report poor patient-provider communication and difficulty obtaining quality prenatal and postpartum care (Chinn et al.).

Third, aside from the hospital quality, in some instances, Black patients receive differential treatment, including not receiving necessary counseling or pain medication despite having similar pain scores to non-Black patients (Chinn et al., 2021; Lister et al., 2019). Black women's perception of racial bias and the history of medical mistreatment that Black people

have experienced in the United States have impacted their ability to communicate effectively with their maternity providers. If left unaddressed, the history of systematic racism and discrimination in the United States will continue to affect Black women's care and increase maternal mortality rates.

2.2 Mental Health

Mental health is the state of well-being in which individuals realize their abilities, can cope with the everyday stresses of life, work productively and fruitfully, and contribute to their community (Galderisi et al., 2015). The National Institute of Mental Health identifies several disorders and related topics regarding mental health, including anxiety disorder (National Institute of Mental Health, 2023). Stress is not a mental health disorder, yet it can impact mental health and lead to other physical health conditions if not managed.

The following sections examine the impact of stress, anxiety, and mental health on maternal health outcomes of Black women.

Stress

Stress is a psychophysiological response to real or perceived environmental pressures, resulting in lowered immune system function and increased susceptibility to adverse health outcomes, such as diseases and even death (Piotrowski & Hollar, 2013). The term *stress* is so widely used that it can vary based on the field and may be challenging to define. For example, stress may refer to a negatively perceived factor or situation in psychology. In contrast, a biological definition of the term incorporates the environmental factors affecting the cell, organ, or body (Bienertova-Vasku et al., 2020).

In the 1970s, Hans Selye introduced the concepts of eustress and distress to differentiate between positive, stimulating stressors and negative or unpleasant ones (Bienertova-Vasku et

al.). Selye defined eustress as healthy, positive, constructive results of stressful events and stress response or, more simply, a positive cognitive response to a stressor. Lazarus further defined eustress as a positive cognitive response to a stressor (Kupriyanov & Zhdanov, 2014). Like eustress, distress has had many definitions over time. Still, most characterize distress as a negative state in which coping and adaptation processes fail to return an organism or individual to physiological or psychological homeostasis (National Research Council Committee on Recognition and Alleviation of Distress in Laboratory Animals, 2008). The transition from stress to distress depends on the duration and intensity of the stressor. This transition is significant because, in some instances, short-term restraint may not cause problems in adaptation. Yet, a prolonged restriction can cause behavioral or psychological distress. Understanding the different stress variations is valuable because stress is often thought about negatively. Beyond the type of stress, the duration and intensity of the stressor affect health.

Chronic and acute stress can impact overall health. Chronic stress refers to prolonged exposure to a stressor, and acute stress refers to short-term exposure (McGonagle & Kessler, 1990). Research indicates that while stress can influence decision-making, acute stress responses may not become habitual like chronic stress responses across populations. Instead, acute stress responses depend on individual reactions to the stimuli. Radenbach et al. (2015) concluded that experiences of an acute stressor alone did not elicit a behavior change. Yet, an acute stressor did prompt a behavior change among those with higher chronic stress. The interaction between chronic and acute stress introduces a valuable concept that requires further exploration in minority populations. Further, distress can follow acute and chronic stress, yielding insufficient or inappropriate changes in behavior (National Research Council Committee on Recognition and Alleviation of Distress in Laboratory Animals, 2008).

Anxiety

Lazarus characterized anxiety as a stress emotion, and like other stress emotions, it includes four components: affect, an impulse to act, physiological changes, and cognitions (Endler & Parker, 1990). Anxiety is further described as a stimulus, response, drive, motive, and trait (Endler & Parker). Harrison et al. (2015) define anxiety as an emotion characterized by a surge of activity in a specific location in the brain that causes psychological discomfort ranging from slight uneasiness to immobilizing fear. Anxiety is a part of daily life, whereas mild anxiety can improve productivity and motivation, and intense anxiety can promote survival skills (Harrison et al., 2015).

Scholars distinguish two types of anxiety. First, state anxiety is a transitory and emotional condition that occurs in shorter durations or as a response to a specific threat (Harrison et al.). Second, trait anxiety, a stable personality characteristic regarding the potential for manifesting state anxiety, is more chronic and has a longer duration (Endler & Parker, 1990). When anxiety gets to a point where it begins to impact daily life, it can then be diagnosed as an anxiety disorder. It can affect individuals on a physiological, behavioral, and psychological level (Harrison et al., 2015). Researchers have identified two components of state anxiety (cognitive worry and emotional arousal) and three components of trait anxiety (interpersonal threat, physical danger, and ambiguous threat) (Endler & Parker, 1990). Due to the unidimensional constructs of state and trait anxiety, Spielberger (1983) developed the State-Trait Anxiety Index as a two-part measure that can be used independently to assess state and trait anxiety and involves both person and situation factors in predicting state anxiety.

Due to being conceptualized as a stress emotion, social scientists often include anxiety in stress research and psychological and personality theories. However, sometimes anxiety is

assessed within frameworks that have stress and coping. An example is a model by Endler and Parker (1990), where trait anxiety and vulnerability interact with stressful situations, inducing a perception of danger. This model introduced the multidirectional interaction of stress and anxiety, eliciting different biochemical, physiological, or coping responses based on interpreting a potent threat.

Black Women's Mental Health – The Superwoman Schema

Black women experience high rates of physical health problems, which may be attributed to how they experience and cope with stress (Woods-Giscombé, 2010). Both gender and racism impact the stressful experiences of Black women. In addition, their coping responses due to the historical and sociocultural context influence how stress affects the health outcomes in the population. Thus, the concept of the Strong Black Woman or Superwoman role is the result of Black women's efforts to counteract societal characterizations and expectations about womanhood (Woods-Giscombé). The concept also highlights less notable positive attributes that formed and still exist despite Black women's oppression and adversity in the United States. For example, the United States' history of racism, gender oppression, and limited resources—that began during slavery and persisted till today—forced Black women to become mothers, nurturers, and family breadwinners out of necessity (Mullings, 2006). Over the last decades, evidence linking psychological stress and adverse health outcomes among Black women has grown (Liao et al., 2020). They experience higher stress-related chronic health conditions than White, non-Hispanic women (Woods-Giscombé et al., 2019). They are more likely to be obese and have higher rates of diabetes, cardiovascular disease, and stress-related morbidity. There is significant evidence associating physiological stress and race and gender-related stress with increased risk for chronic illness, inadequate physical activity, and stress-related eating disorders.

Yet, more research is needed to identify the association between stress and health outcomes in Black women (Woods-Giscombé et al.).

Woods-Giscombé (2019) developed the Superwoman Schema (SWS) to include the contextually and culturally relevant factors that may influence the association between stress and health outcomes among Black women. The Strong Black Woman role or Superwoman framework represents resilience, self-efficacy, and survival. Understanding this phenomenon is necessary to understand the association between Black women's physical and mental health (Woods-Giscombé, 2010). The Superwoman Schema Conceptual Framework includes five distinct constructs: (a) obligation to present an image of strength, (b) obligation to suppress emotions, (c) resistance of vulnerability or dependence on others for support, (d) motivation to succeed despite limited resources, and (e) prioritization of caregiving over self-care (Woods-Giscombé et al., 2019). Those characteristics have perceived benefits for self-preservation, family preservation, and community preservation. All of them can be beneficial as women face potential adverse health problems and life events. Yet, the schema also has associated liabilities, such as delayed health-seeking and stress-related health behaviors, which may increase the risk of relationship strain or physical illness (Woods-Giscombé et al.). The SWS conceptualizes the Strong Black Woman or the Superwoman role and its impacts on mental health, such as hopelessness, anxiety, depression, and physiological symptoms like cardiovascular disease (Knighton et al., 2020; Woods-Giscombé, 2010).

Maternal Mental Health

Many women experience mental health problems during the perinatal period, including depression, anxiety, and psychosis, with severe cases ending in suicide (World Health Organization, 2019). Due to the various diagnostic instruments and cultural norms around mental

illness, the exact prevalence of maternal mental health diagnoses is uncertain. However, estimates show up to 20% of pregnant and postpartum women globally experience depression or anxiety, and 1 to 2 women per 1,000 pregnancies experience psychosis (Jones & Craddock, 2005; World Health Organization, 2019). Maternal mental health problems are associated with short- and long-term risks for the mother's well-being, health, and functioning (Thapa et al., 2020). Stressful conditions, natural disasters, and emergency situations can increase the risk of maternal mental health morbidity (Thapa et al.). For example, the home isolation, physical distancing, and remote healthcare consultations experienced during the COVID-19 pandemic had unintended mental health consequences on pregnant and postpartum women. In addition, women who live in poverty, have experienced racism or homelessness, or have a history of mental illness before pregnancy are more likely to experience maternal mental health problems (Primm et al., 2010; Robertson et al., 2004; Wisner et al., 2001).

Black Maternal Mental Health

Black women's health deteriorates due to the "cumulative impact of repeat experience with social, economic, and political exclusion" (Geronimus et al., 2006, p. 23). Repeated exposure to racism and discrimination increases their susceptibility to stress (Geronimus et al.), which leaves Black women in the United States with a higher risk of preterm birth and other adverse health outcomes (Christian et al., 2012). Preterm delivery among Black women born outside of the United States is lower than among those born within the United States, further pushing the narrative that race alone is not a risk factor for adverse health outcomes, but racism is. In addition, Black women with severe pre-eclampsia exhibit more severe hypertension than White, non-Hispanic women. While the evidence is mixed regarding the association between

racial disparities and the prevalence of pre-eclampsia, some studies have found a greater prevalence among Black women (Christian et al.).

Figure 2.4: Pathways Linking Stress, Immune Function, and Perinatal Health Outcomes

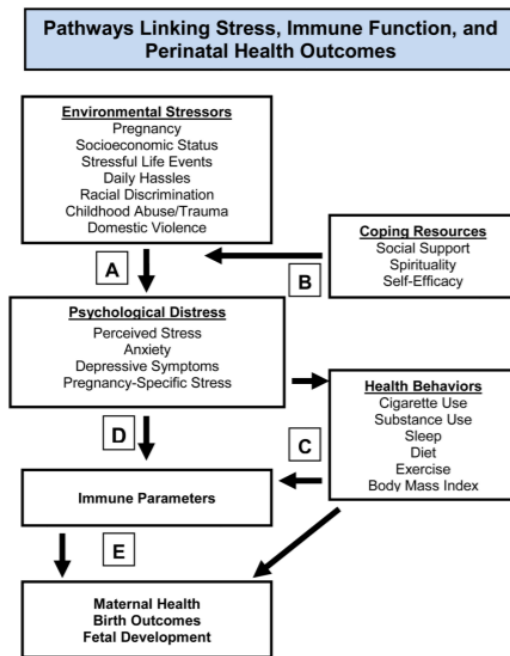


Figure 1. Pathways Linking Stress, Immune Function, and Perinatal Health Outcomes
Greater exposure to objectively stressful events results in greater experience of subjective distress (A). This effect is moderated by coping resources, including social support (B). Psychological distress may affect immune function via health behaviors (C) and direct physiological pathways (D) via effects on neuroendocrine and the sympathetic nervous system. In turn, immune parameters may affect maternal health (e.g., preeclampsia, susceptibility to infectious illness, wound healing), birth outcomes, and fetal development (E).

The Superwoman Schema conceptualizes how cultural factors may influence the association between stress and physical health outcomes. Figure 2.4 shows how environmental stressors such as racial discrimination, stressful life events, and pregnancy are linked to psychological distress, including pregnancy-specific stress, leading to adverse maternal health and birth outcomes (Figure 2.4: Christian, 2012). Many qualitative studies have expounded on how stress and racial discrimination negatively affect pregnancy and birth outcomes. The SWS takes this idea a step further by providing a method of quantifying how those experiences have impacted Black women's maternal health. It also provides a way to assess how the stressors specific to Black women are associated with adverse perinatal mental health outcomes.

The leading causes of maternal death in the United States are mental health conditions, with cardiovascular and hypertensive diseases being the highest cause among Black women (Centers for Disease Control and Prevention, 2022). Incorporating the protective factors of adequate coping resources, including social support networks and self-efficacy, may improve maternal health outcomes not attributed to quality healthcare or patient-provider interaction. While the SWS provides a framework to identify risk factors for Black maternal mortality, it is essential to further research the direct impact of the Strong Black Woman role on Black maternal health outcomes.

2.3 Theoretical Background

This study incorporates concepts from two social sciences theories. The socio-ecological model is the best model to understand the layered concepts impacting maternal mortality and morbidity in the United States. Black Feminist theory highlights Black women's experiences and the role that culture and lived experience plays in this research.

Social-Ecological Model

The socio-ecological model was the best model to understand the layered concepts impacting Black maternal mortality and morbidity in the United States. The socio-ecological model facilitates understanding the factors that affect behavior and guides the development of successful programs (Sallis & Owen, 2015). Socio-ecological models include multiple levels of influence: individual, interpersonal, organizational, community, and public policy, with the idea that behaviors both shape and are shaped by the social environment (Figure 2.5: Centers for Disease Control and Prevention, 2021b). The overarching principles of the socio-ecological framework are consistent with the constructs of the social cognitive theory, supporting the need

to create an environment conducive to change to make it easier to adopt healthy behaviors (Sallis & Owen).

Figure 2.5: Social-Ecological Model: Framework for Prevention



The CDC (2021b) adapted the socio-ecological framework by highlighting four factors from the ecological model in an overlapping display to model how the factors at one level influence the factors at another level. The model considers the interconnection between individual, relationship, community, and societal factors, which helps visualize the unique health challenges in the United States, including the increasing maternal mortality rates. The **individual** level identifies the biological, behavioral, cognitive, and demographic factors that increase the likelihood of experiencing a particular health outcome. The **relationship** level examines the close relationships (e.g., family, close friends, partners, etc.) that may increase the risk of experiencing the health outcome. The **community** level investigates the characteristics of the settings associated with the individuals experiencing specific health outcomes. These settings could include schools, churches, workplaces, neighborhoods, and other locations where social relationships occur. The **societal** level explores macro factors that create an environment that promotes or destroys health. Such societal factors include the health, economic, educational, and social policies that maintain economic or social inequalities within communities or groups. This

model allows researchers to understand the factors that put individuals at risk for complex health issues, like maternal mortality, and identifies how to target that issue on multiple levels.

Because maternal mortality in the United States has been high for nearly a century, it will take a multi-level approach, like the socio-ecological framework, to bring about change.

Maternal mortality has long- and short-term consequences on the families of the women, which can lead to psychological and economic implications for the surviving family members, friends, and community (Lister et al., 2019). On an individual level, if the mother dies, all members of her family and friends will be affected for life. Therefore, developing interventions for women who plan to get pregnant or are currently pregnant will be beneficial to improving family relationships and social support networks for the children. Incorporating intervention components to build social support networks comprised of the women's partners, family members, and friends can also contribute to the overall health and well-being of the mother.

Racial bias and perceived discrimination influence patient-provider interactions and communication (Janevic et al., 2020), highlighting a need to provide a culture where healthcare centers prioritize health equity and organization-wide training to reduce biases. More importantly, society has to prioritize health, especially among women who bring forth life. Once the country prioritizes maternal health, especially among Black women and other underserved populations, scholars and practitioners can work together to improve maternal health outcomes and reduce maternal deaths.

Several factors increase the risk of maternal mortality in the United States. The leading causes of maternal death have been hemorrhage, hypertensive disease, thrombosis, and cardiovascular disease, most of which are preventable (Kilpatrick, 2015). Therefore, addressing the high incidence of avoidable deaths and how they continue to occur will be necessary.

Additional risk factors for maternal mortality are older maternal age, existing or pre-existing health conditions, having multiple births, and certain health behaviors, such as smoking.

To reduce preventable deaths in the United States and maternal mortality overall, public health workers should address why Black women have much higher mortality and morbidity rates than White, non-Hispanic women. Dr. Joia Crear-Perry stated, “Race is not a risk factor for illness and death, but racism, bias, and discrimination are” (National Heart Lung and Blood Institute, 2021). Considering that Black women are still at increased risk of maternal deaths despite having a higher socioeconomic status and education level and access to quality healthcare, additional factors must increase their risk. Lister et al. (Figure 2.6; 2019) expanded the socio-ecological framework with maternal mortality at the forefront.

Figure 2.6: Maternal Mortality- Effect on family, community, nationally and internationally



Practitioners, public health workers, and policymakers in the United States must implement changes to reduce maternal mortality from an individual to a societal level. Examples of interventions to improve maternal health outcomes are regionalizing maternal levels of care, creating specialized care teams to address specific risk factors, and providing patient education to identify early warning signs for medical complications (Collier & Molina, 2019). Having

adequate social support, spirituality, and parental self-efficacy can reduce psychological distress associated with maternal health outcomes (Christian et al., 2012; Mannocci et al., 2022).

Another strategy for decreasing the risk of maternal mortality is for more hospitals and birthing centers to incorporate more midwives and doulas into maternity care. Interventions that include midwives and doulas (trained, non-clinical professionals who provide continuous physical, emotional, and informational support to a pregnant person before, during, and after childbirth) have better birth outcomes and maternal outcomes overall. Patients reported more interaction with their providers than with traditional care from an obstetrician-gynecologist (Mather, 2021; Taylor et al., 2019). The Institute for Healthcare Improvement found that community-based doulas improve birth experiences and outcomes, yet many barriers may prevent Black mothers from getting support. Community-based doulas play a critical role in helping pregnant women feel empowered and combating the loss of autonomy that Black women may feel due to racism and discrimination (Mather, 2021).

In addition to incorporating midwives and doulas, implementing evidence-based safety measures to manage obstetric complications that are most likely to cause maternal mortality and severe maternal morbidity or death can reduce problems during pregnancy, delivery, or the postpartum period (Collier & Molina, 2019). On the day of delivery, the leading causes of death are hemorrhage, amniotic fluid embolism, and cardiac conditions (Collier & Molina, 2019). In addition, hemorrhage, hypertensive disorders, infection, and cardiac conditions are the leading causes of maternal death between 1 and 6 days postpartum (Collier & Molina, 2019).

Implementing evidence-based safety measures at all hospitals and birthing centers across the United States would allow healthcare workers to be better prepared to address the health conditions of the mothers in their care. As most unintended maternal deaths occur between six

weeks and one year after delivery, providing a continuum of care beyond the standard six weeks postpartum will reduce the risk of late-term maternal deaths (Collier & Molina, 2019).

To decrease the risk of maternal mortality on a societal level, health councils continuously work to develop policies that have been put in place or are awaiting judgment in Congress. The American College of Obstetricians and Gynecologists (2023) mentions healthcare review councils as one way to reduce the risk of maternal deaths on a community and societal level. Maternal Mortality Review Committees (MMRCs) consist of perinatal professionals—including obstetricians-gynecologists, nurses, social workers, and psychologists—whose sole responsibility is to monitor births, collect data, and assess problems occurring in hospitals and birthing centers in the United States (American College of Obstetricians and Gynecologists, 2023). Functioning at the societal level to hold states accountable for their maternal mortality rates, the MMRCs will help address the range of disparities and inconsistencies between the states related to maternal death. In addition to MMRCs, the Preventing Maternal Deaths Act was introduced in 2017 and signed into law in 2018 to provide funding for MMRCs in every state (American College of Obstetricians and Gynecologists, 2023; Collier & Molina, 2019).

The Maternal Care Access and Reducing Emergencies Act (CARE Act) focuses on dismantling structural racism through training programs for clinicians to reduce implicit bias (Collier & Molina, 2019). Whereas the Mothers and Offspring Mortality and Morbidity Awareness Act (MOMMA Act) seeks to expand Medicaid through one year postpartum, standardize data collection through CDC, establish and enforce national emergency obstetric protocols, and improve culturally competent care (Collier & Molina, 2019).

Lastly, the Black Maternal Health Momnibus Act of 2021, introduced in 2020, seeks to address maternal health outcomes among minority populations. The Momnibus Act states that

the Department of Health and Human Services and other agencies are required to establish a task force to address social determinants of health and maternal mental and behavioral health and award grants for maternal mortality review committees and other purposes (Congress, 2020).

Black Feminist Theory

Black Feminist Theory informed the qualitative approach. Often, race and gender are explored as separate entities. However, in this research, it is impossible to separate race from gender when exploring how Black women's experiences impact stress and anxiety during the perinatal period. In addition to using the Black Feminist Theory to inform my research, Woods-Giscombé used the theory to explore the Strong Black Woman role, its effect on stress, and the possible health impact (2010).

Feminist theory is a philosophy that counters traditional patriarchal thinking with systems emphasizing equal rights, justice, and fairness (Tong, 2001). Since the onset of feminist theory, racial divides, which are still present in the United States, have counteracted the goals of feminism. Thus, scholars created Black feminism and Black Feminist Theory to validate the experiences of Black women that differed from their White counterparts (Taylor, 1998). Black Feminist Theory is based on intersectionality, which implies that “race, class, gender, and sexuality are co-dependent variables that cannot be separated or ranked in scholarship, political practice, or in lived experience” (Simien, 2004). Jones (2000) continued thoughts on intersectionality, insisting that “intersectionality reminds us that we are battling multiple and interlocking systems of oppression and that we don't have the luxury of choosing to fight only battle.” Assuming that Black women assume the Superwoman role out of necessity, it is essential to consider the potential adverse mental and physical health outcomes Black women have experienced due to taking this role.

