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April 5, 2023
A Mother’s Burden: The Interactive Effects of Racism-Related Stress and Disrespect and Abuse by Care Providers During the Perinatal Period on Black Women’s Postpartum PTSD Symptoms

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Abstract

A Mother’s Burden: The Interactive Effects of Racism-Related Stress and Disrespect and Abuse by Care Providers During the Perinatal Period on Black Women’s Postpartum PTSD Symptoms

Sriya Karra

Posttraumatic stress disorder (PTSD) is a debilitating mental health condition that disproportionately affects postpartum Black persons. Racism-related stress may contribute to this inequity, exacerbating PTSD in both pregnant and non-pregnant individuals. Black pregnant persons are at increased likelihood of disrespect and abuse (D&A) by care providers during prenatal care, though it is unclear how this impacts postpartum PTSD (PP-PTSD) symptoms. Thus, the present study of Black women (6-10 weeks postpartum, N=47), seeking care from the OB-Gyn Clinic at Grady Memorial Hospital, a publicly funded hospital primarily serving minoritized individuals with few economic resources in Atlanta, GA, assessed for the main and interactive effects of racism-related stress and D&A by care providers on overall PP-PTSD symptoms.

The Index of Race-Related Stress (IRRS), which captures experiences of racism that may not be linked to prenatal care, evaluated racism-related stress. The City Birth Trauma Scale (CiBTS) assessed overall PP-PTSD symptoms, birth-related symptoms of PP-PTSD, and general symptoms of PP-PTSD. The Mistreatment By Care Providers In Childbirth (MCPC) Indicators assessed D&A by health care providers during pregnancy and childbirth.

A simple moderation analysis significantly predicted overall PP-PTSD symptoms with a main effect of racism-related stress (B=3.22, p=.03) and D&A by care providers (B=13.45, p=.04), whereby more D&A and greater racism-related stress predicted higher overall PP-PTSD symptoms. There was a significant interaction between D&A and racism-related stress (B=-3.69, SE=1.83, p=.05), where the effect of D&A on overall PP-PTSD symptoms was present only for individuals with less racism-related stress. Though models were not significant, D&A and racism-related stress had significant main effects on birth-related symptoms, and general symptoms of PP-PTSD, respectively.

Findings suggest that Black individuals who have experienced higher amounts of either D&A during prenatal care or increased racism-related stress have greater overall PP-PTSD symptoms. Interestingly, D&A only impacted overall PTSD symptoms in the context of low racism-related stress. Overall symptoms may provide a more comprehensive understanding of the impact of racism-related stress and D&A on PP-PTSD, than birth-related and general symptoms of PP-PTSD alone. Results highlight the need for prenatal care providers to actively be anti-racist, culturally aware, and respectful to mitigate PP-PTSD symptoms.
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1 Introduction

In the current thesis, I will provide a framework to shed light on how racism experienced before and during the perinatal period impacts Black women’s postpartum PTSD symptoms and the role of healthcare providers in this relationship. First, we will examine postpartum PTSD and its symptoms in relation to a postpartum person’s well-being, mother-infant bonding, and infant development. Second, I will investigate the concept of disrespect and abuse (D&A) by care providers and its function in leading to negative health outcomes. Third, I will discuss the impact of racism on health. Fourth, I will highlight the specific vulnerability of Black women to postpartum PTSD symptoms. Finally, I will clarify the literature gap regarding the interactive effects of racism-related stress and disrespect and abuse by care providers on postpartum PTSD symptoms in Black women and the need for further study to inform clinical practice and policy. This framework will provide a comprehensive understanding of selected issues affecting Black women in the postpartum period and highlight the urgent need to address them.