2.4 Measurement

Dr. Ben Wright (1997) stated that science is impossible without an evolving network of stable measures, and social sciences are no different. Wright continued to expound upon this idea by explaining that measurement informs plans of what to do next. Measures must meet these requirements: 1) they must be linear, 2) item calibrations must be sample-free, 3) person measures must be test-free, 4) missing data must not matter, and 5) the method must be easy to apply.

Health measurement in social sciences, specifically public health, was usually centered on disease or injury and its consequences. Yet, there has been a transition from communicable diseases to chronic illnesses, including environmental factors (Breslow, 2006). Once the World Health Organization (2019) declared that “health was physical, mental and social well-being,” efforts shifted to identify ways to measure health based on that definition. As a result, researchers began to identify ways to measure physical (e.g., body mass index), mental (e.g., cognition), and social health dimensions (e.g., social network) (Breslow, 2006). While there are many disciplines within health and public health, this work explores the promotion and prevention of maternal mental health disorders, and measurement is integral to prevention. This study assessed the content and cultural equivalence of stress and anxiety measures commonly used in pregnant and postpartum populations.

Maternal Mental Health Measurement

To reduce maternal morbidity and mortality, women require access to mental and psychosocial health care during the perinatal and postpartum periods for their well-being and their children and families. Health professionals need proper measurement tools to assess mental health in various populations. Researchers and healthcare practitioners can use measurement

tools to assess maternal mental health and establish trends in specific maternal health outcomes, identify characteristics and determinants of health outcomes, and monitor and evaluate the effectiveness of programs designed to improve health outcomes (Graham & Campbell, 1992).

Scientific studies measuring maternal health to better understand the complexities of mental health during the perinatal period are expanding. Yet, few studies explore exposure to racism and racial discrimination during the critical time of pregnancy. Racial discrimination can impact pregnant women's health by restricting access to beneficial resources like fair housing, education, and quality healthcare (Berger, 2015; Pass et al., 2019). This problem is significant because the individuals' perception of their environment impacts their stress (Piotrowski & Hollar, 2013). The likelihood that Black women have been experiencing mental health symptoms for a substantial amount of time when finally seeking treatment highlights the urgency to ensure that current mental health measures accurately detect mental illness in Black perinatal women. Given the potential impact of stress and anxiety on women during the perinatal period, the screening tools used during appointments must be effective and appropriate for Black perinatal populations.

Language Translation vs. Cultural Equivalence in Measurement

Scholars frequently develop mental health measures using easily accessible populations or individuals close to where the creator resides. For example, the Edinburgh Postnatal Depression Scale (EPDS) is a 10-item self-report measure developed in the United Kingdom to identify patients at risk for perinatal depression and anxiety (Cox et al., 1987). The EPDS is the most commonly used scale to identify depression in postpartum women and has been translated into 57 languages (McCabe-Beane et al., 2016). The development and validation of the initial EPDS were based on the responses from 84 women in their 20s; their healthcare practitioners

had diagnosed them as showing depressive symptoms (Cox et al., 1987). The women were from Edinburgh or the neighboring city, with 81% reporting that they were married and 13% had a permanent partner (Cox et al.). Another psychometric assessment of the EPDS among obstetric populations in the United States had a sample of women who were, on average, in their 20s and predominantly White (Long et al., 2020). A 2016 study sought to identify the effectiveness of the EPDS in a multi-ethnic, inner-city setting (Chiu et al., 2017). Their sample included 515 women (29% Black, 53% Hispanic, 18% White) from an urban area in Boston. Findings suggested that certain EPDS items loaded on the anxiety factor among Hispanics, whereas the same item loaded on the depression factor in White and Black participants (Chiu et al.). These results highlight inconsistencies in how different racial and ethnic groups perceive the items.

Another example is the development and validation of the Perceived Stress Scale (PSS) (Cohen et al., 1983). The initial studies of the PSS indicated that the sample comprised college students, not including race or ethnicity (Cohen et al., 1983). A subsequent probability study included additional demographic characteristics with participants identifying as 87% White, 8% Black, 4% Hispanic, and 2% Other (Cohen, 1988). In 2012, Lee (2012) reviewed the psychometric evidence of the PSS and found that while the measure is psychometrically sound, future studies should validate the scale using diverse populations. More recently, Baik et al. (2019) analyzed the reliability and validity of the PSS among Hispanic Americans. Convergent validity and reliability supported the use of this scale in this population; however, the different versions of the PSS (one-factor, two-factor, bi-factor) were inconsistent among the population.

Scales developed on a homogenous population often require to be validated in other languages and cultures. One method of assessing the validity of measures in different languages is to use Rasch Item Response Theory. Zhoun et al. (2014) used Rasch IRT on the Spanish

version of the Patient Health Questionnaire 9 (PHQ-9) to test for appropriate category ordering, assumptions of unidimensionality and local independence, item fit, reliability, and presence of differential item functioning. The Rasch IRT model provided evidence of the reliability and validity of the Spanish version of the PHQ-9. Beyond cross-validation of measures in different languages, cultural validations of mental health measures are scarce.

Cultural and linguistic equivalence are fundamental qualities of mental health measures (Goode et al., 2013). The tools used to assess mental health in ethnic minority populations should be valid for the group. Gereš et al. (2022) highlighted the significance of cross-cultural adaptation to keep the meaning of the items and achieve the full conceptual equivalence between the language and cultures. Conceptual or cultural equivalence is essential in the United States because, although many Americans speak English as their primary language, various cultural beliefs and experiences impact a person's lived experience and understanding (Stevelink & van Brakel, 2013). Stevelink and van Brakel noted that clinicians and practitioners should be aware that measures used in cultures different from those involved in the initial development should undergo testing of cultural validity before use.

Rasch Measurement Theory

Rasch Measurement Theory, under the umbrella of the Scaling Tradition of measurement, provides a basis for meeting the requirements of invariant measurement (Engelhard & Wang, 2021). Researchers use Rasch models to analyze the fit of items within a scale and the person/item interaction of the items included within a scale (Engelhard & Wang, 2021). The model shows what should be expected in response to items if interval scale measurement is to be achieved (Andrich, 2017). In healthcare settings, investigators use patient-reported information to evaluate their health. Rasch analysis is often used when a scale—or

items from a measure—are summed to provide a total score. Researchers use this analysis to develop new items, review the psychometric properties of scales, examine the structure of measures, or calculate change scores (Tennant & Conaghan, 2007). Rasch measurement theory is an effective tool to review the psychometric properties of mental health measures among diverse populations.

CHAPTER 3:

METHODS

This study has three phases. Phase 1 is a secondary data analysis of a 2018 dataset comprising survey responses of Black pregnant and postpartum women. It assessed how their experiences as Black women impacted their stress and anxiety levels. Phase 2 consisted of semi-structured interviews to further explore Black women's perceptions and experiences with stress and anxiety during pregnancy and postpartum. Phase 3, using a mixed-methods approach, analyzed survey data and interview responses. As stated in Chapter 1, the following objectives guided the study:

PHASE 1 QUANTITATIVE ANALYSIS – OBJECTIVES

- 1.1** Examine the impact of the Strong Black Woman or Superwoman role on the stress and anxiety levels of Black pregnant and postpartum women.
- 1.2** Explore how socioeconomic status and education levels affect how Black pregnant and postpartum women respond to stress and anxiety levels.
- 1.3** Examine the measurement equivalence of the stress and anxiety measures among Black pregnant and postpartum women.
- 1.4** Develop an interview guide for Phase 2 based on the results of the analyses.

PHASE 2 QUALITATIVE ANALYSIS – OBJECTIVES

- 2.1 Explore the perspectives on the Strong Black Woman role and how it impacts Black perinatal women's mental health.
- 2.2 Explore the impact culture and the Strong Black Woman role have on Black perinatal women's mental health.

PHASE 3 MIXED-METHODS ANALYSIS – OBJECTIVES

- 3.1 Examine how Black pregnant and postpartum women respond to standard mental health measures.
- 3.2 Explore the perspectives of Black pregnant and postpartum women on how they define and interpret stress and anxiety.

Phase 1: Quantitative Study

Study design

Using the Superwoman Schema, this quantitative study examined the associations between the Strong Black Woman or Superwoman role and stress and anxiety in Black pregnant and postpartum women. Then, this phase investigated the measurement equivalence of the Perceived Stress Scale (PSS; Cohen et al., 1983), the State-Trait Anxiety Inventory (STAI; Spielberger, 1983), and the Superwoman Schema (SWS; Woods-Giscombé, 2010) among Black perinatal women.

Phase 1 had three research questions. Among Black perinatal women:

- 1.1. What is the association between the Strong Black Woman or Superwoman role and **stress and anxiety**?
 - a. What constructs of the superwoman schema protect against stress?
 - b. What constructs of the superwoman schema increase the risk for stress?

- c. What constructs of the superwoman schema protect against anxiety?
 - d. What constructs of the superwoman schema increase the risk for anxiety?
- 1.2. How do **socioeconomic status** and **education** affect how Black pregnant and postpartum women in the United States respond to commonly used stress and anxiety measures, PSS and STAI?
- 1.3 Do the PSS and STAI items capture stress and anxiety among Black pregnant and postpartum women?

Sample

This sample consisted of data from a research study conducted by Dr. Karen Sheffield-Abdullah and approved by the Internal Review Board at the University of North Carolina Chapel Hill School of Nursing. In 2018, 145 Black pregnant and postpartum women started the survey. However, I eliminated ten records due to missing responses and another because the participant self-identified as only Native American. The final dataset consisted of 134 pregnant and postpartum Black women. For this study, the postpartum period extends until one year after the woman gives birth.

This convenience sample comprised Black pregnant and postpartum women from birth centers and obstetric practices in North Carolina. The inclusion criteria were that the women 1) self-identified as Black or African American, 2) were at least 18 years old, 3) had a singleton pregnancy at the time of enrollment or were no more than one year postpartum, and 4) spoke English. The study excluded pregnant women carrying multiples to reduce the potential for confounding factors related to the stress of being pregnant with more than one baby. In addition to demographic characteristics, participants provided pregnancy and health-related information through the survey.

Measures

Participants completed three measures: 1) Superwoman Schema, 2) Perceived Stress Scale, and 3) State-Trait Anxiety Inventory.

The **Giscombé Superwoman Schema** (SWS) measures the Strong Black Woman or Superwoman roles (SWS; Woods-Giscombé, 2010). The 35-item self-report measure contains five subscales: (a) obligation to present an image of strength, (b) obligation to suppress emotions, (c) resistance of vulnerability or dependence on others for support, (d) motivation to succeed despite limited resources, and (e) prioritization of caregiving over self-care (Woods-Giscombé et al., 2019). Examples of items are “I try to present an image of strength” (obligation to present an image of strength) and “My tears are a sign of weakness” (obligation to suppress emotions). Response categories are 0 = *This is not true for me*, 1 = *This is true for me rarely*, 2 = *This is true for me sometimes*, and 3 = *This is true for me all of the time*. Table 3.1 lists the SWS items by scale.

Table 3.1: Superwoman Schema (SWS) Items Grouped by Subscale

SWS Items
Obligation to Present an Image of Strength
1 I try to present an image of strength.
2 I have to be strong.
3 I feel obligated to present an image of strength at work.
4 I feel obligated to present an image of strength for my family.
29 The struggles of my ancestors require me to be strong.
35 I have to be strong because I am a woman.
Obligation to Suppress Emotions
5 I display my emotions in privacy.
6 I keep my feelings to myself.
7 My tears are a sign of weakness.
8 I keep my problems bottled up inside.
9 I hide my stress.
10 Expressing emotions is difficult for me.
30 I keep my problems to myself to prevent burdening others.
Resistance to Being Vulnerable
11 It's hard for me to accept help from others.

- 12 I have a hard time trusting others.
- 13 I wait until I am overwhelmed to ask for help.
- 14 Asking for help is difficult for me.
- 15 I resist help to prove that I can make it on my own.
- 16 If I want things done right, I do them myself.
- 31 I do things by myself without asking for help.

Intense Motivation to Succeed

- 17 I accomplish my goals with limited resources.
- 18 It Is very important to me to be the best at the things that I do.
- 19 No matter how hard I work, I feel like I should do more.
I put pressure on myself to achieve a certain level of
- 20 accomplishment.
- 32 The only way for me to be successful is to work hard.
- 33 I am a perfectionist.

Obligation to Help Others

- 21 I take on roles and responsibilities when I am already overwhelmed.
- 22 I take on too many responsibilities in my family.
- 23 I put everyone else's needs before mine.
- 24 I feel obligated to take care of others.
- 25 When others ask for my help, I say yes when I should say no.
- 26 I neglect my health (e.g., I don't exercise or eat like I should).
- 27 I neglect the things that bring me joy.
- 28 I feel guilty when I take time for myself.
- 34 There is no time for me because I am always taking care of others.

Response categories: 0 = *This is not true for me*, 1 = *This is true for me rarely*, 2 = *This is true for me sometimes*, 3 = *This is true for me all of the time* (Woods-Giscombé, 2010)

The 10-item **Perceived Stress Scale** (PSS; Cohen et al., 1983) measures stress symptoms. Examples of items are “In the last month, how often have you felt nervous and “stressed?” and “In the last month, how often have you felt that you were on top of things?”. Response categories for the PSS are 0 = *Never*, 1 = *Almost Never*, 2 = *Sometimes*, 3 = *Fairly Often*, and 4 = *Very Often*. Responses to the four positively stated items (# 4, 5, 7, and 8) are reversed when calculating PSS scores. Table 3.2 lists the PSS items by subscale.

Table 3.2. Items of the Perceived Stress Scale (PSS) Items Grouped by Subscale

PSS Items	
Perceived helplessness	
1	In the last month, how often have you been upset because of something that happened unexpectedly?
2	In the last month, how often have you felt that you were unable to control the important things in your life?
3	In the last month, how often have you felt nervous and stressed?
6	In the last month, how often have you found that you could not cope with all the things that you had to do?
9	In the last month, how often have you been angered because of things that were outside of your control?
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?
Perceived self-efficacy (inverse coding)	
4	In the last month, how often have you felt confident about your ability to handle your personal problems?
5	In the last month, how often have you felt that things were going your way?
7	In the last month, how often have you been able to control irritations in your life?
8	In the last month, how often have you felt that you were on top of things?
Response categories: 0 = <i>Never</i> , 1 = <i>Almost Never</i> , 2 = <i>Sometimes</i> , 3 = <i>Fairly Often</i> , and 4 = <i>Very Often</i> (Cohen et al., 1983)	

The **State-Trait Anxiety Inventory** (STAI; Spielberger, 1983) measures anxiety symptoms. This study used the 20-item Form-Y-1 of the STAI, which assesses state anxiety. Items included in this version of the STAI include “I feel calm” and “I feel frightened.” Response categories for the STAI are 1 = *Not at all*, 2 = *Somewhat*, 3 = *Moderately So*, and 4 = *Very Much So*. STAI scores for “State of Calmness” are reverse coded to calculate the total scale score (1,2,5,8,10,11,15,16,19,20). Table 3.3 lists the items grouped by subscale.

Table 3.3. Items of the State-Trait Anxiety Inventory Assessment Form Y-1 (STAI)

STAI Items	
State of Calmness	
1	I feel calm.
2	I feel secure.
5	I feel at ease.
8	I feel satisfied.
10	I feel comfortable.
11	I feel self-confident.
15	I am relaxed.
16	I feel content.
19	I feel steady.
20	I feel pleasant.
High Anxiety	
3	I feel tense.
4	I feel strained.
6	I feel upset.
7	I am presently worrying over possible misfortunes.
9	I feel frightened.
12	I feel nervous.
13	I am jittery.
14	I feel indecisive.
17	I am worried.
18	I feel confused.

Response categories : 1 = *Not at all*, 2 = *Somewhat*, 3 = *Moderately So*, and 4 = *Very Much So* (Spielberger, 1983)

Data Analysis

The analysis started with the descriptive characteristics of the sample, including level of education, relationship status, and household income. In addition, the analysis included the study participants' pregnancy characteristics and health outcomes. Then, the scales and subscales analyses included sums, means, standard deviations, and internal consistency measured with Cronbach's alpha.

Pearson correlations examined the associations between total scales (SWS, PSS, and STAI) and their subscales. Regression analyses assessed the impact of socioeconomic status and education on the anxiety and stress levels reported by the participants.

I used Rasch modeling to examine item fit and person fit for the stress and anxiety measures. The model analyzes the probability of a person endorsing the concept of an item based on the person's ability and the item's difficulty (Bond et al., 2020). The Rasch model applied to the stress and anxiety measures focused on item difficulty. Specifically, the model identified whether specific items were more challenging for participants to answer, which could prevent the women from getting a proper diagnosis or receiving adequate care.

Model fit was assessed through Infit and Outfit statistics, which should range between 0.8 and 1.2. Values below 0.8 indicate less variance than expected, and values above 1.2 indicate that the data include more variability than expected.

Analyses were completed using SPSS software, version 27, and Facets Many-Facets Rasch Measurement (MFRM) software for Rasch Analysis, version Facets 3.85.1.

Phase 2: Qualitative Study

Study Design

In Phase 2, I conducted semi-structured interviews with Black pregnant and postpartum women to understand the impact of the Strong Black Woman role, stress, and anxiety during the perinatal period. The Black Feminist Theory informed the qualitative approach. Using the Black Feminist Theory as a framework for this study provided a unique perspective to gauge how that role has impacted Black women during their pregnancy and postpartum journey. In addition, Black Feminist Theory guided the development of the interview guide and contributed to the thematic approach to coding the qualitative data.

Research questions for Phase 2 were:

- 2.1 How do participants perceive the concept of the **Strong Black Woman or Superwoman Role** in Black women?

2.2 How do participants perceive **the role of being a Black woman and the impact of culture** on Black women's mental health during the perinatal period?

Sample and Recruitment

This study used purposeful sampling to recruit 18 Black pregnant and postpartum women. Purposeful sampling techniques involve selecting specific settings, persons, or activities to provide relevant information to the goals and questions specific to the research study (Maxwell, 2012). The inclusion criteria for this study were women who 1) self-identify as Black or African American, 2) are at least 18 years old, 3) are currently pregnant or are within one year postpartum at the time of the interview, and 4) speak English. Black women pregnant with multiples or having high-risk pregnancies were excluded from the study to reduce potential confounding factors related to stress and anxiety.

Recruitment included physical and digital flyers shared via partnering organizations, maternal health centers, hospitals, and social media. Individuals who responded to these invitations completed the screening survey and provided contact information via Qualtrics. Those who met the inclusion criteria received a list of available dates and times for the virtual interview. After confirming an interview time, the participant received an electronic copy of the consent form. The consent form detailed the purpose of the study, interview details, and information regarding privacy, data sharing, and recordkeeping.

Interview Guide

The purpose of the qualitative study was to provide a deeper understanding of the Strong Black Woman or Superwoman role and its impact on Black perinatal women's stress and anxiety levels. Therefore, the semi-structured interview guide incorporated questions based on the results of the quantitative data analysis from Phase 1 and questions about perceptions of stress and

anxiety related to Black perinatal women. Table 3.6 contains sample questions for the interview guide.

Table 3.4 Questions of the Interview Guide

Interview Questions
Part 1: Items from Phase 1 Ask participants specific items that stood out from analyses and ask, “What comes to mind when they hear that question?”
Part 2: Black women’s mental health When you hear the term “Strong Black Woman,” what comes to mind? When you hear the term “Superwoman,” what comes to mind? Include a question about resilience. Include a question about coping strategies.
Part 3: Understanding of Stress and Anxiety What do you think of when you hear the word stress? What do you think of when you hear the word anxiety?
Part 4: Reaction to Stress and Anxiety How do you respond to stress? How do you respond when you feel anxious? How does your body respond to stress? How does your body respond to anxiety? How have you been coping with stress?
Part 5: Pregnancy and Postpartum Can you tell me some things that stress you out about being pregnant? Can you tell me some things that stress you out that are explicitly related to being postpartum? Include a question about family leave (maternity/paternity leave).

Qualitative Data Analysis

Each interview was audio-recorded, transcribed, and thematically coded. The interviews were conducted and recorded virtually using Zoom. All identifiable information was de-identified, including the names of participants, family members, doctors, hospitals, or birthing centers. Interview recordings were destroyed after the completion of the study.

Thematic coding, guided by Black Feminist Theory, was done to explore the data and identify themes relevant to the study objectives. A codebook was developed after the initial review of study transcripts (Appendix A), including codes, code definitions, and examples from the transcripts. Interview transcripts were individually coded. A second coder assisted with coding 60% of the transcripts, and I coded the other 40%. Before reviewing the transcripts, the coder and I met to review the codebook and discuss the codes and themes derived from the interviews. The codebook was revised until we agreed on the final product. The final codes and themes were analyzed using the qualitative data analysis software MAXQDA. I reviewed all of the transcripts once the coding was complete. Several interviews were randomly selected and reviewed by the second coder and me to agree on the selections.

Subjectivity statement

The following subjectivity statement explains my connections to perinatal mental health disorders as a Black woman in the United States. It presents my subjectivities as they may interact with my work and research on disclosing mental health disorders during pregnancy and postpartum.

As a mother and researcher conducting studies on Black women's experiences with stress and anxiety during the perinatal period, my personal life experiences have shaped my views on navigating pregnancy and maternal healthcare services as a Black woman. In addition, my life experiences have shaped my viewpoint on stress, anxiety, and coping mechanisms. I have given birth to three children in the United States. While I did not seek care for mental health disorders during my pregnancy or postpartum, I experienced anxiety symptoms and mild postpartum depression after my second child. Giving birth to my third child during the pandemic increased my stress and anxiety to levels that I had not experienced previously. However, I was able to get

through those times due to having a supportive social network, practicing mindfulness, and relying on my faith.

Additionally, my bachelor's degree in biology and chemistry made me very aware of what was happening with my body and mind during my pregnancy and postpartum. My psychology courses were directly connected to the phenomenon of perinatal mood disorders. I had very engaging psychology courses that allowed me to delve into different mental health disorders that could arise due to pregnancy. These courses made me more vigilant and aware of my feelings and the importance of reaching out to my community when needed.

I have since gotten my master's degree, where I focused on maternal health care in national and international settings. I had the opportunity to interview women in Puerto Maldonado, Peru, and rural and urban areas in the United States. My internship with the Gwinnett, Newton, and Rockdale County Health Department allowed me to create a Safe Sleep program. There I learned about infant mortality and how postpartum health played a role in the deaths of infants. More importantly, I identified ways to teach mothers how to keep their babies safe and care for themselves at the same time.

Throughout my doctoral program, I have applied advanced theoretical concepts to understand maternal mortality and morbidity in the United States. I have co-authored maternal mental health policy with national public health organizations and acted in a leadership capacity in maternal health-based organizations. I also have conducted extensive research in maternal health while co-authoring manuscripts and developing maternal and child health programs.

As a Black mother in the United States, my life experiences are closely connected to my research. In addition, my educational background and expertise are noteworthy contributions to this body of research. Years of studying women's health and maternal health both locally and

globally provide a depth of knowledge on various subject areas. Thus, combining my lived experience and professional and educational pursuits is significant.

Phase 3: Mixed-Methods Study

Phase 3 of the study utilized a quantitative-led mixed-methods design to examine stress and anxiety among Black perinatal women. The qualitative information provided a deeper understanding of how Black pregnant and postpartum women define and interpret stress and anxiety. Before participating in the interview, individuals completed a demographic survey and responded to the SWS, PSS, and STAI measures. Results from the measures were integrated with the interview responses to understand the individual's personal interpretation of the items. Phase 3 used the survey and interview data collected in Phase 2.

Theoretical Framework

Inquiry Worldview. I understand and interpret research within the realms of constructivist/Interpretivist and critical perspectives. While I am likely to critique structures and question everything from a critical perspective, I also believe there are likely multiple interpretations of a situation depending on whose viewpoint the information comes from. Based on the explanations provided in the DeCuir-Gunby and Schultz (2017) literature, I am closely aligned with both constructivist/interpretivist and critical perspective worldviews from the epistemological viewpoint. Many "truths" may exist, but they depend on the context. Without someone knowing the context, it is unlikely that they will know the absolute truth.

Conceptual Framework. Phase 3 is based on three theoretical concepts: Socio-Ecological Model (Centers for Disease Control and Prevention, 2021b; Sallis & Owen, 2015), Black Feminist Theory (Simien, 2004), and Measurement Theory (Krebs, 1987). Socio-ecological models include multiple levels of influence (Sallis & Owen). This study utilized the

socio-ecological model adapted by the CDC, which incorporates four factors from the original model: Societal, Community, Relationship, and Individual (2021b). The socio-ecological model serves as a basis for understanding the multiple layers that impact the stress and anxiety levels of Black perinatal women in the United States.

As stated in Chapter 2, the Black Feminist Theory focuses on the intersection of race, class, gender, and sexuality (Simien, 2004, p. 84). Black Feminist Theory guided the qualitative component of the study and provided a deeper understanding of the quantitative component.

Philosophical Framework. I developed this study within a critical worldview based on the question, “Do you believe in multiple interpretations of a situation?” (DeCuir-Gunby & Schultz, 2017). Because women interpret their pregnancy and postpartum experiences differently, it was essential to collaborate with women during the study’s developmental stages. In addition, women have diverse life experiences, which may cause them to have different stress and anxiety triggers, experience stress and anxiety differently, or understand stress and anxiety differently. The feminist perspective invites investigators to consider a broader scope of autonomy, which includes the contexts in which women live, the difficulty they have accessing care and treatment services, and their endurance of systematic oppressions related to ethnicity, socioeconomic standing, and politics (Marcellus, 2004). Because this study focuses solely on Black women’s perspectives, the Black Feminist Theory, an adaptation of the Feminist Theory, was used in this intervention.

Research Questions

Research questions for Phase 3 are:

- 3.1 Based on the responses to the interview, how do Black perinatal women conceptualize stress and anxiety?

3.2 How effective are the PSS and STAI at capturing stress and anxiety among Black pregnant and postpartum women?

- a. Analyze the item fit to identify items above and below the expected range.
- b. Analyze the person fit to identify women who scored above or below the expected range and examine their qualitative responses about those items.

Rationale for Mixed Methods Research

This mixed-methods study was guided by the approach of Tashakkori and Crestwell (2007), in which researchers collect and analyze data, integrate the findings, and draw inferences using qualitative and quantitative methods in a single study. This mixed-methods approach explored the effectiveness of two stress and anxiety measures in a sample of Black pregnant and postpartum women in the United States. Demographic information and responses to the stress and anxiety scales were collected via a recruitment Qualtrics survey. Participants were then selected to take part in individual interviews to discuss their perspectives on stress, anxiety, and the Strong Black Woman role. The quantitative and qualitative findings provided an in-depth evaluation of current measures when used among Black women in the perinatal period.

The quantitative methods assessed how effective the measures were at capturing stress and anxiety in this population. The qualitative interviews provided an understanding of the PSS and STAI items. The mixed-methods approach helped conceptualize responses to the mental health scales based on the participants' comments during the open-ended interview. This combined information aimed to understand participants' feelings when completing the mental health assessments.

Mixed Methods Data Analysis

Quantitative Analysis. Phase 3 used the same procedure for quantitative analysis as described in Phase 1. Rasch analyses were conducted using the Winstep Facets program v.3.85.1 using the sample from Phase 2.

Item fit and person fit were assessed through Infit and Outfit statistics, which should be within 0.8 and 1.2 for this study. Values below 0.8 indicate less variance than expected, and values above 1.2 indicate that the data include more variability than expected.

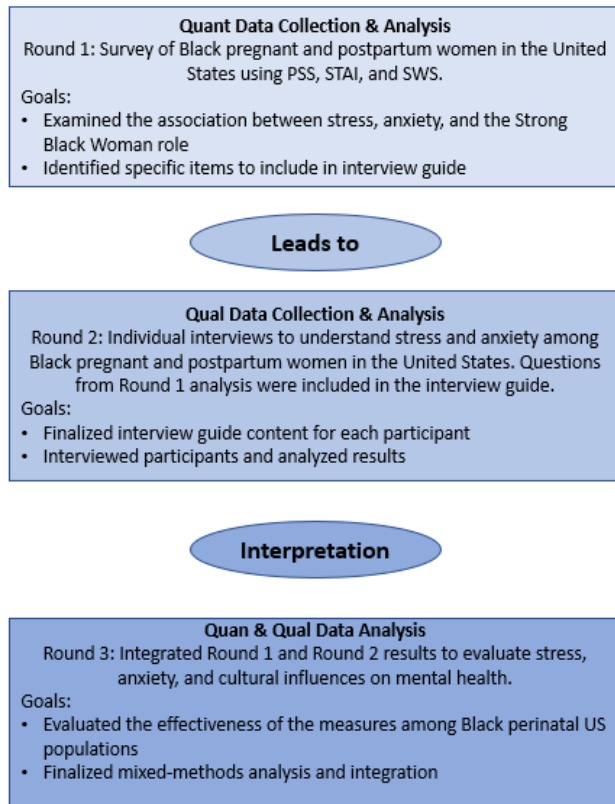
Qualitative Analysis. Phase 3 used the same procedure and sample for qualitative analysis as described in Phase 2.

Thematic coding, guided by Black Feminist Theory, was done to explore the data and identify themes relevant to the Phase 3 objectives and research questions. In addition to exploring participant responses to questions about identity and culture, this phase examined questions about specific items included in the PSS and STAI. The final codes and themes were analyzed using a qualitative data analysis software system, MAXQDA.

Mixed Methods Research Design

This study used a multiphase mixed-methods design (Figure 3.1). The results of the quantitative data in Phase 1 determined the items participants were asked during the qualitative interviews. In addition, Phase 3 used a quantitative leading mixed methods approach. The quantitative data indicated the fit of the items, and the qualitative data added substance to the items in the stress and anxiety measures. Participants reflected on their understanding of items and whether they would restate them differently. The combined quantitative and qualitative analyses provide a deeper understanding of the intersection of culture, mental health, and the lived experiences of pregnancy and postpartum for Black women in the United States.

Figure 3.1 Mixed-Methods Multiphase Design



CHAPTER 4:

RESULTS

This chapter is organized into three sequential sections. The first section presents the results from Phase 1: Quantitative data analysis. This section describes the sample from the 2018 dataset and analyzes participant responses to the Superwoman Schema, Perceived Stress Scale, and the State-Trait Anxiety Inventory. The results of Phase 1 influenced the development of the interview guide in Phase 2. The second section presents the results from Phase 2: Qualitative-data analysis. Results consist of themes that arose from participant interviews about stress and anxiety during pregnancy and postpartum. The final section presents the results of Phase 3: Quantitative-lead, Mixed-methods analysis. The analysis consists of qualitative and quantitative data collected from the participants in Phase 2. The individuals completed a survey containing the Superwoman Schema, Perceived Stress Scale, and State-Trait Anxiety Inventory.

4.1 Phase 1: Quantitative Data Analysis

Phase 1 contains the descriptive and statistical analysis of the PSS, STAI, and SWS among Black pregnant and postpartum women. It also contains the impact of socioeconomic status and education on stress and anxiety among the population.

Description of the Sample

The sample of this cross-sectional survey consisted of 134 Black pregnant or postpartum women. Table 4.1.1 details their demographic characteristics. Most lived with a partner (married=42% or cohabitating=11%), and over a third self-identified as single (37%). One in ten had no college experience (11%), and almost half made less than \$35,000 per year (47%).

Table 4.1.1 Participant Demographic Characteristics (N=134)

Demographic Characteristics	N	%
Education		
Less than a High School Diploma	5	3.7
High School Degree	10	7.5
Some College	39	29.1
Associate degree	17	12.7
Bachelor's Degree	38	28.4
Master's Degree	21	15.6
Professional/Doctoral Degree	4	3.0
Relationship status		
Married	56	42.1
Single	49	36.8
Cohabiting	15	11.3
Separated	7	5.3
Domestic Partner	4	3.0
Divorced	2	1.5
Household Income		
Less than \$35,000	63	47.0
\$35,000 - \$64,999	31	23.1
\$65,000 - \$99,999	21	15.6
Greater than \$100,000	11	8.2
Choose not to answer	8	6.1
Number of Children		
0	17	12.8
1	52	39.1
2	32	24.1
3	16	12.0
4	10	7.5
5	3	2.3
6 or more	3	2.1

Note: Some numbers do not add to the total due to missing responses.

As indicated in Table 4.1.2, 49 participants were pregnant (37%), and 85 were postpartum (63%). The number of births among the participants varied, with the majority being pregnant for the first time (36%), followed by second (21%) and third pregnancies (16%). A quarter of the participants had experienced preterm birth (25%), and some indicated having had a low birthweight baby (18%).

Table 4.1.2 Pregnancy Statistics (N=134)

Pregnancy Characteristics	N	%
Pregnancy Status		
Pregnant	49	36.6
Postpartum	85	63.4
Number of Times Pregnant		
1	47	35.3
2	28	21.1
3	21	15.8
4	15	11.3
5	12	9.0
6 or more	10	7.5
Pregnancy Characteristics	Mean (Range)	SD
# of Pregnancies	2.66 (1-11)	1.80
# of Births	1.80 (0-8)	1.44
# of Weeks Pregnant (N=49)	27.02 (7-40)	9.08
# of Weeks Postpartum (N=78)	27.29 (1-55)	14.19

Note: Number of times pregnant “1” includes current pregnancy for pregnant participants. Number of times pregnant does not add to the total due to missing responses.

Table 4.1.3 presents an overview of the participants’ health. The most frequent medical conditions reported were anxiety (28%), depression (24%), hypertension (14%), and pregnancy-induced hypertension (10%).

Table 4.1.3 Health Outcomes (N=134)

Health Conditions	N	%
Medical Conditions		
Anxiety	37	27.6
Depression	32	23.9
Hypertension (High Blood Pressure)	19	14.2
Pregnancy Induced Hypertension	14	10.4
Gestational Diabetes (controlled with diet)	8	6.0
Bipolar Depression	5	3.7
Type 2 Diabetes	4	3.0
Substance Use or Abuse	3	2.2
Gestational Diabetes (controlled with medication)	1	0.7
Other		

Note: Some numbers do not add to the total due to missing responses.

Descriptive Analyses of Scales

Scales and subscales were calculated using the average of the corresponding items. Table 4.1.4 presents the number of items, mean, standard deviation, and reliability for each scale and subscale. Scale reliability scores were calculated using Cronbach's alpha; they ranged between 0.71 ("adequate") and above 0.80 ("good").

Superwoman Schema (SWS). Response categories ranged between 0 (*This Is Not True for Me*) and 3 (*This Is True for Me All of the Time*). The overall mean was 1.96, which is close to the response category *This Is True for Me Sometimes*. The highest scores were for "Obligation to present an image of strength" and "Intense motivation to succeed." Conversely, the lowest scores were for "Obligation to suppress emotions" and "Obligation to help others."

Perceived Stress Scale (PSS). Response categories ranged between 0 (*Never*) and 4 (*Very Often*). The overall mean was 1.95, which is close to the response category, *Sometimes*. The "Perceived Helplessness" and "Perceived Self-Efficacy" scores were also close to the response category, *Sometimes*.

State-Trait Anxiety Inventory (STAI). Response categories for the STAI ranged between 1 (*Not at all*) and 4 (*Very Much So*). The overall mean was 2.11, which is close to the response category, *Somewhat*. The scores for "State Calmness" were closer to the response category, *Moderately So*. Conversely, scores for "High Anxiety" were closer to the response category, *Somewhat*.

Table 4.1.4 Descriptive Statistics for Scales and Subscales: SWS, PSS, and STAI (N=134)

Scales and subscales	# of items	Mean	SD	Reliability Cronbach's alpha
SWS-Superwoman Schema	35	1.96	.52	.93
SWS-Obligation to present an image of strength	6	2.28	.58	.71
SWS-Obligation to suppress emotions	7	1.76	.61	.80
SWS-Resistance to being vulnerable	7	2.01	.67	.83
SWS-Intense motivation to succeed	6	2.12	.60	.71
SWS-Obligation to help others	9	1.77	.73	.87
PSS-Perceived Stress Scale	10	1.95	.77	.91
PSS-Perceived helplessness	6	2.15	.90	.91
PSS-Perceived self-efficacy	4	2.34	.73	.81
STAI-State-Trait Anxiety Inventory	20	2.11	.62	.93
STAI-State Calmness	10	2.58	.74	.93
STAI-High Anxiety	10	1.81	.60	.87

Note: Subscales of the total scales are indented.

SWS response categories: 0 = *This is not true for me*, 1 = *This is true for me rarely*, 2 = *This is true for me sometimes*, 3 = *This is true for me all of the time*.

PSS response categories: 0 = *Never*, 1 = *Almost Never*, 2 = *Sometimes*, 3 = *Fairly Often*, and 4 = *Very Often*.

STAI response categories: 1 = *Not at all*, 2 = *Somewhat*, 3 = *Moderately So*, and 4 = *Very Much So*

Association Between SWS and Stress and Anxiety

I used Pearson correlations to answer Research Question 1.1, “What is the association between the Strong Black Woman or Superwoman role and **stress** and **anxiety**?” Pearson’s correlations examined the linear association between the scales. The strength of the correlation was based on the recommended correlation guidelines by Cohen (1988). Table 4.1.5 depicts correlations between scales; all negative correlations are in red.

SWS and PSS (stress). There was a moderate, positive correlation between the SWS and PSS ($r = .47$) and between the SWS and Perceived Helplessness subscale ($r = .44$). Conversely, a moderate, negative correlation existed between the SWS and Perceived Self-Efficacy ($r = -.42$).

SWS and STAI (anxiety). There was a moderate, positive correlation between the SWS and STAI ($r = .54$) and the SWS and the High Anxiety subscale ($r = .50$). Conversely, a moderate, negative correlation existed between the SWS and State of Calmness ($r = -.49$).

The correlations between the subscales of the SWS and the stress and anxiety measures ranged between $-.26$ and $.54$. The positive subscales of the PSS (“Perceived Self-Efficacy”) and of the STAI (“Higher Anxiety”) had negative correlations with the SWS subscales; the strongest negative correlations were with “Resistance to Being Vulnerable” and “Obligation to Help Others.” Conversely, “Perceived Helplessness” and “High Anxiety” had positive correlations with the SWS, with the strongest correlations with “Resistance to Being Vulnerable” and “Obligation to Help Others.”

In summary, the Strong Black Woman or Superwoman role impacted the mental health of Black pregnant and postpartum women, when using the Superwoman Schema. In particular, identifying with the constructs “Resistance to Being Vulnerable” and “Obligation to Help Others” subscales would reduce self-efficacy and calmness while increasing feelings of helplessness and high anxiety.

Table 4.1.5 Pearson Correlations Between the SWS, PSS, STAI, and Subscales

	SWS	SWS 1	SWS 2	SWS 3	SWS 4	SWS 5	PSS	PSS 1	PSS 2	STAI	STAI 1	STAI 2
Superwoman Schema- SWS	1											
SWS 1-Obligation to present image of strength	.74**	1										
SWS 2-Obligation to suppress emotions	.74**	.48**	1									
SWS 3-Resistance to being vulnerable	.88**	.58**	.68**	1								
SWS 4-Intense motivation to succeed	.81**	.56**	.44**	.66**	1							
SWS 5-Obligation to help others	.83**	.49**	.41**	.61**	.63**	1						
Perceived Stress Scale -PSS	.47**	.32**	.33**	.42**	.28**	.47**	1					
PSS 1-Perceived helplessness	.44**	.33**	.26**	.37**	.30**	.44**	.96**	1				
PSS 2-Perceived self-efficacy	-.42**	-.24**	-.39**	-.41**	-.18*	-.41**	-.86**	-.68**	1			
State-Trait Anxiety Invent-STAI	.54**	.32**	.35*	.48	.40**	.54**	.73**	.68**	-.67*	1		
STAI 1-State Calmness	-.49**	-.26**	-.36**	-.43**	-.34**	-.50**	-.66**	-.59**	.64**	-.94**	1	
STAI 2-High Anxiety	.50**	.34**	.28**	.46**	.39**	.48**	.70**	.68**	-.59**	.90**	-.69**	1

Note: Subscales of the total scales are indented. Negative correlations are in red.

** Significant at the level of .01 (2-tailed).

*Significant at the level of .05 (2-tailed)

Relationship between SES, Education, and Stress and Anxiety

To answer Research Question 1.2, “How do **socioeconomic status** and **education** affect how Black pregnant and postpartum women in the United States respond to commonly used stress and anxiety measures, PSS and STAI?” I used multiple regression. Standard multiple regression was used to assess whether socioeconomic status and education predicted stress (Table 4.1.6) and anxiety (Table 4.1.7) among Black pregnant and postpartum women.

Socioeconomic status and education explained 7% ($p < .013$) of the variance. However, only education ($p < .006$) was statistically significant. Within the model, education was statistically significant and indicated that the higher the education level was related to less stress (Table 4.1.6).

Table 4.1.6 Regression Analysis Predicting Stress with Socioeconomic Status and Education

Predictor	R ²	Beta	t	F	sr	Sig.
Model 1	.07			4.53		.013
Socioeconomic status		.02	.57		.05	.572
Education		-.18	-2.82		-.24	.006

Note: sr = semi-partial correlation coefficient

Socioeconomic status and education explained 5% ($p < .031$) of the variance. However, only education ($p < .010$) was statistically significant. The overall model was statistically significant, but only education recorded a statistically significant partial correlation, indicating that higher education led to lower anxiety (Table 4.1.7).

Table 4.1.7 Regression Analysis Predicting Anxiety with Socioeconomic Status and Education

Predictor	R ²	Beta	t	F	sr	Sig.
Model 1	.05			3.56		.031
Socioeconomic status		.10	1.00		.09	.320
Education		-.27	-2.63		-.23	.010

Note: sr = semi-partial correlation coefficient

In summary, although results show that low education is a predictor for stress and anxiety, more data is needed to assess the impact.