1.1 Overview of Postpartum PTSD Symptoms

Posttraumatic stress disorder (PTSD) is a debilitating psychiatric syndrome arising from the experience of a sudden, life-threatening traumatic event (Dedert et al., 2010). PTSD is characterized by re-experiences of the traumatic event, avoidance of trauma reminders, hyperarousal symptoms, and negative thoughts/cognitions (Ressler, 2018). PTSD is associated with an increased risk for cardiovascular and metabolic diseases, among other comorbidities (Boscarino, 2008; Weiss et al., 2011). About 3% of the adult population suffers from PTSD (Bisson et al., 2015), though risk for females is twice as high, and they are more likely than males to meet PTSD criteria, regardless of the study type, population, assessment type, or other variables (Tolin & Foa, 2006). Moreover, females have a roughly four-fold longer average symptom duration than males (Breslau, 2001).
Although evidence indicates that female biological sex is a risk factor for developing PTSD, there is a lack of literature on PTSD in pregnant persons. Pregnancy brings significant physical and emotional changes that increase a pregnant person’s susceptibility to PTSD psychopathology (Ross & McLean, 2006; Studd & Nappi, 2012). PTSD is more prevalent amongst pregnant women than non-pregnant women; 6-8% of perinatal samples experience PTSD symptoms, such as detachment, loss of interest, anger and irritability, trouble sleeping, and nightmares, compared to only 4-5% in general samples of women in a similar age range (Seng et al., 2010). The onset of PTSD can begin before pregnancy from previous traumatic life events, recent traumatic events like sexual abuse, and previous traumatic births (Ayers et al., 2016; Beck & Gable, 2000; Cigoli et al., 2006; Cohen, 2004; Ford et al., 2010; Giannandrea et al., 2013; Lev-Wiesel et al., 2009; Olde et al., 2006; Polachek et al., 2012; Turton et al., 2001; Wosu et al., 2015; Zaers et al., 2008). During pregnancy, a pregnant person’s depression, negative expectations of the birth, pregnancy complications, lack of social support, and interpersonal violence, which occurs in 4-8% of pregnancies, are associated with worse PTSD symptoms (Ayers et al., 2016; Baecke et al., 2009; Cohen, 2004; Desmarais et al., 2014; Edworthy et al., 2008; Engelhard et al., 2002; Grekin & O'Hara, 2014; Howard et al., 2013; Lev-Wiesel et al., 2009; Onoye et al., 2013; Shlomi Polachek et al., 2016; Soderquist et al., 2009; Yost et al., 2005; Zaers et al., 2008; Zlotnick et al., 2011). Similarly, if childbirth itself is especially challenging or traumatic, with direct or indirect exposure to a threatened death or severe injury of the pregnant person or infant, PTSD symptoms may further worsen (Alcorn et al., 2010; Grimes, 1994; Moleman et al., 1992; van Son et al., 2005). In fact, one study found that after controlling for severe PTSD symptoms during pregnancy, there is an incidence rate of 2.8% six weeks postpartum, and 1.5% six months postpartum (Ayers & Pickering, 2001; Soderquist et al., 2009; Soderquist et al., 2006). This suggests that at least 1.5% of women risk developing postpartum PTSD as a result of childbirth.
During the postpartum period, PTSD symptoms may manifest as intrusive thoughts (intrusions or re-experiencing the traumatic birth), missed hospital appointments (avoidance), hypervigilance towards one's baby (hyperarousal), or self-blame for pregnancy or birthing complications (negative cognitions and moods) (Diagnostic and statistical manual of mental disorders: DSM-5™, 5th ed, 2013; Stuijfzand et al., 2020). Interestingly, persons with postpartum PTSD are more likely to exhibit avoidance symptoms rather than intrusions or hyperarousal symptoms (Lyons-Ruth & Block, 1996).

While estimates of PTSD prevalence vary during pregnancy and after birth, the mean postpartum PTSD prevalence was 4.0% in community samples of women recruited from maternity hospitals, antenatal clinics, and childbirth education classes (see Yildiz et al., 2017 for review). In high-risk samples (e.g. mothers who experienced preterm births and emergency cesarean sections), prevalence was even higher at 5-18.54% (Grekin & O'Hara, 2014; Shlomi Polachek et al., 2016; Yildiz et al., 2017). Additionally, PTSD prevalence was 39% in pregnancies resulting in stillbirths (Christiansen, 2017).

However, many studies only consider PTSD during the postpartum period in the context of traumatic childbearing events, excluding experiences during prenatal care and thus underestimating the actual total prevalence (Yildiz et al., 2017). Moreover, the current DSM-V criteria omits emotional numbing (i.e. one of the most predictive symptoms of chronicity, impairment, and parenting stress (Hoge et al., 2016; Wilson et al., 2017) as a PTSD symptom cluster, further underestimating the total prevalence of postpartum PTSD. Postpartum PTSD is frequently underdiagnosed because the symptoms are often considered normal for the postpartum period. For example, sleep disturbances are typical features in the onset and persistence of PTSD (Pigeon et al., 2017). But, postpartum women (PPW) often experience sleep deprivation during the process of caring for an infant, which can hinder their ability to recognize and seek treatment for PTSD symptoms or result in their symptoms being dismissed. Moreover, routine postpartum healthcare visits are often required, so PPW may have trouble avoiding
reminders of their trauma, leading to further underdiagnosing of avoidance symptoms. Interestingly, PPW experiencing hyperarousal symptoms and anxiety have been found to work incredibly hard to appear happier than their counterparts to create a warm experience for their baby (Morelen et al., 2016), which may often result in underdiagnosing of their condition.