Cultural and Situational Impact on Measure Responses

To answer Research Question 1.3, “Do the PSS and STAI items capture stress and anxiety among Black pregnant and postpartum women?” I used Rasch analysis. Rasch analyses were conducted to assess the overall fit of the models within the population of Black pregnant and postpartum women and to detect item bias or invariance within groups in the sample. Analyses were conducted individually for each measure: Perceived Stress Scale and State-Trait Anxiety Inventory.

Perceived Stress Scale (PSS). Table 4.1.8 summarizes the statistics for the model. The items were centered at zero ($SD=.72$). The Infit and Outfit statistics were close to the expected value of 1.00, which indicates that the observations were predictable or redundant. The mean for the participant measures was $-.05$ ($SD=1.71$). The Infit and Outfit statistics were close to the expected value of 1.00, which indicates a good fit of the participant responses to the model. The reliability of separation for person and items was high ($Rel=.92$)—a value comparable to Cronbach’s alpha.

Table 4.1.8 Rasch Summary Statistics for the Perceived Stress Scale (N=129)

	Persons	Items
Measure		
Mean	-.05	.00
Standard deviation	1.71	.72
Infit mean square error		
Mean	.99	-.2
Standard deviation	.74	1.5
Outfit mean square error		
Mean	.99	-.2
Standard deviation	.79	1.5
Reliability of separation	.92	.92
Number of observations	129	10
Percentage of variance		59.78%

Table 4.1.9 summarizes the statistics for the PSS items. As a general rule, values greater than 1.20 or lower than 0.80 are considered a misfit. The fit of the items ranged from an Infit statistic of .68 to 1.43, with five of the ten items within the expected range of 0.8 to 1.2. Infit values for items 2 (How often have you felt that you were unable to control the important things in your life?), 3 (How often have you felt nervous and stressed?), and 8 (How often have you felt that you were on top of things?) were lower than expected. Values for items 4 (How often have you felt confident about your ability to handle your personal problems?) and 10 (How often have you felt difficulties were piling up so high that you could not overcome them?) were higher. Similar results were observed for the Outfit statistic.

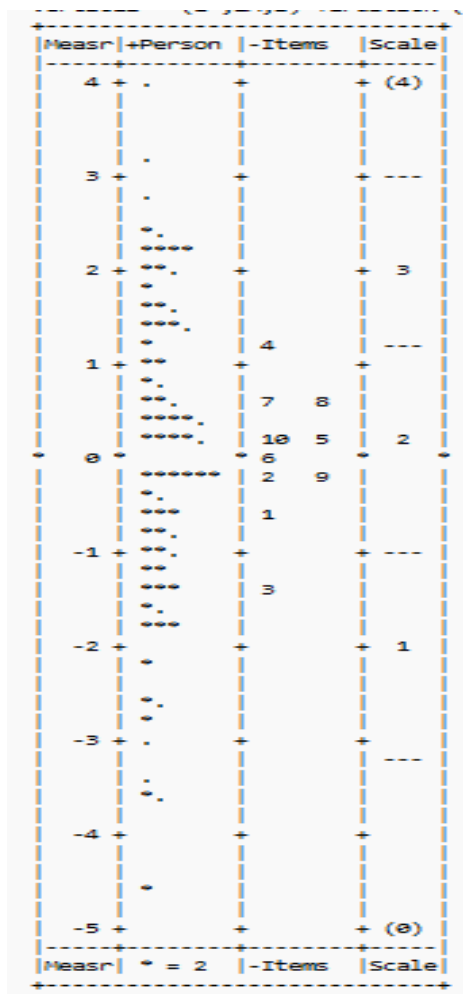
Table 4.1.9 Summary Statistics for Items for PSS (N=129)

Items	Item Location	Standard Error	Infit MSE	Outfit MSE
1	-.67	.13	.92	.94
2	-.29	.13	.68	.66
3	-1.50	.13	.73	.71
4	1.21	.13	1.43	1.46
5	.11	.13	.99	1.02
6	-.04	.13	1.11	1.13
7	.65	.13	.92	.99
8	.60	.13	.79	.79
9	-.23	.13	.97	.96
10	.17	.13	1.27	1.26
Mean	.00	.13	.98	.99
Standard deviation (Pop)	.72	.00	.22	.23

Note: The yellow indicates the positively associated items that were reverse coded. The bold numbers highlight the misfit items (items outside the 0.8-1.2 range).

Figure 4.1.1 displays the Wright map, or variable map, which shows the location spread for persons and items. The items that were more difficult to endorse are at the top. In this analysis, item 4 on the PSS (“How often have you felt confident about your ability to handle your personal problems?”) was the hardest to endorse. Item 3 (“How often have you felt nervous and stressed?”) was the easiest to endorse. Item 6 (“How often have you found that you could not cope with all the things you had to do?”) was located in the middle of the scale.

Figure 4.1.1 Wright Map of the Perceived Stress Scale (N=134)



State-Trait Anxiety Inventory (STAI). Table 4.1.10 summarizes the statistics for the STAI items. The items were centered at zero ($SD=.70$). The Infit and Outfit statistics for persons and items were close to the expected value of 1.00, which indicates a good fit of the participant responses to the model. The reliability of separation for items was high ($Rel=.98$) – a value comparable to Cronbach’s alpha. The reliability of separation for person was low ($Rel=.48$), which can indicate poor inter-relatedness between items or heterogenous constructs.

Table 4.1.10 Rasch Summary Statistics for the State-Trait Anxiety Inventory

	Persons	Items
Measure		
Mean	-.39	.00
Standard deviation	.36	.70
Infit mean square error		
Mean	.98	1.05
Standard deviation	.57	.29
Outfit mean square error		
Mean	1.04	1.04
Standard deviation	.65	.28
Reliability of separation	.48	.98
Number of observations	129	20
Percentage of variance	0.311	29.26%

Table 4.1.11 summarizes the statistics for the STAI items. The fit of the items ranged from an Infit statistic of .64 to 1.48, with only 6 of the 20 items within the expected range of 0.8 and 1.2. For example, Infit and Outfit values for items 1 (I feel Calm), 5 (I feel at ease), and 20 (I feel pleased) were low. Whereas Infit and Outfit values for 6 (I feel upset), 13 (I am jittery), and (I feel indecisive) were higher.

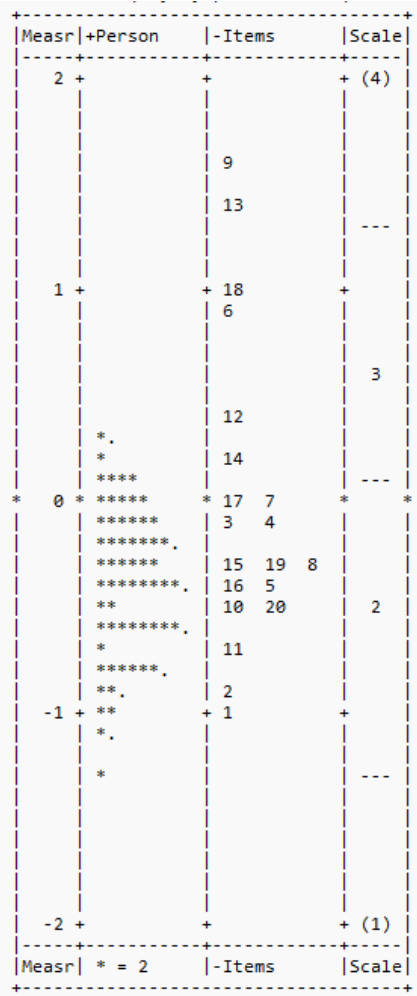
Table 4.1.11 Summary Statistics for Items for the State-Trait Anxiety Inventory

Items	Item Location	Standard Error	Infit MSE	Outfit MSE
1	-.96	.10	.64	.67
2	-.90	.10	.93	.96
3	-.14	.10	1.23	1.24
4	-.11	.10	1.38	1.39
5	-.36	.09	.67	.67
6	.93	.13	1.48	1.50
7	.00	.10	1.25	1.21
8	-.33	.09	.93	.91
9	1.56	.17	1.39	1.24
10	-.53	.09	.79	.79
11	-.68	.09	.74	.75
12	.44	.11	1.13	1.07
13	1.40	.16	1.46	1.33
14	.19	.10	1.40	1.44
15	-.29	.09	.75	.74
16	-.43	.09	.88	.88
17	.04	.10	1.08	1.07
18	1.00	.13	1.38	1.42
19	-.30	.09	.87	.85
20	-.52	.09	.72	.72
Mean	.00	.11	1.05	1.04
Standard Dev (Pop)	.70	.02	.29	.28

Note: The yellow indicates the positively associated items that were reverse-coded in the scoring. The bold numbers highlight the misfit items (items outside the 0.8-1.2 range).

Figure 4.1.2 displays the Wright map, or variable map, for the STAI, showing the location spread for persons and items. The more challenging or difficult items to endorse are at the top. In this instance, items 9 (“I feel frightened.”) and 13 (“I feel jittery.”) were the hardest to endorse. Whereas items 15 (“I am relaxed.”) and 19 (“I feel steady.”) were the easiest to endorse. Items 17 (I am worried), 2 (I feel secure), and 7 (I am presently worrying over possible misfortunes) were right in the middle of the scale.

Figure 4.1.2 Wright Map of the State-Trait Anxiety Inventory



4.2 Phase 2: Qualitative Data Analysis—Interview Results

Phase 2 contains two sections. The first section describes the participants who completed the interview. The second section details the three themes that emerged from the interviews.

Participant Descriptions

The expected sample size for Phase 2 was 20 participants. Many women (n=217) completed the recruitment survey in a short amount of time. Among those who completed the survey in full, 29 were contacted to interview. Nine had time conflicts, and two did not confirm their interview time. Thus, the final sample consisted of 18 participants. Table 4.2.1 shows their

demographic characteristics. Most participants had a master's degree (50%), and slightly over a quarter had a bachelor's degree (28%). In addition, the majority of participants were married (89%) and made over \$100,000 a year (44%).

Table 4.2.1 Participant Demographic Characteristics (N=18)

Demographic Characteristics	N	%
Education		
Some College	1	5.6
Associate Degree	0	0
Bachelor's Degree	5	27.8
Master's Degree	9	50.0
Professional/Doctoral Degree	3	16.7
Relationship status		
Married	16	88.9
Cohabiting	1	5.6
Domestic Partner	1	5.6
Household Income		
Less than \$35,000	1	5.6
\$35,000 - \$64,999	5	27.8
\$65,000 - \$99,999	3	16.7
Greater than \$100,000	8	44.4
Choose not to answer	1	5.6
Number of Children		
0	7	38.9
1	7	38.9
2	1	5.6
3	3	16.6

Table 4.2.2 displays the pregnancy characteristics of the participants. At the time of the interview, 56% of participants were postpartum, and 44% were pregnant. Most participants chose not to indicate the number of pregnancies (56%) or the number of times they gave birth (56%). It is unclear why participants chose not to disclose that information on the survey. The women were very forthcoming during their interviews and were willing to share personal anecdotes about their experiences and beliefs. Participants also completed the Perceived Stress Scale, State-Trait Anxiety Inventory, and Superwoman Schema; Phase 3 details the scores for each participant.

Table 4.2.2 Pregnancy Statistics (N=18)

Pregnancy Characteristics	N	%
Pregnancy Status		
Pregnant	8	44.4
Postpartum	10	55.6
Number of Times Pregnant		
1	2	11.1
2	4	22.2
3	2	11.1
Choose not to answer	10	55.6
Number of Times Given Birth		
0	1	5.6
1	5	27.7
2	2	11.1
Choose not to answer	10	55.6

Participants also completed the Perceived Stress Scale, State-Trait Anxiety Inventory, and Superwoman Schema (Table 4.2.3) as part of the initial survey. To assure anonymity, participants' names were replaced with pseudonyms, and their age was reported in a range. The summed scores of the PSS can range from 0-40: low stress (0-13), moderate stress (14-26), and high perceived stress (27-40) (Cohen, 1988; Cohen et al., 1983). The summed scores of the STAI can range from 0-80: no or low anxiety (20-37), moderate anxiety (38-44), and high anxiety (45-80) (Spielberger, 1983; Spielberger, 2010; Spielberger et al., 2001). Finally, the SWS summed scores can range from 0-105; low (0-35), moderate (36-70), or high (71-105) endorsement of the Superwoman Schema (Woods-Giscombé, 2010).

Table 4.2.3 Participant Characteristics and Measure Responses

Pseudonym	Pregnancy Status	Age Range	PSS Total	STAI Total	SWS Total
Alexa	Pregnant	26-30	8	28	94
Brittany	Postpartum	31-35	31	65	45
Carla	Pregnant	20-25	16	32	70
Dakota	Pregnant	26-30	20	43	73
Elena	Pregnant	26-30	18	42	63
Francis	Postpartum	26-30	23	43	70
Grace	Postpartum	36-40	8	21	12
Harper	Postpartum	31-35	19	39	47
Isabella	Postpartum	36-40	11	26	53
Jade	Pregnant	26-30	29	66	84
Kendall	Postpartum	36-40	14	33	49
Lisa	Postpartum	36-40	27	49	37
Maria	Pregnant	36-40	24	60	74
Nicole	Postpartum	36-40	27	51	78
Olivia	Postpartum	20-25	23	58	82
Paige	Pregnant	26-30	22	38	81
Quinn	Pregnant	31-35	28	62	72
Rose	Postpartum	26-30	15	36	78

Alexa, a married, Black and Hispanic female, was pregnant with her first child. She did not indicate any complications during the pregnancy but did express feeling happy, calm, secure, and content about the pregnancy. She also expressed feeling some uncertainty about the impending delivery.

Brittany, a Black woman cohabitating with her partner, was about eight months postpartum after having a vaginal birth. The participant indicated experiencing anxiety and depression. She also expressed feeling anxious, nervous, sad, uncertain, and upset during the postpartum period.

Carla was pregnant and resided with a domestic partner at the time of the interview. She identified as a mixed-race woman, Black and White. Carla was 31 weeks pregnant with her second pregnancy. She expressed being very excited about this pregnancy and felt secure, confident, and happy but a little nervous about the delivery.

Dakota identified as a mixed-race woman, Black and White. She was married and 16 weeks pregnant. She mentioned feeling anxious, nervous, and scared about the pregnancy. She also was nervous, sad, and upset when thinking about her upcoming delivery.

Elena, a married woman, identified as a mixed-race woman, Black and White. At the time of the interview, she was 20 weeks pregnant with her second pregnancy. She mentioned being anxious, nervous, sad, and upset about her pregnancy. She was also nervous, sad, and upset when thinking about her upcoming delivery.

Francis, a married woman, self-identified as a mixed-race woman, Black and Native Hawaiian. At the time of her interview, she was 12 weeks postpartum after having her third child. She experienced hypertension, anxiety, and depression during her pregnancy.

Grace, a married Black woman, was ten weeks postpartum at the time of her interview. Her baby was conceived using in vitro fertilization (IVF), and the participant expressed how she would have liked to have more conversations with the provider about experiencing previous losses and her mental health. She made it to 41 weeks of pregnancy and had been in the hospital for three days without the pregnancy progressing, leading to an emergency c-section.

Harper, a married Black woman, was nine weeks postpartum at the time of the interview. She had a family history of depression and wished that she could speak to her provider or others more about dealing with being a first-time mom and navigating her family history as a Black mom. She mentioned feeling happy, anxious, sad, uncertain, and confident during the postpartum period.

Isabella, a Black woman, was 36 weeks postpartum at the time of the interview. She is a mother of three children and experienced labor complications that resulted in an emergency C-section.

Jade identified as a mixed-race woman, Black and Hispanic. At the time of the interview, she was 17 weeks pregnant. She has been pregnant three times and gave birth once before via C-section. She mentioned feeling anxious, nervous, scared, and uncertain throughout this pregnancy.

Kendall, a married Black woman, was six weeks postpartum at the time of her interview. She expressed having a thorough care team during her pregnancy and postpartum, which helped her feel confident so far in her postpartum journey. She mentioned that she felt secure and calm but at times had felt anxious and nervous.

Lisa, a married Black woman, was 36 weeks postpartum at the time of the interview. She mentioned that she didn't have any issues during her pregnancy, birth, or postpartum, but she realizes that she needs to focus on eating healthier and rest more often.

Maria identified as mixed-race, Black and Nigerian. She was 12 weeks pregnant at the time of her interview. This was her third pregnancy and she mentioned feeling conflicted feelings about the pregnancy. She mentioned feeling anxious, nervous, uncertain, and sad, but at times she felt happy and secure.

Nicole identified as mixed-race, Black and Hispanic. She was 36 weeks postpartum at the time of the interview. She mentioned feeling nervous and anxious about postpartum. During her birth, the baby's cord was wrapped around the neck, but she was still able to have a vaginal delivery.

Olivia identified as mixed-race, Black and White. She was married and 48 weeks postpartum at the time of the interview. She mentioned feeling nervous, uncertain, and scared, yet happy during postpartum.

Paige, a Black married woman, was 24 weeks pregnant with her second child at the time of the interview. She mentioned experiencing various emotions during her pregnancy, including anxiousness, happiness, sadness, confidence, and calmness. She also mentioned feeling anxious, happy, nervous, and uncertain about the upcoming birth. Paige seemed very open during our conversation and mentioned wishing her provider spoke to her more about her mental health and asked more about her feelings.

Quinn identified as mixed-race, Black and American Indian. She was married and 27 weeks pregnant with her second pregnancy. She mentioned feeling nervous, anxious, and uncertain during the pregnancy. She also discussed feeling anxious, nervous, and uncertain about her upcoming birth.

Rose, a Black married woman, was six weeks postpartum with her first child at the time of the interview. She mentioned having mixed feelings since her birth, including feeling anxious, happy, confident, and content.

Emergent Themes

This section describes the three themes that emerged in the interviews. All of the participants were open about discussing their thoughts about the concepts, and there were some underlying constructs that emerged consistently throughout the interviews. Themes were developed during thematic analysis, with Black Feminist Theory guiding the theme and code development. Findings suggest that participant views and perspectives varied, even though they all identify as Black women.

MAXQDA has a tool called Code Matrix, that creates a visual aid to the context of the themes. The Code Matrix created a magnitude map that displays selected codes and the magnitude of the coded item discussed in the interview. The magnitude map shows with a larger

square the topics that participants discussed for a longer time or mentioned several times through their interview. Conversely, the map depicts a small square for topics discussed less frequently or with less elaboration. Magnitude mapping does not show the content's significance but the conversation's intensity.

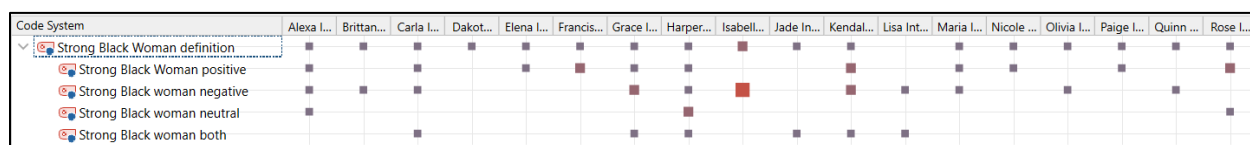
Theme 1: Black Women had strong, diverse, and polarizing opinions of the Strong Black Woman and Superwoman roles.

The Strong Black Woman and Superwoman roles are often used interchangeably in Black populations. However, it was valuable to explore Black women’s perception of these concepts separately to identify their differences and similarities. Due to the individualized nature of lived experience, cultural norms, and personal ideals, it is essential to understand their various layers of influence on Black women’s maternal health, mental health, and overall health.

Participants’ perceptions of the Strong Black Woman and Superwoman concepts were diverse. Their thoughts about the Strong Black Woman or Superwoman roles were positive, negative, neutral (or neither positive or negative), or have the capacity to be both positive and negative at times.

Strong Black Woman. Participants felt very strongly about the term “Strong Black woman,” whether they felt it was negative or positive. Figure 4.2.1 displays those constructs and highlights the intensity and magnitude with which the participants discussed the topics.

Figure 4.2.1 Perceptions of the Strong Black Woman Role



In Black culture, the Strong Black Woman concept can be **positive and encouraging**. For example, Elena, who identified as White and Black and was 20 weeks pregnant with her second child, mentioned, “When I hear a Strong Black Woman, it means a Black woman who

has confidence in herself. She can handle the problems; she can face her challenges. She can take control of whatever situation it is in her life.” Francis, a Black and Native Hawaiian woman who was 17 weeks postpartum, also felt that the role was positive, stating:

I would say as a Black woman, I think when I stare at myself in the mirror I look at me achieving what I think I want to achieve, despite all the trauma that comes with being a Black woman in a society which every Black woman, we often experience. I think we are strong. We are beautiful. So as a Black woman, I see myself as the strong woman that can endure anything that comes my way. Because I am at this point in my life. I'm strong and I'm ready to accept the faith I see myself in. Because I think we always prepare for the worst. We are prepared for anything, irrespective of how we feel about the particular thing we are, we can shut out our pain, our agony, our fears and come out strong. No matter what we face, we are strong. We are proud. We are beautiful. We are bold.

These women viewed the Strong Black Woman role as empowering. They used words like confident and bold when they explained strong Black women. During their interviews, they smiled and seemed sure that embodying the attributes of a Strong Black Woman was positive.

Aside from the positive perspectives, other participants felt the Strong Black Woman role had **negative connotations**. For instance, Isabella and Grace felt like the Strong Black Woman role was more of a burden that a woman had to carry by choice or circumstance. During their interviews, both women sounded exasperated when speaking about the topic. In addition to personal pressures, they mentioned external events that can contribute to negative feelings, such as religiosity, corporate demands, childrearing, and the history of enslavement of Black people in the United States. When asked about the Strong Black Woman role, Isabella, a postpartum mother of three, stated:

When I hear Strong Black Women, I hear something that actually puts me on the defensive. It's something that I don't want to adhere to. I think that it's also very much rooted in so many different areas. From the enslavement of African people to pride to religiosity, and how patriarchy and all of those things have an interplay on who we are. That you can just carry all the burdens without necessarily breaking. Where people think it's strong, to me, it's a weakness. It's not necessarily a sign of strength. It's just a sign of survival of what we previously had to do and a society that didn't see and accept us.

Grace, who conceived her child via IVF and delivered via emergency c-section, had a different negative perspective of the Strong Black Woman role. She explained:

When I hear a Strong Black Woman, I think of someone who has a cape on. Someone who may not have the resources to help them succeed or thrive or the ability to limit some of the stressors in her life. I think of someone who's resilient. I think of someone who possibly may not ask people for help. They struggle with being vulnerable. I'm bad all by myself. I can do it alone. Nobody to help me, type of personality. Just doing everything and has the entire world on her back. But, you know, sometimes still getting things done. Could be like that corporate woman that is dropping her kids off at school, has this demanding job, but getting everything done. Every single day, no break whatsoever. So that's what I think of when I think of a strong Black woman. It's like the entire world is on your back for you to carry.

In some instances, participants **could not distinguish if the term was solely positive or negative**. For example, Harper, a married Black woman who was nine weeks postpartum, indicated that she felt the concept was **neutral**. She explained:

I would say it's neutral because I see the good, and I see the beauty of being a Black woman and having strength. But I also see the negative and what that strength really makes you have to push down in the sense of who you really are and what you really need and having the liberty to actually express it.

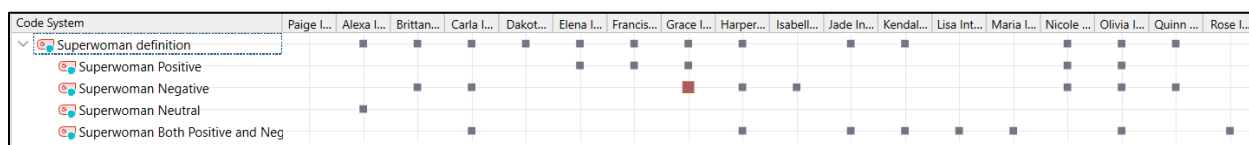
Some participants clearly stated that the Strong Black Woman has positive and negative attributes. Kendall, a married woman who was six weeks postpartum, was very clear about the concept. She was confident in her decision that there were negative and positive attributes of the Strong Black Woman, stating:

I think of someone who has an unapologetic Black woman identity. A woman who is in touch with the ancestors and full of pride and just proud of who they are. Someone who carries a lot of weight in the sense of being strong for a family, being a person who lifts burdens or who share the burdens to make... I'm certainly not neutral. I would say that it is both positive and negative. I think that's how I picture it. Black women having the ability to create a homeplace wherever they are. How to tap into some hooks and to love on and to care for lots of folks. And that's a beautiful thing. That is what the village should be. But also, it can be where the downside of it is that people don't see that you are a part of the village and that you need that nurturing and love too.

The study participants were forthcoming about their perceptions of the Strong Black woman role, no matter the underlying connotations. They shared that internal and external factors contributed to their thoughts on the subject. From cultural aspects such as their Black identity or religious beliefs to feeling bold and empowered, the varied perceptions illuminate the duality that comes with a topic such as the Strong Black Woman.

Superwoman. Participants had strong opinions about the term “Superwoman.” As with the Strong Black Woman coding, the explanations of the Superwoman term were parceled into constructs of positive, negative, neutral, or being both positive or negative. Figure 4.2.2 displays those constructs identified in the theme, highlighting the intensity and magnitude with which the participants discussed the topics.

Figure 4.2.2 Perceptions of the Superwoman Role



When discussing why they thought the term was **positive**, some women mentioned a Superwoman as someone who is being or feeling strong and can handle whatever may come their way. One of the participants said “resilience” was a trait of a Superwoman, which is often mentioned with the strength of Black women to be able to endure a lot.

Francis indicated that the term is positive. She said, “Superwoman. I think we are powerful. We are hard-working. We have the strength is still true, irrespective of how hard things may go, and you are always powerful. It is positive.” Elena also felt it was positive, stating, “Well, a superwoman is strong, resilient, and can tackle anything that sent us into our way. That is a positive.”

Others had a **negative** view. At times, Black women feel they have to become Superwoman to move forward with their aspirations in life, which can be another burden for Black women to bear to live and progress. One thing that stood out from Isabella's comment was that she felt the Superwoman role is a mask that Black women have to wear for other people and society. She stated:

When I hear the term Superwoman, it also has a very negative connotation. It is someone that appears to have it all together but doesn't really have it together. I feel like a lot of the times it is the pretense, the mask, what we just put together and manufacture for society.

Some people want to present themselves as if they have it all together when they really do not. Brittany was almost eight months postpartum at the time of her interview. She felt the term was negative, stating, "Superwoman is like someone that can do it all. Like there is no, 'no.' You don't see her feelings. You don't see her fears. And to me, that's what comes to mind. I feel like that's a negative." Those remarks highlight how the Superwoman term can be perceived as a strength, and some see it as a weakness. Yet, both ideals may be a means for survival.

To some, the concept of the Superwoman seems to be unrealistic. The possibility of someone being Superwoman seems improbable. Yet, if someone was to embody that role, the role holds a **negative** connotation. Quinn expressed the juxtaposition regarding the Superwoman term stating:

There is no Superwoman. Who is Superwoman? What was that? I don't know who Superwoman is, but I'll take my hat off to her, if she exists. But I would venture to say that even if she exists, she has times of weakness. But Strong Black Woman I think has a lot of negative connotations with it. It's like the angry Black woman thing. It goes hand in hand. And I think because we are often raised with this strong Black woman mentality that it comes hand-in-hand with other people creating this notion that, "oh, don't get her upset, or she can't be assertive and speak her mind" because then it's anger and it's aggression. But like Superwoman, I just I don't like that either because it gives the false impression that we don't get tired or we don't need love. We don't need compassion. We don't need grace. We don't need help. And that's just not true. If that was the case, we'd be robots.

Lived experience can significantly affect how participants perceive the Superwoman role. Alexa mentioned that she is now **neutral** about the term after thinking it was positive earlier in her life. She attributed this change to seeing a therapist. A comment that stood out during her interview was that when she thought of a Superwoman, she thought of a White woman. This perception could be related to the depictions of the Superwoman character in the media usually portrayed by White women. Alexa stated:

When I hear the term Superwoman, I think of a strong [white] woman. A Superwoman is someone that is doing what they need to do to get things done in their life and be accomplished. Usually, someone that has a lot of goals, and they're reaching them. It used to be a very positive thing, but these days I don't view it as such a positive thing because I also know that that comes with a lot of mental strain. I've seen it in my family members. It's just it's a lot of stress. It's a lot of keep doing it. They are educated women, and they are out here taking care of everything. But good Lord, they need a therapist. It comes with a lot of mental strength. So, I guess I would say at this point in my time in my life, I would say neutral. I'm neutral about it.

The Superwoman term, like the responses for the Strong Black Woman term, had polarizing viewpoints. For some individuals, those terms were unmistakable, but others were unsure. The concept that Superwoman can be both **positive and negative** was a prevalent theme. Rose stated:

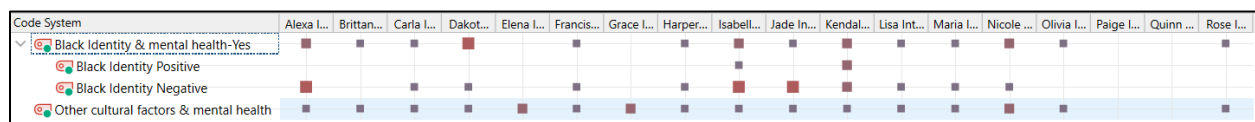
Superwoman, I would think, is basically like. Wow. I never thought I could do all of this. And just when other people are looking from the outside, it's just like, how do you operate like that? How do you uphold all of that and still look like you're okay and you're always there for everything? And I would say that would be more so superwoman... That would still be both. It's situational because you can be Superwoman in trying to fix a situation. But then also Superwoman in the situation has been good from the beginning and just continuously rising above.

Based on an individual's perspectives and experiences, their understanding of the term was different. It was important to note that individuals with diverse backgrounds approached the terms in a similar fashion in some situations. What became more evident was the fact that lived experience, exposure, and personal beliefs have an impact on their perspectives.

Theme 2: American history, culture, and lived experience impacted the mental health of Black perinatal women.

Addressing mental health is integral when considering the well-being of women. Because of the high prevalence of stress-related disorders in minority populations, it was essential to understand how Black women perceive the impact of their identity on their mental health. Due to cultural norms, stigma, and personal lived experiences, many factors contribute to one's mental health, either negatively or positively. Figure 4.2.3 displays those constructs relating to the Black identity and mental health, highlighting the intensity and magnitude with which the participants discussed the topics.

Figure 4.2.3 Perceptions of the Black Identity and Mental Health



Positive Impact. In some instances, being Black can positively impact someone's mental health. Isabella mentioned:

It has a positive impact. There's a sisterhood that comes with Black womanhood. It can uplift us when Black women come together and support each other. Even if no one else is going to protect us, we protect each other.

Kendall has similar sentiments, "Being a Black woman and thinking about my community, my people, the places we've been, even seeing protests or seeing Black resistance like that does wonders for my mental health." Participants mentioned the sense of community as a protective factor for positive mental health. The women explained the benefit of having their community help uplift them.

Negative impact. There are times when external factors such as discrimination, systemic racism, and unwelcoming environments negatively impact Black women's mental health. Jade stated:

I attended a PWI (Primarily White Institution) for undergrad and my master's. Being in those spaces, I would be sad and depressed to be around so many White people and not be able to be myself. I couldn't articulate that to anyone else. It felt like being expected to perform in a certain way all the time.

Kendall had a negative experience in the workplace where she felt that her Blackness was leading to negative interactions. Those interactions ultimately began impacting her mental health. She said:

Some interactions or frustrations that I have with work or in relationships or things in the community... They happen because I'm a Black woman, and it certainly can pull on anxiety and can mess with me. Leave me feeling hopeless or just really overwhelmed or downtrodden. And that obviously it wouldn't impact me in the same way if I weren't a Black woman. There is pain in this struggle that wears on my mental health and feeling hopeless sometimes, like it is just too much.

In these instances, the women's environment harmed their mental health. Being in spaces where they felt that they had to act a certain way or could not truly be themselves took a toll on their mental health. In addition to experiencing discrimination in work or school, the history of racism still impacts women's mental health.

The impacts of slavery still persist in the United States; it has had a lasting impact on Black people. Lisa mentioned that the history of Black people in this country is still heavily impacting the mental health of the people of today, stating:

Oh, absolutely. Social determinants of health (have an impact on Black women's mental health). There is an anxiety, a fear, a worry, and a constant fight that we live in as Black women in America. And it never turns off. We can't sleep the same way, have relationships the same way, purchase homes the same way, navigate school, academia the same way. Oh, my gosh. Or raise children. It's the fight for reproductive justice. We get no break. Thanks to the systems and the society we live in, like it's built in. And just normal life, it still feels like you can't get a break. So it's not like an excuse, like, "oh, because of slavery" because there is some post-traumatic feeling that is also still very present in 2022 that still hates us and everything that comes from us. And so that's difficult. It's ever present.

The presence of community and sisterhood within the Black community protected Black women's mental health. Those factors have enabled Black women to persist in environments that

have been created to tear them down. While systematic racism, implicit bias, and discrimination are still present on multiple levels within the infrastructure of the United States, Black women have managed to thrive. With the community and family support to uplift them in trying times, Black women are finding space to improve or maintain their mental health.

Cultural Impact. Beyond Blackness, other cultural factors resonate within the Black community that have an impact on mental health. Figure 4.2.3 also displays the intensity of the conversation surrounding culture and mental health. As a first generation, Black-American woman, Brittany felt that her parents' Haitian culture played a role in her perception of mental health. She mentioned:

I'm first generation. My parents are from Haiti. And so I think in general, that's a feeling in the Black diaspora that you don't seek out therapy or you don't tell your business to strangers. But I feel like, especially as my mom telling her stories to me about how she came to this country and did it all for me, it's like, "If she suffered those hardships and I have more, then I should understand I have more privilege in that sense." So to her it's like you shouldn't be complaining about anything.

Grace also came from a Haitian background. She noted that mental health was not something that was widely accepted in her family by stating:

In the Haitian community, they don't look at mental health as a thing. It's a lot of holistic things that they look at or I've heard people say, "if a woman has postpartum depression, she shouldn't be breastfeeding because the milk is bad for the child." There is an expectation that woman are supposed to do everything without even recognizing how they feel. Does the person need support and how do you support them? Like what kind of support do they need in a moment? So I think those are what I see culturally and in the community. This expectation to just go back to normal.

She further expounded on her thoughts saying, "everyone sees the baby, but no one really checks to see how the mom is doing or if she is well." The diaspora within the Black community brings about many different cultures and concepts that can impact mental health.

For Black women whose families have been in the United States for generations, tradition and gender roles can impact mental health. Harper's family grew up in south Alabama and she

was raised by her grandmother. In addition to mentioning how growing up in a single parent home has impacted mental health for Black women, they went on to state how the traditional values in the South can put additional burdens on women. She said:

My grandma and aunties had villages back then. They had aunties down the street, not states away. It was more communal when we were all being raised. Now it's just like every man for himself... I also think being a Black woman in the South may add some more pressure because it's very traditional for a country, southern Black woman to be able to do things and really be all the things because it's not as progressive.

Aside from the traditional values, Alexa had similar thoughts about men not being present in the home and the impact it had on her mental health. She mentioned:

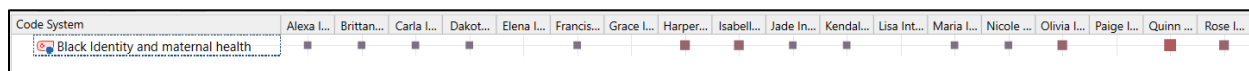
The lack of men being around, just a bunch of women and high achieving women had an impact. That's not to say my dad wasn't involved in my life. But, when you look at a family household that has a mother and a father, I did not have that. My dad would see me three or four times a year. He was as involved as he could be on the phone. So, I think that makes a difference. There were no male figures around me and good ones at that. I had an uncle that was pretty terrible... So, yeah, I think that had an impact on my life and on my mental health.

The lack of a community or village was a recurring theme. Whether it was women being there to help them or male figures there to providing support and to nurturing during pivotal times in their lives, the lack of community had a strong impact on their mental wellbeing. In addition to these themes, participants also mentioned concepts such as moving beyond stereotypes for Black women, the lack of communication surrounding mental health in their families and communities, and the stigma associated with seeing a therapist. While there are similarities within the perspectives, the vastness of the Black community adds to the uniqueness of the community and the challenges that may arise when assessing and understanding their mental health.

Theme 3: Black perinatal women fear losing their lives while navigating the healthcare system in the United States.

In addition to the regular stressors that may come with pregnancy, birth, or postpartum, Black women have additional concerns regarding the care they may receive. Black women are more likely to die from pregnancy-related causes, and that information has become more public in recent years. Factors contributing to the racial disparities impacting Black women, including structural racism, implicit bias, and quality healthcare, have led some women to take extra precautions when preparing to get pregnant or give birth. The additional measures that women undertake to ensure healthy and safe outcomes add to their mental load and can affect their psychological and physical health. Figure 4.2.4 displays the construct of the Black identity and maternal health, highlighting the intensity and magnitude with which the participants discussed the topics.

Figure 4.2.4 Perceptions of the Black Identity and Maternal Health



The healthcare system is failing Black women, which is evident based on the increasing maternal mortality and morbidity among Black women. During the interviews, some participants mentioned that these statistics led them to take extra precautions to ensure they felt they would be respected and provided adequate care. Maria stated:

I literally moved over an hour away from my OB for this third baby because I do not want to run the risk of getting a provider who is not going to provide me with what I need and have a negative birthing experience or prenatal experience. I commute to my appointments. I was in traffic. It took me like an hour to get to my appointment I had this month or last October because I have heard too many horror stories. I've seen them. I heard them. I know them. And I would sacrifice gas money because gas is crazy. I live in L.A. and we're over \$6 a gallon. But I had to prioritize that sanity to know who I'm getting and what I'm getting. I feel confident about the care that she provides.

Being aware of this country's current state of maternal health can add additional mental strain on Black women. Jade was aware of the maternal health disparities in the United States and explained:

I am afraid of possibly dying. Black women are three times more likely to die through pregnancy and postpartum in general. But then, most Black women die with C-sections and emergency C-sections within a week after having them. It's crucial! You're only in the hospital for three days after a C-section, not the whole week. So, anything could happen. I remember last time, I don't know if it was like my milk coming in or what, but I remember coming home from the hospital and feeling sick, feeling faint and needing to lay down. My body felt like it was on fire. I thought something was wrong, but I was fine. I'm here today. But I'm definitely scared of dying.

Olivia made sure to research her provider prior to choosing her Obstetrician because she has seen a family have a bad experience during their labor and delivery. She mentioned:

I was very specific about my OBGYN and the hospital that I chose. The first that I had done research beforehand to see how their maternal death rate was among Black women and among their Black patients... to see how their care was and if they were more known for providing adequate care to Black women. I'm concerned about how my actual birth will go just because I saw my sibling be ignored while literally in labor. I was also concerned when I found out my daughter had a heart defect. I was really scared because it's like it's a heart disease that has the chance of correcting itself because it's something that's supposed to be there when they're in the womb and then when they're born, that's supposed to close. But she had a significant sized one and me knowing my child is mixed. I was like, I have to do as much research as I can about her health. So when I go to the doctors, I'm already prepared with all of this information so I can know whatever they say or whatever direction they want to go in would actually be the right direction.

Being a mixed Black woman still presents challenges regarding receiving care during the perinatal period in the United States. Although Carla is biracial, Black and White, she still feels that her Black identity has resulted in her receiving different care compared to the care her mother had received. When asked if she felt her Black identity impacted her maternal health care, she said, "Definitely. When I talk to my mom about it, who is White. So, especially when I talk to her about how her care was different for her. I definitely noticed that. Yeah. You have experienced things differently than I have."

Some participants were intentional about finding a Black practitioner, when possible, for their prenatal care. At times when that was not an option, they expressed feeling apprehensive about the quality of care they would receive. Quinn stated:

Well, my doctor's Black. He's a six-foot-three Black man, so I don't think being Black matters as much with my OB. But I do think about it with the other non-Black folks. Like, are you guys being as attentive to me? I don't think with my medical team I have to worry about that so much. Now, at the hospital, I'm always like, "If I press this button, how long is going to take them to get it?" You know, there's always that worry.

Francis felt similarly, saying:

Yes, as a Black woman, you go to the hospital, and you wait a long time. I just wanted someone that I can talk to because my GP is also a Black woman and essentially understands what we face in the community. So I think really, it was very easy for me to go through that journey without experiencing quite a lot of difficulties.

While choosing a Black practitioner was often a topic of discussion, it is also important to note when participants mention not wanting care from certain practitioners. Further pushing the narrative that the effects of racism and discrimination are still present, Kendall clearly did not want a White male practitioner to care for her during her pregnancy. She added:

For sure. I think initially in looking for a doctor and navigating all of that, I wanted to find a Black person, if not a Black woman, to be my OB and that just wasn't available in this area. So I tried to go with the next best thing, which is not going to be a White man. I spoke with the White woman. But in preparing for appointments and everything like that, I always took time beforehand to read as much as I could come prepared with very pointed questions about my care and what I want to happen. And that is very much because I'm a Black woman.

Pregnancy, birth, and postpartum are significant times in a women's life. It is essential that women feel safe and secure for their well-being and that of their children. Participants shared being fearful for their lives as a Black woman in this country. In addition to being knowledgeable about maternal mortality and morbidity rates, some expressed personal experiences that influenced their feelings. The women were not only concerned about their

physical health but also about the impact on their mental health as they navigated the perinatal period as Black women.

4.3 Phase 3: Mixed-Methods Data Analysis

Phase 3 contains two sections based on the same sample as Phase 2. The first section describes how Black pregnant and postpartum women conceptualize stress and anxiety. The second section details the effectiveness of the PSS and STAI at capturing stress and anxiety among the population through Rasch analysis and participant interview responses.

Conceptualization of Stress and Anxiety among Black Pregnant and Postpartum Women

To answer Research Question 3.1, “How do Black perinatal women conceptualize stress and anxiety?” this section describes the stress and anxiety themes that emerged in the interviews. The participants were forthcoming when discussing their thoughts about mental health, including their definitions and understanding of stress and anxiety. Themes emerged during thematic analysis, with Black Feminist Theory guiding the theme and code development. Findings suggest that participant views and perspectives varied, even though they all identify as Black women.

Theme 1: Stress for Black perinatal women isn’t just mental; it’s physical.

Stress is a natural human response caused by facing a challenging situation. While everyone may experience stress or stressful situations, it can harm women during the perinatal period. For Black women, it is vital to understand the impact of stress on their physical health. In the United States, the history of racism and discrimination has led Black people to weather. Researchers have associated prolonged and current exposure to stress with increased inflammation in pregnancy, preeclampsia, and increased risk of preterm birth (Ravi et al., 2022). Understanding how Black women perceive stress is necessary to improve maternal health outcomes.

When asked about stress, some participants referenced the mental components of stress, such as feeling overwhelmed, worried, anxious, or unnerved. Harper explained stress as “an overwhelming sense of being dysregulated. Dysregulated in the sense of being incredibly unnerved, very overwhelmed to the point of not being able to cope.” To Isabella, whose scores indicated low stress at the time, stress was a sense of uneasiness. Nicole’s scores indicated high stress at the time of completing the survey. She also felt overwhelmed when she thinks of stress, stating:

When I hear the word stress, I think about having too much to do and... not being able to accomplish it, having situations that are beyond your control that you can't easily affect and fix. If I had to explain it, I would just say the word “stressed,” or I’ll say I’m overwhelmed, and things are getting to be too much for me.

Olivia’s scores indicated moderate stress at the time of completing the survey. She expressed feeling and thinking of a few things when thinking of stress. She went on to say:

I think about irritability and sadness because when I'm stressed, I feel really irritable because I feel I'm at my wit's end. But then it's also sad because I feel super burdened, and how am I going to handle this? Like, handle everything? And stress is an overwhelming type of emotion because sometimes stress can be good, you have everyday stress factors. I am overwhelmed and that there's too much on my plate.

In addition to the mental and emotional conceptualizations of stress, some mentioned physical attributes when thinking of stress. Rose, whose scores indicated moderate stress at the time of survey completion, mentioned:

What comes to mind is everything is being thrown at me every and not really getting a break to breathe. I just need a second to breathe or just need a second to take a step back. I tend to kind of because I shut down a lot.

Alexa’s scores indicated low stress. She had similar sentiments about stress, “My personal feelings about stress are ‘Feel like you can't breathe and like the walls are caving in.’ Those are feelings that come up when you say stress.” At the time of the survey, Dakota’s scores indicated moderate stress. When asked about stress, she said:

Stress is being drained, physically drained, but it can be emotional, too. I think of it physically first, and after that, it can also be emotionally draining. I would tell someone that I'm not feeling too good, that I am tired, and I feel that I need to rest so I can regain myself.

Elena elaborated on the fact that stress can be mental and physical. She said, "Stress to me is a state of mental, physical or emotional strain resulting from adverse circumstances, unexpected happenings or uncertainties."

When participants elaborated on the physical indicators that make them aware of their stress, they mentioned their heart racing or blood pressure rising. Other symptoms mentioned when thinking about stress included sweating or getting chills, headaches, or an upset stomach.

Harper mentioned:

My heart definitely starts racing. I get sleepy. Stress can definitely lead to bouts of depression where I want to sleep I lose a lot of interest. I get really lethargic. I zone out more like, I just need to scroll. The minute when things that usually come very easily to me, become incredibly hard to do, that's when I know that I'm stressed and I'm overwhelmed.

Isabella felt stress physically as well. She stated:

So, for me, stress shows up in my shoulders and my back. Because I feel that way, I am normally more consistent on my massages and my facials. That made me realize, this is stressing me out. Besides those things, I've felt physical symptoms like being lethargic or avoidant, or one time I felt like my heart was racing and I said, "Oh, we don't do this." So, I stopped it, and I was like, "We don't do this." This is the type of stuff that leads to panic attack.

In summary, some participants related stress to a mental or emotional state, while others identified stress by being aware of its physical manifestations on their bodies. When assessing stress among Black women, especially during pivotal times like pregnancy or postpartum, it is essential to consider the emotional and physical manifestations of stress.

Theme 2: Anxiety, fear, and panic attacks... Maybe I should do more.

Experiencing anxiety occasionally is a part of life, but those who experience persistent or excessive anxiety may have an anxiety disorder. Black women are at a higher risk for perinatal

and postnatal mood disorders, including posttraumatic stress disorders and anxiety, compared to the general population (Hernandez et al., 2022). With Black women having the highest maternal mortality and morbidity rates in the country (Centers for Disease Control and Prevention, 2021a), it is vital to understand how Black women conceptualize and present anxiety symptoms.

Participants mentioned emotional and physical symptoms responses when they refer to anxiety. Alexa's responses to the STAI indicated low anxiety. During her interview, she mentioned experiencing anxiety and high anxiety at various points throughout her life. When describing anxiety, she stated:

I have a negative connotation about anxiety because I definitely had it in the past. Just feeling overwhelmed. Not knowing really what to do with the anxiety, but I would try to take on more tasks. I don't know if that was just my upbringing or if I was looking for things to do, maybe to, in a sense, have control over it. It's just like I biting off so much and kicking myself when I wasn't able to achieve it. I probably needed therapy then, but I didn't get it. I just was doing more tasks. But anxiety is just feeling overwhelmed and not sure really what direction to go in. My body responds, and it depends on the level of anxiety. But, if it's high anxiety, my heart is about to beat out of my chest.

Brittany, whose scores indicated high anxiety, also shared both physical and mental responses about anxiety. She mentioned, "It is really extreme—extreme worry and nervousness. My chest gets really tight, and if it's really extreme, sometimes it feels like I can't breathe." In addition to nervousness and worry, participants mentioned being tense and scared. The topics of fear of the future and fear of expectations were brought up several times. Others mentioned being so anxious that they experienced panic attacks. Elena stated that to her anxiety means:

"You're worried or uncertain about something, feeling nervousness or unease about a particular thing. I get sweaty palms, increased heart rate, panic attacks. I feel so weak I can't concentrate on anything at that time."

Addressing high and persistent anxiety can lead to severe physical symptoms. Grace's became aware of her anxiety when she experienced higher blood pressure. She said:

When I think about anxiety, I think about it too much. Overthinker. Excessive weariness. Heart racing. Heart palpitations. It feels like having 20 tabs open on your computer screen, which I currently do have on my computer screen. Not grounded. Frustrated, easily angered. So those are a few things I would describe when I think about that. I've officially been diagnosed with [high] blood pressure so checking those readings now, compared to the readings before they are a little bit higher than usual. In those moments, I'm realizing it could potentially be anxiety.

In this group, the women were more likely to expound on the physical symptoms of anxiety. In addition, some did not identify that they were feeling distress until it manifested physically. The idea of having high-functioning anxiety was a concept that was brought up during the interviews. Some eluded to the fact that they were aware of having anxiety but that they had to keep moving forward. The interviews emphasized how the culture of being strong is pervasive in the Black community, yet it can be problematic if anxiety and mental health is not addressed. It also highlights the need for measures to be culturally competent to assess anxiety among Black pregnant and postpartum women.

Summarizing both themes, the women in this study emphasized physical, mental, and emotional symptoms when discussing stress and anxiety. In some cases, the physiological or behavioral responses were the first indicators of mental distress. Given that the items of the PSS and STAI focus primarily on the emotional and mental responses to stress and anxiety, it is important to screen for physical symptoms as well when assessing Black perinatal populations.

Effectiveness of PSS and STAI in capturing stress and anxiety

In addition to the interview, participants completed the Perceived Stress Scale and the State-Trait Anxiety Inventory. Table 4.3.1 lists the scores of each participant.

Table 4.3.1 Participant Characteristics and Measure Responses

Pseudonym	Pregnancy Status	Age Range	PSS Total	PSS Rating	STAI Total	STAI Rating
Alexa	Pregnant	26-30	8	Low	28	Low
Brittany	Postpartum	31-35	31	High	65	High
Carla	Pregnant	20-25	16	Moderate	32	Low
Dakota	Pregnant	26-30	20	Moderate	43	Moderate
Elena	Pregnant	26-30	18	Moderate	42	Moderate
Francis	Postpartum	26-30	23	Moderate	43	Moderate
Grace	Postpartum	36-40	8	Low	21	Low
Harper	Postpartum	31-35	19	Moderate	39	Moderate
Isabella	Postpartum	36-40	11	Low	26	Low
Jade	Pregnant	26-30	29	High	66	High
Kendall	Postpartum	36-40	14	Moderate	33	Low
Lisa	Postpartum	36-40	27	High	49	High
Maria	Pregnant	36-40	24	Moderate	60	High
Nicole	Postpartum	36-40	27	High	51	High
Olivia	Postpartum	20-25	23	Moderate	58	High
Paige	Pregnant	26-30	22	Moderate	38	Moderate
Quinn	Pregnant	31-35	28	High	62	High
Rose	Postpartum	26-30	15	Moderate	36	Low

To answer Research Question 3.2, “How effective are the PSS and STAI at capturing stress and anxiety among Black pregnant and postpartum women?” I used Rasch analysis. Rasch analyses had two objectives: (1) to analyze the item fit of items of each measure to detect bias or invariance within the sample and (2) to analyze the person fit to identify women who scored above or below the expected range and examine their qualitative responses about those items. The person fit analyses combined the Rasch analyses with interview data to explore the meaning of higher- or lower-than-expected scores. Analyses were conducted individually for each measure: Perceived Stress Scale and State-Trait Anxiety Inventory.

Item fit analyses

Perceived Stress Scale (PSS). Table 4.3.2 summarizes the statistics for the model. The items were centered at zero ($SD = .67$). The Item Infit and Outfit statistics were not close to 1, indicating adjustments may need to be made to get a better fit with this population. The reliability of separation for items was very low ($Rel = .15$)—a value comparable to Cronbach’s alpha. That value would be considered unacceptable. The mean for the persons, or participants, was .02 ($SD = .80$). The Persons Infit and Outfit statistics were not close to 1, indicating adjustments may need to be made to the items to fit this population better. The reliability of separation for persons was good ($Rel = .81$).

Table 4.3.2 Rasch Summary Statistics for the Perceived Stress Scale (N=18)

	Persons	Items
Measure		
Mean	.02	.00
Standard deviation	.80	.28
Infit mean square error		
Mean	.67	.67
Standard deviation	.54	.32
Outfit mean square error		
Mean	.68	.68
Standard deviation	.54	.33
Reliability of separation	.81	.15
Number of observations	129	10
Percentage of variance		54.11%

Table 4.3.3 summarizes the statistics for the PSS items. As a general rule, values greater than 1.20 or lower than .80 are considered a misfit. The fit of the items ranged from an Outfit statistic of .43 to 1.58, with only one of the ten items within the expected range of .8 to 1.2. The score for Item 4 (“How often have you felt confident about your ability to handle your personal problems?”) was within the normal range. The value for Item 7 (How often have you felt that

you have been able to control irritations in your life?) was higher; the values for all other items were lower than expected. Similar results were observed for the Infit statistics.

Table 4.3.3 Summary Statistics for Items for PSS (N=18)

Items	Item Location	Standard Error	Infit MSE	Outfit MSE
1	-.04	.26	.48	.49
2	.16	.26	.78	.79
3	-.48	.26	.42	.43
4	.29	.26	.81	.80
5	.20	.26	.45	.46
6	.40	.26	.53	.52
7	-.42	.26	1.54	1.58
8	.14	.26	.44	.44
9	-.14	.26	.59	.60
10	-.11	.26	.66	.65
Mean	.00	.26	.67	.68
Standard deviation (Pop)	.28	.00	.32	.33
Standard deviation (Sample)	.29	.00	.34	.35

Note: The yellow indicates the positively associated items that were reverse coded. The bold numbers highlight the Infit and Outfit items within normal range (between 0.8-1.2).

Figure 4.3.1 displays the Wright or variable map, which shows the location spread for persons and items. The items more difficult to endorse are at the top. In this analysis, Item 6 (“How often have you found that you could not cope with all the things you had to do?”) and Item 4 (“How often have you felt confident about your ability to handle your personal problems?”) were the hardest to endorse. Item 3 (“How often have you felt nervous and stressed?”) was the easiest to endorse. Item 1 (How often have you been upset because of something that happened unexpectedly?) was located in the middle of the scale.

Vertical = (1A,2A,5) Yardstick (columns lines low high extreme)= 0,10,-2,2,End

Measr	+Person	-Items	RS1
2	+	+	(4)

4			
1	+	+	3
21			
37			
27	29		

28			
31	9	6	
36		4	
		2	5
		8	
0	7	1	2
13		10	9
8			
5		7	
		3	

38			
24			
-1	+	+	1
1	12		

-2	+	+	(0)
Measr	+Person	-Items	RS1

93

Table 4.3.4 Rasch Summary Statistics for the State-Trait Anxiety Inventory (N=18)

	Persons	Items
Measure		
Mean	-.54	.00
Standard deviation	1.22	.70
Infit mean square error		
Mean	1.05	1.22
Standard deviation	.40	1.14
Outfit mean square error		
Mean	1.28	1.28
Standard deviation	.39	.99
Reliability of separation	.91	.81
Number of observations	18	20
Percentage of variance		26.86%

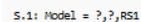
Table 4.3.5 summarizes the statistics for the STAI items. The fit of the items ranged from an Outfit statistic of .40 to 4.22. Of the 20 items, only one fell within the expected range of 0.8 and 1.2, Item 12 (“I feel nervous.”). Infit and Outfit values for Item 5 (“I feel at ease.”), were well above the expected range. Whereas Items 2 (“I feel secure.”) and 4 (“I feel strained.”) were below the expected range.

Table 4.3.5 Summary Statistics for Items for the State-Trait Anxiety Inventory (N=18)

Items	Item Location	Standard Error	Infit MSE	Outfit MSE
1	-.14	.29	.50	.52
2	-.11	.29	.43	.40
3	.93	.34	1.72	2.00
4	.00	.29	.49	.48
5	1.56	.41	5.25	4.22
6	.44	.32	.55	.66
7	1.40	.39	3.40	3.31
8	.19	.30	.66	2.05
9	.04	.29	.79	.70
10	1.00	.35	1.64	1.79
11	-.96	.29	1.23	1.22
12	-.90	.29	.83	1.04
13	-.36	.29	1.32	1.45
14	-.33	.29	1.32	1.61
15	-.53	.29	.53	.51
16	-.68	.29	.54	.51
17	-.29	.29	.78	.65

Note: The yellow indicates the positively associated items that were reverse-coded in the scoring. The bold numbers highlight the Infit and Outfit items within normal range (between 0.8-1.2).

Figure 4.3.2 Wright Map of the State-Trait Anxiety Inventory (N=18)



Person fit analyses

Perceived Stress Scale (PSS).

As a general rule, Infit and Outfit values greater than 1.20 or lower than 0.80 are considered a misfit in Rasch analysis. Table 4.3.6 displays the person fit results for the study participants. The numbers (Num) associated with their aliases are their identifiers on the PSS Wright map (Figure 4.3.1). Two participants were selected to compare their person fit. The selections were based on their misfit scores to compare their interview responses and Rasch analysis; one with low misfit and one with high misfit. Most of the person fit measurements indicated misfit below the expected normal range, with three indicating a high misfit.

Table 4.3.6 Person Measurement Statistics for the PSS (N=18)

Persons	Num	Item Location	Standard Error	Infit MSE	Outfit MSE
Alexa	1	-1.44	0.39	0.55	0.59
Brittany	4	1.29	0.37	0.76	0.80
Carla	5	-0.44	0.34	0.64	0.65
Dakota	7	0.01	0.33	0.07	0.07
Elena	8	-0.21	0.33	0.46	0.46
Francis	9	0.35	0.33	0.75	0.76
Grace	12	-1.44	0.39	0.51	0.53
Harper	13	-0.10	0.33	0.19	0.19
Isabella	19	-1.03	0.35	0.84	0.85
Jade	21	1.04	0.35	0.59	0.64
Kendall	24	-0.67	0.34	0.31	.031
Lisa	27	0.80	0.34	0.41	0.43
Maria	28	0.46	0.33	2.08	2.10
Nicole	29	0.80	0.34	0.25	0.26
Olivia	31	0.35	0.33	0.23	0.23
Paige	36	0.23	0.33	1.74	1.75
Quinn	37	0.92	0.35	1.41	1.41
Rose	38	-0.55	0.34	0.18	0.18
Mean		0.02	0.35	0.67	0.68
Standard Dev (Pop)		0.80	0.02	0.54	0.54

Note: Expected item fit range: 0.80 to 1.20. Rows highlighted in Blue indicate items that were below the expected range. Rows highlighted in red/orange indicate items that were above the expected range.

Table 4.3.7 summarizes Maria's person fit statistics for the PSS items and the participant's responses and interpretations of the items. The fit of the items ranged from an Outfit statistic of .06 to 8.92, with only one of the ten items within the expected range of 0.8 to 1.2, Item 6 ("How often have you found that you could not cope with all the things that you had to do?"). The value for Item 3 was high ("How often have you felt nervous and stressed?"), which indicated that this question may not have been as straightforward as it was stated. Maria said she would clarify that item by stating, "How often am I having stress and anxiety? The survey asks about being nervous a lot, and I don't think I would usually say nervous. I would always say anxious." The Outfit value for Item 4 ("How often have you felt confident about your ability to handle your personal problems?") was also high. She mentioned that she would say, "How often do I feel like I have my things under control?"

Table 4.3.8 summarizes Rose's person fit statistics for the PSS items and her responses and interpretations of the items. The fit of the items ranged from an Outfit statistic of .01 to .53. All the items fell below the expected range of 0.8 to 1.2. For Item 1 ("How often have you been upset because of something that happened unexpectedly?"), Rose stated, "I would ask it, if you came across an obstacle, how would you handle it or how would you go about solving the issue?." As a response to Item 10 ("How often have you felt difficulties were piling up so high you could not overcome them?"), she said, "That's basically asking about you getting overwhelmed because there are so many different things happening, and you just basically shut down."

Both participants had different ways of stating the items in the PSS, whether clear or unclear. There was only one item within the normal range for both women, which was Item 6 for Maria. The amount of misfit items could impact the care that they receive during their pregnancy

or postpartum. The misfit items could also prevent women from receiving necessary services to address their stress during the perinatal period. Researchers need to explore how individual beliefs and perspectives impact Black perinatal women's responses to mental health measures.

Table 4.3.7 PSS Person-Fit Table with Contextual Analysis – Maria- High Misfit

Item	Obs	Exp	Res	Var	StRes	Outfit MS	Outfit Z	Interview Response
1	3	2.44	0.56	0.9	0.59	0.35	-0.25	Q: How often have you been upset because of something that happened unexpectedly? A: How often have I been upset when things go wrong, and I must take it over.
2	4	2.26	1.74	0.9	1.83	3.37	1.55	Q: How often have you felt that you were unable to control the important things in your life? A: How often do I feel out of control of my life and feeling like not having the power.
3	4	2.83	1.17	0.85	1.27	1.61	0.83	Q: How often have you felt nervous and stressed? A: How often am I having anxiety, well, stress and anxiety. The survey asks about nervousness a lot, and I don't think I would usually say nervous, but anxious. I would always say anxious. Q: So not nervous, but stress and anxiousness? A: Yes. Stress is valid. But I would say anxious not nervous.
4	0	2.14	-2.14	0.9	-2.25	5.08	2.01	Q: How often have you felt confident about your ability to handle your personal problems? A: I know that's asking me how often do I feel like I have my things under control? Q: Is that how you would say in your own words? A: Yeah. Are things going my way? Do I have it under control.
5	2	2.23	-0.23	0.9	-0.24	0.06	-0.89	Q: How often have you felt that things were going your way? A: Yeah. That's a good way to say yes. Things are going my way. Things are going as planned.
6	3	2.04	0.96	0.9	1.02	1.03	0.49	Q: How often have you found that you could not cope with all the things that you had to do? A: How often do I feel overwhelmed by my task?
7	0	2.78	-2.78	0.86	-2.99	8.92	3.14	Q: How often have you been able to control irritations in your life? A: I think I would say that way.
8	2	2.27	-0.27	0.9	-0.29	0.08	-0.79	Q: How often have you felt you were on top of things? A: I would say it that way because that's one of the on top of things.
9	3	2.52	0.48	0.9	0.5	0.25	-0.46	Q: How often have you been angered because of things that were outside of your control? A: I think I'll say it that way.
10	3	2.5	0.5	0.9	0.53	0.28	-0.4	Q: How often have you felt difficulties were piling up so high that you could not overcome them? A: How often have I felt like I'm overwhelmed, and I can't see my way out?

Note: Expected item fit range: 0.80 to 1.20. Rows highlighted in Blue indicate items that were below the expected range. Rows highlighted in red/orange indicate items that were below the expected range.

Note: "Q:" questions in bold are the items that were asked during the interview.

Table 4.3.8 PSS Person Fit Table with Contextual Analysis –Rose- Low Misfit

Item	Obs	Exp	Res	Var	StRes	Outfit MS	Outfit Z	Interview Response
1	2	1.53	0.47	0.88	0.5	0.25	-0.42	Q: How often have you been upset because something that happened unexpectedly? How would you say that? And what do you feel they're asking? A: I feel like they're asking if you were thrown a curveball, how would you handle it? I would ask, if you came across an obstacle how would you handle it or how would you go about solving the issue?
2	1	1.36	-0.36	0.87	-0.38	0.15	-0.73	Q: How often have you felt that you were unable to control the important things in your life? A: How often do you have to minimize certain things in your life or change up the way you do certain things in your life that were once important to you?
3	2	1.93	0.07	0.9	0.07	0.01	-1.28	Q: How often have you felt nervous or stressed? A: I would probably ask that one similar to how you did it. How often do you feel nervous or stressed or anxious during particular situations?
4	1	1.25	-0.25	0.85	-0.27	0.07	-1.06	Q: How often have you felt confident about your ability to handle your personal problems? A: I would ask, How often does something that you're experiencing create difficulty in order for you to overcome it. But I like the way you ask that question.
5	2	1.33	0.67	0.86	0.72	0.53	-0.06	
6	1	1.15	-0.15	0.83	-0.17	0.03	-1.38	Q: How often have you found that you could not cope with all the things you had to do? A: That one's basically asking with day-to-day life going into a new experience with pregnancy and postpartum, how often do you feel defeated and feel like you can't really do what you need to get done and you're hanging on by a thread.
7	2	1.87	0.13	0.9	0.14	0.02	-1.1	Q: How often have you felt have you been able to control irritations in your life? A: So that one is basically asking if something does go awry or if something is bothering you, then how often can you make it through without exploding.
8	1	1.37	-0.37	0.87	-0.4	0.16	-0.68	Q: How often have you felt that you were on top of things? A: So that one's asking, how often do you feel like you're prepared and have all your ducks in a row and I feel very accomplished.
9	2	1.62	0.38	0.89	0.41	0.16	-0.56	Q: How often have you been angered because of the things that were out of your control? A: So when you have to release all your plans or ideas and just go with the flow or alter your thoughts of what you had in mind, of what you wanted the outcome to be
10	1	1.59	-0.59	0.89	-0.63	0.4	-0.15	Q: How often have you felt difficulties were piling up so high you could not overcome them? A: So that's basically asking about you getting overwhelmed just because there's so many different things happening and you just shut down.

Note: Expected item fit range: 0.80 to 1.20. Rows highlighted in Blue indicate items that were below the expected range. Note: “Q:” questions in bold are the items that were asked during the interview.

State-Trait Anxiety Inventory (STAI).

As a general rule, values greater than 1.20 or lower than .80 are considered a misfit.

Table 4.3.9 displays the person fit results for the study participants. The numbers (Num) associated with their aliases are their identifiers on the STAI Wright map (Figure 4.3.2). Two participants were selected to compare their person fit. The selections were based on their misfit scores to compare their interview responses and Rasch analysis: one with low misfit and one with high misfit. Ten of the participants' scores were within the expected range. Yet, eight participants showed a misfit for the STAI; five were above the expected range and three were below.

Table 4.3.9 Person Measurement Statistics for the State-Trait Anxiety Inventory (N=18)

Persons	Num	Item Location	Standard Error	Infit MSE	Outfit MSE
Alexa	1	-1.74	0.37	1.56	1.42
Brittany	4	1.04	0.29	1.15	1.13
Carla	5	-1.27	0.31	0.44	0.79
Dakota	7	-0.43	0.25	1.53	1.98
Elena	8	-0.49	0.26	0.93	1.22
Francis	9	-0.31	0.26	1.44	2.05
Grace	12	-3.94	1.01	1.02	1.42
Harper	13	-0.70	0.27	0.51	0.72
Isabella	19	-2.06	0.43	0.89	1.11
Jade	21	1.12	0.30	1.69	1.71
Kendall	24	-1.18	0.30	0.83	1.04
Lisa	27	-0.05	0.25	1.00	1.31
Maria	28	0.65	0.27	1.04	1.18
Nicole	29	0.07	0.25	0.68	0.86
Olivia	31	0.52	0.26	1.03	1.20
Paige	36	-0.77	0.27	0.94	1.16
Quinn	37	0.80	0.27	1.78	1.73
Rose	38	-0.92	0.28	0.49	0.85
Mean		-0.54	0.33	1.05	1.28
Standard Dev (Pop)		1.22	0.17	0.40	0.39

Note: Expected item fit range: 0.80 to 1.20. Rows highlighted in Blue indicate items that were below the expected range. Rows highlighted in red/orange indicate items that were above the expected range.

Table 4.3.10 summarizes Dakota's person fit statistics for the STAI items and the participants' responses and interpretations of the items. The fit of the items ranged from an Outfit statistic of 0.0 to 9.0, with only one of the twenty items within the expected range of 0.8 to 1.2, Item 12 ("I feel nervous."). The value for Items 1 ("I feel calm"), 7 ("I am presently worrying over possible misfortunes."), and 11 ("I feel self-confident. ") were high, indicating that these questions may not have been clearly stated. Dakota responded that she felt Item 11 was straightforward, but for Item 7, she would say, "I get worried about things." The values for Items 3 ("I feel tense."), 6 ("I feel upset."), and 14 ("I feel indecisive.") were low. While she thought Item 3 was straightforward, she would change Item 14 to say, "Sometimes I am confused when it comes to making decisions."

Table 4.3.11 summarizes Carla's person fit statistics for the STAI items and the participant's responses and interpretations of the items. The fit of the items ranged from an Outfit statistic of .01 to 6.53. The value for Items 3 ("I feel tense."), 4(" I feel strained."), and 7 ("I am presently worrying over possible misfortunes.") were low, although she indicated that she felt the terms were clear. Items 5 ("I feel at ease.") and 10 ("I feel uncomfortable.") were high. Results show that three items were within the normal range. Although most items were high or low based on Outfit statistics, Carla felt that all the items she reviewed were clear.

Their interview and measure responses show that there is often a disconnect between the items in the anxiety measures and the responses from Black pregnant and postpartum women. Further research should be conducted to better understand how Black perinatal populations perceive the items included in mental health measures. More information needs to be collected to understand anxiety, specifically among the perinatal population.

Table 4.3.10 STAI Person Fit Table with Contextual Analysis –Dakota - High Misfit

Item	Obs	Exp	Res	Var	StRes	OutfitMS	OutfitZ	Interview Response
1	3	2.18	0.82	0.88	0.88	0.77	0.16	
2	1	2.16	-1.16	0.87	-1.24	1.54	0.79	
3	2	1.48	0.52	0.43	0.79	0.62	0.35	Q: I feel tense. A: Still straightforward.
4	3	2.06	0.94	0.82	1.04	1.07	0.47	Q: I feel strained. A: Straightforward.
5	3	1.27	1.73	0.25	3.43	9.00	2.49	
6	2	1.74	0.26	0.63	0.33	0.11	-0.53	Q: I feel upset. A: I feel pissed.
7	2	1.31	0.69	0.29	1.28	1.63	0.95	Q: I am presently worrying over possible misfortunes. A: I get worried about things.
8	3	1.91	1.09	0.74	1.26	1.59	0.82	
9	2	2.03	-0.03	0.81	-0.03	0.00	-1.72	
10	3	1.45	1.55	0.41	2.43	5.92	1.93	
11	1	2.95	-1.95	0.9	-2.06	4.23	2.13	Q: I feel self-confident. A: I think that's straightforward enough.
12	2	2.89	-0.89	0.92	-0.93	0.86	0.2	
13	2	2.38	-0.38	0.94	-0.39	0.15	-0.99	Q: I am jittery. A: Straightforward.
14	2	2.35	-0.35	0.93	-0.36	0.13	-1.05	Q: I feel indecisive. A: Sometimes I am confused when it comes to making decisions.
15	1	2.54	-1.54	0.96	-1.57	2.47	1.4	
16	1	2.68	-1.68	0.96	-1.72	2.95	1.67	
17	4	2.31	1.69	0.92	1.75	3.07	1.63	
18	2	2.44	-0.44	0.95	-0.46	0.21	-0.87	Q: I feel confused. A: Straightforward
19	2	2.32	-0.32	0.93	-0.34	0.11	-1.1	
20	2	2.53	-0.53	0.96	-0.54	0.29	-0.7	

Note: Expected item fit range: 0.80 to 1.20. Rows highlighted in Blue indicate items that were below the expected range. Rows highlighted in red/orange indicate items that were below the expected range.

Note: "Q:" statements in bold are the items that were asked during the interview.

Table 4.3.11 STAI Person Fit Table with Contextual Analysis –Carla - Low Misfit

Items	Obs	Exp	Res	Var	StRes	OutfitMS	OutfitZ	Interview Response
1	2	1.59	0.41	0.51	0.57	0.33	0	
2	2	1.57	0.43	0.5	0.6	0.36	0.05	
3	1	1.22	-0.22	0.21	-0.49	0.20	0.29	Q: I feel tense. A: It's clear.
4	2	1.52	0.48	0.46	0.71	0.50	0.23	Q: I feel strained. A: It's clear.
5	2	1.12	0.88	0.12	2.56	6.53	1.87	
6	1	1.35	-0.35	0.32	-0.62	0.38	0.25	Q: I feel upset. A: That's clear.
7	1	1.14	-0.14	0.14	-0.38	0.15	0.43	Q: I am presently worrying over possible misfortunes. A: That one is very clear. It means I'm always worried about something that hasn't even happened yet or that I have no control over.
8	1	1.44	-0.44	0.4	-0.7	0.49	0.27	
9	1	1.5	-0.5	0.45	-0.75	0.57	0.3	
10	2	1.21	0.79	0.2	1.79	3.22	1.4	
11	2	2.16	-0.16	0.87	-0.17	0.03	-1.4	Q: I feel self-confident. A: Clear.
12	2	2.1	-0.1	0.84	-0.11	0.01	-1.51	
13	1	1.71	-0.71	0.61	-0.91	0.83	0.4	Q: I am jittery. A: That's clear.
14	1	1.69	-0.69	0.59	-0.9	0.81	0.39	Q: I feel indecisive. A: It's clear.
15	2	1.82	0.18	0.68	0.21	0.05	-0.87	
16	2	1.93	0.07	0.75	0.08	0.01	-1.36	
17	2	1.67	0.33	0.58	0.43	0.19	-0.28	
18	1	1.76	-0.76	0.64	-0.95	0.89	0.43	Q: I feel confused. A: Clear
19	2	1.68	0.32	0.58	0.42	0.18	-0.3	
20	2	1.81	0.19	0.68	0.23	0.05	-0.82	

Note: Expected item fit range: 0.80 to 1.20. Rows highlighted in Blue indicate items that were below the expected range. Rows highlighted in red/orange indicate items that were below the expected range.

Note: "Q:" statements in bold are the items that were asked during the interview.

To summarize Phase 3, results indicate that the Perceive Stress Scale and State-Trait Anxiety Inventory may not accurately capture stress and anxiety levels among Black pregnant and postpartum women. Participants expressed how they define stress and anxiety in their own words. In many instances, the women began their explanations with physiological or behavioral changes that made them aware of the mental distress. When they mentioned the psychological factors that came to mind when thinking of stress and anxiety, they mentioned terms that are not directly stated in the measures. The word choice and the lack of physical indicators in the measures may impact how effective the measures are at capturing stress and anxiety.

The Rasch item fit and person fit analyses refer to the concept of cultural measurement equivalence, the possibility that interpretations of psychological measurements are similar or equal across different ethnic and cultural populations (Trimble, 2010). The item fit analysis explored how effective the items were at assessing their intended purpose among the total sample. Results for the PSS and STAI indicated only one item per measure that fell within the expected range among Black pregnant and postpartum women. The person fit analysis singles out how the items fit with an individual. Again, the person fit analysis for the PSS indicated that the items did not resonate clearly with the participants. While the higher misfit may indicate a lack of clarity within the items, most of the misfit PSS items were below the expected range. A low fit may indicate that the item may have been too easy or hard, which could lead to an individual not paying as much attention to what the item is saying or just selecting an answer randomly.

The results of this phase suggest that more attention must be given to cultural equivalence in measurement. Mental health can have dire consequences if not addressed during pregnancy or postpartum. Due to the history of trauma and discrimination in Black communities,

psychological assessments and providers that use them should be aware of cultural impacts on screening outcomes.

CHAPTER 5:

DISCUSSION

Maternal mortality and morbidity are serious problems in the United States, with the heaviest impact on Black women (Centers for Disease Control and Prevention, 2021a, 2021b; World Health Organization, 2023). Mental health is one of the leading causes of maternal mortality (Centers for Disease Control and Prevention, 2021a), with additional women suffering from prolonged periods of severe morbidity. The leading causes of death for Black women born in the United States are cardiac and hypertensive disorders (Centers for Disease Control and Prevention, 2021a), conditions frequently associated with increased stress and anxiety (Hutchens et al., 2022). Hutchens et al. reported that poor mental health and heart disease during pregnancy and postpartum are interrelated (2022). Scholars argue that the poor health outcomes of Black perinatal women result from intergenerational trauma, racism, barriers to quality healthcare, and the allostatic load associated with being a Black woman in the United States (Chinn et al., 2021). The weathering, or wearing down, of Black women throughout history has negatively impacted their health outcomes and contributes to health disparities they are still facing (Geronimus et al., 2006). As a means of survival in an oppressive environment due to racism and discrimination, Black women often adopt the ideal of the Strong Black Woman (Davis & Jones, 2021). For generations, Black women have adopted the Strong Black Woman modality as a coping mechanism. However, this role can negatively impact their mental and physical well-being, including how they perceive stress and anxiety.

This study aimed to explore the perceptions and conceptual understanding of the Strong Black Woman or Superwoman role, stress, and anxiety of Black perinatal women in the United States. The study had three phases. In Phase 1, using an existing dataset of Black pregnant and postpartum women, I examined the association between the Strong Black Woman, using the “Superwoman Schema,” and stress and anxiety, the impact of education and income levels on stress and anxiety, and the measurement equivalence of the Perceived Stress Scale and the State-Trait Anxiety Inventory among Black pregnant and postpartum women. In Phase 2, I interviewed 18 pregnant and postpartum Black women to understand their perspectives on the “Strong Black Woman” schema and how being Black can impact mental and maternal health. In Phase 3, using a mixed-methods framework, I explored how Black women conceptualize stress and anxiety. I also assessed the measurement equivalence of the Perceived Stress Scale and the State-Trait Anxiety Inventory in this group.

The three-phase study incorporated mixed-methods approaches for Phases 1 and 3. The Rasch results from Phase 1 regarding the cultural impact on measurement influenced which items were included in the interview guide for Phases 2 and 3. Yet, the interview results related to the items were used in Phase 3. Phase 3 utilized a quantitative-led mixed-methods design to examine stress and anxiety among Black perinatal women. The Rasch analysis identified which items fell within the expected range for the sample. The qualitative data provided a conceptual understanding of stress, anxiety, and the items in the measures. All three phases supplied depth in understanding Black maternal mental health, measurement, and assessment among Black perinatal populations.

Addressing and understanding Black women’s mental health takes a multilayered approach. First, the socio-ecological model was used to understand Black women’s mental

health, focusing on personal, interpersonal, organizational/institutional, and societal levels (Centers for Disease Control and Prevention, 2021b). The socio-ecological model can aid in conveying the interrelated factors that impact Black women's mental health during pregnancy, birth, and postpartum. This study specifically explored stress and anxiety among Black pregnant and postpartum women, as these factors may contribute to the mortality and morbidity of Black women in this country. In addition, the study explored the impact of the Strong Black Woman role on the stress and anxiety of Black pregnant and postpartum women. Black Feminist Theory (Taylor, 1998) guided the study and interpretation of the results; the Rasch Model (Wright, 1997) guided the assessment of measurement equivalence among the scales. This methodology highlighted the need for culturally centered mental and maternal health care in the United States. In addition, it provided a deeper understanding of stress and anxiety among Black pregnant and postpartum women.

The Strong Black Woman and Superwoman Roles

The Strong Black Woman archetype is a tool for survival that incorporates strength, independence, self-sacrifice, and emotional silencing (Davis & Jones, 2021). Researchers often interchange the Strong Black Woman and Superwoman terms when describing how Black women are expected to perform in the United States (Nelson et al., 2023). Yet, the collective of Black women is embedded with empowerment, sisterhood, and community, characteristics that can enhance their health and mental well-being (Bryant-Davis, 2013; Turner & Allen, 2022). Those concepts have aided them in becoming high achievers in their educational and professional pursuits, even while navigating primarily White institutions (Turner & Allen, 2022). The participants of Phase 2 felt strongly about the Strong Black Woman and Superwoman roles. Whether they believed it was a positive or negative attribute to embody, they mentioned taking

on that role at some point throughout their lives. While being a Strong Black woman can empower Black women to reach for the stars, the atrocities of slavery, racism, and discrimination still permeate throughout the systems and structures in the country. These effects are apparent in the maternal health care system. Most Phase 2 participants felt that their identity as Black women significantly impacted how they navigated the healthcare systems. Despite their income or education, Black women in the United States are three to five times more likely to die during pregnancy, while giving birth, or during the postpartum period (Artiga et al., 2020; Centers for Disease Control and Prevention, 2021a; World Health Organization, 2023). The CDC (2022) declared that 80% of those cases, or more, were preventable.

The Strong Black Woman role can impact Black women's mental well-being. The correlations between the Strong Black Woman or Superwoman roles and stress and anxiety were low to moderate among this sample, which has been reported in other studies (Leath et al., 2022; Woods-Giscombé et al., 2019). The low-to-moderate associations within this study could be due to the women's mixed perspectives about the topics. When discussing the Strong Black Woman, participants had strong opinions on the term, but their perspectives varied based on lived experience, familial customs, or cultural factors. Participants also had extreme and polarizing views on the term Superwoman. Most felt that embodying the Strong Black Woman or Superwoman roles negatively impacted their mental health, a result that aligns with other studies (Leath et al., 2022; Nelson et al., 2022; Woods-Giscombé, 2010; Woods-Giscombé et al., 2019). Yet a few felt those characteristics positively affected their mental health, making them strong and resilient. Other research yielded similar results, with participants feeling that some constructs of the Superwoman Schema and ideals associated with the Strong Black Woman role made them feel resilient (Nelson et al., 2022). The variety in the responses and perspectives is

understandable, given the Black community's diverse customs, cultures, and beliefs (Blackwell, 1991; Mohr & Purdie-Vaughns, 2015). More research is needed on the cultural acceptability and equivalence of the scales among Black women, especially among those who adhere to the Strong Black Woman or Superwoman concepts.

Intergenerational trauma influences how Black women manage stress and anxiety and navigate perinatal mental health care (Pilav et al., 2022). Several participants mentioned how their mothers or aunts passed down the concept of the Strong Black Woman concept and other perspectives. The expectation for Black women to be strong with no concern for their health and well-being has been passed through familial practices (Bond et al., 2022; Pilav et al., 2022). Grandmothers to mothers to their daughters have passed down generational trauma and trauma responses. Some examples of intergenerational trauma response include inadequate coping strategies, family dynamics surrounding engaging with mental health services, or emotional dysregulation (Bond et al., 2022; Pilav et al., 2022). Emotional dysregulation is a risk factor for many mental health disorders related to early trauma exposure, where individuals may respond impulsively, lack emotional awareness, or avoid difficult emotions (Powers et al., 2022). The perception of having to appear strong permeating the identity of Black women also contributes to how they respond to mental health assessments. In fear of being seen as weak or perceived as an unfit mother, Black women may hide their feelings when interacting with healthcare providers (Pilav et al., 2022).

Medical mistreatment and disrespectful maternity care affect Black women disproportionately (Afulani et al., 2022). This study displayed how Black women feel their identity impacts their well-being, mental health, and maternal health care. History and present-day statistical data corroborate those facts with the current maternal mortality and morbidity

rates in the United States (Centers for Disease Control and Prevention, 2021a; World Health Organization, 2023). During the study, some participants were adamant about seeking out Black practitioners, hoping for better health outcomes; provider racial concordance and continuity of care have been associated with improved pregnancy and birth outcomes (Altman et al., 2023). Hospitals are the primary birthing space in this country, yet exposure to unfamiliar providers and a history of medical mistreatment contribute to disparities in adverse pregnancy and birth outcomes (Afulani et al., 2022). Providers and practitioners need to consider the culture and lived experiences when caring for Black perinatal populations and work to build trust with patients. Black women may have mental health challenges due to principles of strength and cultural humility (Pilav et al., 2022). Many women mentioned identifying with the Superwoman Schema construct, “Presenting an image of strength,” which may deter them from being transparent with their mental health symptoms on mental health measurements or when speaking with their provider. The lack of trust and transparency between Black perinatal populations, medical providers, and institutions can prevent Black women from responding honestly to screening tools, receiving adequate care, and having healthy pregnancy, birth, and postpartum experiences.

Definition of Stress and Anxiety

Understanding how Black women perceive stress and anxiety and how their identity impacts their mental health is integral to improving Black maternal health outcomes. Stress is a psychophysiological response to real or perceived environmental pressures—in psychological settings, stress is often associated with negatively perceived factors or situations (Bienertova-Vasku et al., 2020; Piotrowski & Hollar, 2013). Scholars believed that stress caused negative affective states, such as anxiety, directly affecting biological or behavioral patterns influencing

disease risk (Cohen et al., 1995). Mental health measures, like the Perceived Stress Scale, assess psychological stress occurring when an individual perceives that environmental demands exceed the individual's adaptive capacity (Cohen, 1988; Cohen et al., 2007; Dailey & Stewart, 2007). Stress, or exposure to stressful life events, has been linked to major depressive disorders and cardiovascular disease morbidity and mortality (Cohen et al., 2007), which can harm pregnant and postpartum women. This impact is especially concerning when cardiovascular disease is the leading cause of maternal mortality among Black women (Centers for Disease Control and Prevention, 2022).

Dealing with everyday- and pregnancy-related stressors were overwhelming. Study participants mentioned that dealing with all the stressors felt like “too much to do, but stuck in situations beyond their control.” The Transactional Model of Stress and Coping expounds on the phenomenon involving cognitive and behavioral responses used to manage stressors perceived to exceed an individual's resources (Lazarus & Folkman, 1984; Wethington et al., 2015). Within this model, when a person faces a stressor, they evaluate the potential threat (primary appraisal) and their capacity to manage or change the situation (secondary appraisal) (Wethington et al., 2015). Feeling that the situations were beyond their control left some participants willing to fight. Participants referenced “being strong” and “pushing through” concepts that align with the Strong Black Woman role or Superwoman Schema.

Other participants' explanations aligned with the concept of flight, in which they shut down, withdrew, or began sleeping more when faced with stressful situations. In the study titled “*Psychosocial Factors and Preterm Birth Among Black Mothers and Fathers*,” Guirgescu and Misra (2018) concluded that Black women are more likely to experience racial discrimination and psychological stress while also being more likely to have lower levels of social support and

avoidant coping strategies. All perinatal women, particularly those disenfranchised from the medical system, should have adequate access to mental health care and education on adaptive coping strategies.

Anxiety is more prevalent in women, and Black women have more anxiety symptoms during pregnancy than White women in the United States (Ponting et al., 2020). Anxiety disorders are one of the most common mental health conditions and a universal adaptive response to a threat (Arroll & Kendrick, 2018). Although anxiety is so common, its definition can vary. Levitt posits that anxiety is a broad construct encompassing fear, uneasiness, powerlessness, and discomfort (Levitt, 2015). Anxiety is also a universal adaptive response to a threat (Arroll & Kendrick, 2018). Lazarus, one of the pioneers of emotional research, characterized anxiety as a stress emotion, which may explain why scholars often assess anxiety in research frameworks of stress and coping (Endler & Parker, 1990).

Awareness, understanding, and action are essential to address anxiety in Black women. Black women have an elevated risk for anxiety, yet they have low rates of treatment engagement (Lara-Cinisomo et al., 2021). Having “high functioning anxiety” was mentioned several times throughout the interviews. The women expressed how they had to suppress their feelings because they had things to accomplish. Researchers have associated emotional suppression with anxiety (Drakeford, 2017; Watson & Hunter, 2015). In addition to emotional suppression, participants mentioned fear, extreme worry, nervousness, and panic attacks, symptoms that align with standard anxiety traits. Fear of the future and fear of expectations were their main fears. Some women may fear seeking professional mental health services out of fear of how they may be perceived (Watson & Hunter, 2015). The intersections of race, gender, and being pregnant or postpartum made some women afraid of adverse maternal health outcomes. The high prevalence

of anxiety, paired with inadequate coping strategies and low rates of mental health treatment, can lead to unfavorable health outcomes for Black women.

Distinguishing the differences between stress and anxiety can be instrumental in properly assessing and treating Black women for mental health conditions. While participants mentioned some characteristics that were specific to anxiety, many expressed sentiments that were very similar to how they defined stress. This concept supports Lazarus' characterization of anxiety as a stress emotion (Endler & Parker, 1990). The Stress Process Framework also explains the association between stress responses and coping, resembling some of the participants' fears that trigger their anxiety. The framework posits that stressors and coping are inextricably tied to social inequality, making stressors more prevalent among socially disadvantaged groups. However, their ability to cope with stressors is restrained (Keith, 2014). The framework expanded to include the Minority Stress Hypothesis, which proclaims that individuals in stigmatized statuses are exposed to unique stressors like prejudice and discrimination, influencing their ability to live a healthy life (Keith, 2014). Black women are double minorities, being Black and being women, which increases psychological distress and the likelihood of stigmatization of their behaviors (Watson & Hunter, 2015). Black women's stress and fear for their future and that of their children are attributed to higher anxiety levels, impeding their ability to live healthy lives.

Understanding the risk and protective factors for stress and anxiety is essential to improve maternal mortality and morbidity among Black women in the United States. Both stress and anxiety are often responses to negatively perceived factors, situations, or threats (Arroll & Kendrick, 2018; Bienertova-Vasku et al., 2020; Piotrowski & Hollar, 2013). Racism and discrimination put Black women at increased risk of experiencing stress and anxiety. Conversely,

higher income, employment security, and partnered relationships were associated with lower stress and anxiety in women (Mollard et al., 2021). Phase 1 yielded a significant but small association between higher education and less stress and anxiety. However, due to the low variability of the sample (many study participants had a college degree), the protective effect of education is unclear. Given the protection of education, policies are needed to increase the quality and affordability of education from pre-K to college. In addition, more research is needed to identify additional protective factors among diverse samples of Black pregnant and postpartum women.

Measurement of Stress and Anxiety

Scholars have posed substantial disputes regarding how stress and anxiety are defined and measured (Endler & Parker, 1990), and that problem was present in this study. Altering measures based on language translation has become the norm, yet researchers should also prioritize cross-cultural construct validity, cultural variables, and response sets (Dana, 1996). Participants mentioned feeling stressed when describing anxiety and feeling anxious when explaining stress. Data from the Rasch analysis also alluded that PSS and STAI items may lack the clarity needed to measure stress and anxiety among Black perinatal women. In Phase 1, 50% (5 items) of the PSS items were in the expected range compared to only 10% (1 item) in Phase 3. In Phase 1, 30% (6 items) of the STAI items were in the expected range compared to 5% (1 item) in Phase 3. The variability among the demographic characteristics and sample sizes between Phase 1 and Phase 3 could have attributed to the differences between the misfit within the items. Results of the item analysis highlight a need for cultural validation of the measures.

The person fit analysis corroborated the discrepancy between construct validity and cultural validity among the population. Phase 3 explored the person fit of the items. Only 5% (1

person) of the participants were within the expected range for the PSS, and 55% (10 people) fell within the expected range for the STAI. When discussing the misfit items, participants mentioned that some items needed additional clarification or that they would word them differently. In some instances, participants indicated the items were clear but would not state them in the same manner when speaking to their friends or family. These results align with researchers calling for culturally competent mental health screening during the perinatal period (Chiu et al., 2017; Dana, 1996), while understanding that measurement may vary for different subpopulations of Black women. Study results highlight the need for culturally competent maternal and mental health care for Black women in the United States, specifically focusing on culturally congruent mental health measurements and screening practices.

Physical symptoms of stress and anxiety were often the first indicators of participants' mental well-being. When the study participants described stress and anxiety, they often mentioned physical symptoms in addition to mental or emotional symptoms. Stress and anxiety reactions can present in several different ways, such as physiological (e.g., elevated blood pressure or panic attacks), behavioral (e.g., irritability, changes in sleep or eating patterns), or psychological (e.g., feeling tense or worried), with Black women reporting higher levels of psychological stress than White women (Tipre & Carson, 2022). In the present study, some participants indicated they did not recognize that they were stressed or anxious until they noticed their bodies physically responding to the stressor. Psychological measures do not screen for physical symptoms, which may impact their effectiveness at capturing stress and anxiety symptoms in Black women before they reach critical levels.

Culture and identity significantly affect how Black perinatal women respond to mental health assessments. Untreated stress and anxiety can have dire consequences on perinatal

populations. Many women felt that their Blackness impacted their maternal healthcare. From being intentional about having a Black provider to being in fear about their upcoming delivery, Black women have additional barriers to overcome to have a healthy pregnancy, birth, and postpartum. Yet, when assessing the effectiveness of the measures, results indicated the need for further research on the assessment of cultural equivalence in mental health measurement.

Though there have been measures created to help screen for mental health in perinatal women, such as the Patient Health Questionnaire (PHQ-9) (Kroenke 2003) and Edinburgh Postpartum Depression Scale (EPDS) (Cox et al., 1987), there is still a need for more culturally relevant items and measures that can help identify chronic and elevated stress, anxiety, and psychosocial comorbidities in Black women.

Study Limitations

This study had some limitations. Data were self-reported, which may have resulted in under-reporting or selecting socially desirable responses; the stigma surrounding mental health in the Black community may deter participants from answering truthfully. In addition, the demographic characteristics of Phase 1 vs. Phase 2/3 samples varied significantly. In Phases 2 and 3, the participants were highly educated, which limited the possible comparisons with women in Phase 1. The level of education among the participants in Phases 2 and 3 may have contributed to explaining why many chose not to disclose their income levels. Although the sample included participants from several states across the country, due to the qualitative components in Phases 2 and 3, the sample only represents a small group of pregnant and postpartum women. Small sample sizes are typical in qualitative or mixed methods studies that

focus on extended interviews for data collection. Yet, because of the sample size and the population diversity, these findings do not represent all Black women.

Conclusions and Future Directions

Findings extend previous research in documenting the significance of understanding Black maternal mental health and the need for culturally competent measurement, the assessment process, and healthcare for Black pregnant and postpartum women in the United States.

Culturally-competent measurement. Beliefs surrounding mental health, specifically stress and anxiety, may differ across race, ethnicity, and culture. When assessing these concepts during a pivot time, like the perinatal period, using measures developed among primarily homogenous samples, it is crucial to understand the measures and the results from a multicultural perspective. Researchers should further evaluate the cross-cultural validity of current measures (Dana, 1996) and the cross-cultural equivalence across the specific items (Gereš et al., 2022; Stevelink & van Brakel, 2013). Furthermore, scale developers should create future measures using diverse populations. The results of this study call attention to the need for measurement creation to consider cultural measurement equivalence and intersectionality (Chiu et al., 2017). The intersection of lived experience, race, and gender contributes to the overall experiences of Black women (Tipre & Carson, 2022). Healthcare providers should consider the additional stressors accompanying pregnancy, birth, and postpartum.

This study contributes a methodological approach to research cultural experiences when developing measurement tools and evidence-based practices for mental health interventions for Black perinatal women. Ethnic and racial identity, culture, and pregnancy or postpartum played significant roles in how the participants responded to the measures and conceptualized the individual items. There is a need for a more formative examination of how Black women

conceptualize mental health and lived experiences and the association with adverse emotional and physical health outcomes.

The assessment process. When assessing Black perinatal women, public health and medical practitioners should develop and implement interventions that combine social determinants of health, cultural sensitivity, and associated risk factors like increased blood pressure. Black women who have experienced discrimination or undergone procedures to which they had not consented while navigating their prenatal care may be less trusting of healthcare providers (Alio et al., 2022). Study participants had similar negative experiences with healthcare practitioners. These negative experiences have impacted their trust that practitioners have their best interest and care in mind. Study results and participant explanations expounded on the fact that Black women may not share their true feelings with their practitioners. Practitioners should use culturally relevant approaches when assessing mental health symptoms, considering Black women may minimize their symptoms and are less likely to display functional impairment (James et al., 2023). At the individual level, there is a need to develop mindfulness-based programming to support Black women's mental health during the perinatal period and beyond. Research should focus on quantitative and qualitative methods to improve mental and maternal health outcomes among Black perinatal women.

Mental health assessment among multicultural populations, like in the United States, requires cultural competence (Dana, 1996). Intergenerational risks associated with trauma exposure, such as maternal trauma, can negatively impact people's perspectives and outcomes across the developmental lifespan (Powers et al., 2022), which affects how they navigate healthcare. Considering cultural complexities, the influence of intergenerational trauma and responses to that trauma could be instrumental in accurately assessing mental health symptoms

among Black perinatal women (Hoang et al., 2023). Interventions that are person-centered or that focus on improving patient-provider communication are needed to build understanding and collaboration between Black perinatal women and their care providers. Yet, few interventions focus on Black perinatal populations despite acknowledging that patient-provider communication needs improvement (Alexander & Clary-Muronda, 2023). Communication can differ between racial groups and cultures (Alexander & Clary-Muronda, 2023), so it is necessary to consider and appreciate those differences when assessing Black perinatal women's mental and maternal health status.

Healthcare. Racism and discrimination have significantly impacted Black women's mental and physical health and healthcare in the United States. Matthews et al. (2021) mentioned key points from stakeholders in Black maternal mental health community-based organizations on achieving equitable antiracist maternal mental healthcare. The authors identified five key pathways to improve maternal mental health among Black pregnant and postpartum women who have faced societal and systemic barriers in the United States: 1) educating and training practitioners, 2) investing in the Black women's mental health workforce, 3) investing in Black women-led community-based organizations, 4) valuing and investing in community and traditional healing practices, and 5) promoting integrated care and shared decision making. Shared decision-making and building trust between patients and providers can also improve health outcomes (Alhalel et al., 2022). The need for providers to receive training on social determinants of health and cultural competency is critical to improving maternal health outcomes among Black women (Alhalel et al., 2022). Because the impact of racism is pervasive and entrenched in United States society, it will take multipronged approaches to address the challenges and bring about effective change.

Incorporating person-centered care in interventions in healthcare systems nationwide could be used to rebuild trust among Black women in the medical system. Person-centered care for Black women has improved maternal health outcomes in Black perinatal populations (Afulani et al., 2022; Altman et al., 2023). In addition, emerging fields like cardio-obstetrics are leveraging culturally appropriate and congruent care models to deliver equitable care, especially for Black perinatal women (Bond et al., 2022). As an effort to reduce stigma related to mental healthcare, technology-based models have shown to be acceptable among Black women and assisted in managing mental health symptoms (Lara-Cinisomo et al., 2021). Integrated care models that address psychological and physical health in a culturally respectful manner will be necessary to address maternal mental health.

Overall, the history of medical mistrust and current maternal mortality and morbidity rates need to be addressed at every level of the socio-ecological model. Black women are impacted by significant health disparities during the perinatal period, and the increasing maternal mortality and morbidity rates are a significant concern. Concerted efforts are essential to reduce maternal mortality and morbidity rates. Understanding the ethnic/racial and cultural mechanisms that impact the mental health of Black women and the assessment of their mental health can help reduce those disparities. Opportunities to develop and validate culturally relevant mental health measures and interventions to improve maternal mental health are critical and needed. The vast cultures and customs within the Black diaspora in the United States influence how Black women view mental health, including how they perceive or manifest symptoms (Holden et al., 2017). It is imperative that mental health assessment and treatment of Black women, especially during pregnancy and postpartum, consider the multifaceted aspects of lived experiences and

environmental, psychosocial, and sociocultural issues that impact Black women in the United States.

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APPENDIX A: QUALITATIVE CODEBOOK

Code and subcodes	Description	Example
Strong Black Woman		
Strong Black Woman definition	Use this when participant describes what comes to mind when they hear the term Strong Black woman or describe how they feel about the Strong Black woman term	All the women in my family. So strong black woman is the epitome of just doing what you have to do to get things done to provide for your family, whether there's a man involved or not.
Strong Black Woman positive	Use this when participant mentions feeling positive about the strong black woman, feels good about, or likes the Strong Black woman term	
Strong Black Woman negative	Use this when participant mentions feeling negative about the strong black woman term, feels bad about, or dislikes the Strong Black woman term	
Strong Black Woman neutral	Use this when participant mentions feeling neutral or neither positive or negative about the strong black woman term	It used to be a very positive thing, but these days I don't view it as such a positive thing because I also know that that comes with a lot of mental strain. And I've seen it in, you know, my family members. And, you know, it's just it's a lot of stress. It's a lot of they're doing it. They're doing it. And they are educated women and they are out here taking care of everything. But good Lord, they need a therapist. So it comes with a lot of mental strength. So I guess I would say at this point in my time in my life, I would say neutral. I'm neutral about it.
Strong Black Woman both	Use this when participant mentions having positive and negative feelings about the strong black woman term	It's both, I mean. It's nice to hear, right? Like, it's nice to be called a strong black woman, but it has, like, a lot of. Things that are associated with it, like a part of always having to be the strong black women are like, you have to say it's a set, it's a standard that you have to live up to. And like that can be positive for those who like me, that standard. But it can also be draining and exhausting for those who need. To. Who constantly have to live up to that standard of it's not something that in life I feel like you should constantly have to strive towards. Like. But sometimes we're forced to do that

Code and subcodes	Description	Example
Superwoman		
Superwoman definition	Use this when participant describes what comes to mind when they hear the term Superwoman or describe how they feel about the Superwoman term	Superwoman. I think we are powerful. We are hard working. We have the strength is still true, irrespective of how you know, how hard things may go and you always powerful.
Superwoman positive	Use this when participant mentions feeling positive, likes, or feels good about the superwoman term	Okay. So, Superwoman. Is that positive or negative? Yeah positive
Superwoman negative	Use this when participant mentions feeling negatively about the strong black woman or feels good about the Superwoman term	
Superwoman neutral	Use this when participant mentions feeling neutral or neither positive or negative about the Superwoman term	
Superwoman both	Use this when participant mentions having positive and negative feelings about the superwoman term	I think it's both positive and negative because again, like with strong weapon and it has it's supposed to have a positive like rhetoric behind it, but. It. Comes with exhaustion and the feeling of tired and the feeling of having to compensate for or pick up after. Where people. Are lacking usually
Stress		
Stress description	Use this when participant describes how they identify stress or how they would define stress	
Stress explanation	Use this if participant explains how they would mentions stress to others	
Stress response	Use this when participant explains how they respond to stress (ex: what they do when stressed or feelings)	

Code and subcodes	Description	Example
Stress physical response	Use this when participant explains how they respond to stress physically (ex: physical symptoms, upset stomach, headache, etc)	
Perinatal related stress	Use this when participant mentions stress or stressors related to pregnancy, birth, or postpartum	
Anxiety		
Anxiety description	Use this when participant describes how they identify anxiety or how they would define anxiety	I consider myself to have high functioning anxiety. And so I think I get a lot of stuff done when I'm anxious and. It's a it's a state that I live in a lot of. A lot of the time. But it's also like. That. Like, jittery. Like, worried. Feeling like. Like, what am I doing? Bustle. Like they need to take a nap type of thing. I don't know. It's a lot of emotions happening all at once, and. Being. Unsure of what's going to be next is probably a. Big piece of that.
Anxiety explanation	Use this if participant mentions how they would explain anxiety to others	Just that I'm feeling overwhelmed and I try to list out the things that are overwhelming. That was just the thing that my therapist had told me before, because it was hard just recognizing what was making me feel overwhelmed. So yeah, I think I'm a lot better with communicating, Hey, I'm overwhelmed, I'm stressed out and it's because of X, Y, or Z. I'm neither of those tonight.
Anxiety response	Use this if participant explains how they responds to anxiety or when they feel anxious (ex: what they do or how they describe how it feels emotionally)	
Anxiety physical response	Use this if participant explains how they physically respond to anxiety or when they feel anxious (ex: physical symptoms, upset stomach, headache)	I also think like, depending on when like my mom's phone accidentally always calls me like early in the morning. So I always think something's wrong with my dad. And so, like, have that feeling of, like, vertigo. I don't know, that feeling of, like. Trying to catch your breath, I guess. I think that's also usually a response

Code and subcodes	Description	Example
Perinatal related anxiety	Use this when participant mentions anxiety or feeling anxious relating to pregnancy, birth, or postpartum	
Identity and mental health		
Black identity and mental health	Use this when participant mentions that identifying as a Black woman has an impact on their mental health	Do you feel that your identity as a black woman impacts your mental health? Most definitely. Because I am always being. Looked. At a certain. Way. Or being. Or expected to act or behave a certain way, depending on who might be in the room with. And so I only get to be myself around my close friends and family. Right? But like at work setting, I'm expected to be rational. In a school setting, I'm expected to be a scholar. And so that's. Always frustrating or it doesn't allow me to be myself fully.
Cultural factors and mental health	Use this when participant mentions cultural factors outside of being Black that impact their mental health	
Identity and maternal health		
Black identity and maternal health	Use this when participant mentions that identifying as a Black woman has an impact on their maternal health (pregnancy, birth, or postpartum perception or experience)	
Cultural factors and maternal health	Use this when participant mentions other cultural factors outside of being Black that impact their maternal health (pregnancy, birth, or postpartum perception or experience)	