Importantly, gestational stress, trauma, and PTSD during pregnancy have long-lasting impacts on future generations (Horsch & Stuijfzand, 2019; Yehuda et al., 2005), with the risk for PTSD having a heritability of 30-40% (Almli et al., 2014). Sensitization of the stress response system, the hypothalamic pituitary adrenal axis (HPA) axis, has been observed in traumatic birth experiences (Yehuda, 2001). As a result, pregnant persons with PTSD have been found to have lower levels of cortisol than their counterparts who did not develop PTSD (Yehuda et al., 2005), which may explain future pregnancy complications, such as ectopic pregnancy, miscarriage, or preterm labor, since the uterine wall has many cortisol receptors (Mulder et al., 2002; Seng et al., 2001). Moreover, infants of stressed pregnant persons with altered HPA axis functioning have similar alterations in cortisol levels and stress reactivity, indicating the potential for intergenerational transmission of stress (Brennan et al., 2008; Charil et al., 2010; Davis et al., 2004; Grant et al., 2009; Morelen et al., 2016; Yehuda et al., 2005).

Moreover, postpartum PTSD is associated with detrimental effects on child development (de Weerth & Buitelaar, 2005; Koen et al., 2016; Vesga-Lopez et al., 2008). Infants born to mothers with postpartum PTSD tend to have lower birth weights (Cook et al., 2018; Lipkind et al., 2010), become more quickly upset by novelty, and take longer to soothe (Brand et al., 2006; Shaw et al., 2009). These infants also maintain physical distance (Ionio & Di Blasio, 2014) and exhibit externalizing (e.g. high activity, impulsivity, and defiance), internalizing (e.g. depression, social withdrawal, anxiety, separation distress, and extreme shyness), and dysregulation (e.g. sleeping and eating problems, emotional
regulation issues, unusual sensory sensitivities) behaviors (Bosquet Enlow et al., 2011). Infants may also experience impaired bonding with their mothers (Nicholls & Ayers, 2007). This bond between the mother and infant is crucial for the infant’s development and cultivates over the first few months of the postpartum period. Stressed mothers often report a poor relationship with their infant (Parfitt & Ayers, 2009), and they report that their babies are less warm towards them (Davies et al., 2008). Difficulties establishing a bond may lead to changes in infant brain development (Parfitt et al., 2014) and adversely affect the mother-child connection in the long-run (Brockington, 2004; Brockington et al., 2006).

However, studies on the association of postpartum PTSD and impaired bonding have inconsistent results (Stuijfzand et al., 2020). Some studies indicate no relationship (Nakic Rados et al., 2020), while others point to one where greater postpartum PTSD symptoms predict worse bonding (Parfitt & Ayers, 2009). The differing results are due to variances in defining and measuring PTSD (Davies et al., 2008; Dekel et al., 2017), with not all studies differentiating postpartum PTSD resulting from childbirth-related trauma with that of postpartum PTSD resulting from other trauma exposures. Furthermore, since childbirth is a positively connoted event, “normal” symptoms of the postpartum period are unrecognized and may further explain the inconsistencies in postpartum PTSD and impaired bonding associations (Handelzalts et al., 2021).

Additionally, for those able, breastfeeding is widely recognized as critical for infant development, conferring immune-protection and growth factors (Dieterich et al., 2013). Unfortunately, postpartum PTSD has been found to negatively impact breastfeeding (Garthus-Niegel, Horsch, Ayers, et al., 2018). Persons with postpartum PTSD symptoms are more likely to not breastfeed their infants six-eight weeks postpartum (Halperin et al., 2015) and less likely to breastfeed for as long as they had intended
Later in life, postpartum PTSD has also been linked to a difficult child temperament (van den Bergh et al., 2006; van Os & Selten, 1998; van Son et al., 2005; Wadhwa et al., 1998), attention problems (Weaver et al., 2004; Weaver et al., 2005), mood and anxiety issues (Weaver et al., 2007; Wei et al., 2004; Welberg et al., 2000), delays in cognition (Kapoor et al., 2008; Whincup et al., 2008), and adult disease (Cottrell & Seckl, 2009). One study found that maternal postpartum PTSD symptoms at just eight weeks after birth were associated with poor social-emotional development, specifically early difficult temperament at two years old (Garthus-Niegel et al., 2017).

Postpartum PTSD can also impact partner relationships, exacerbating what is already a stressful time for new parents (Ayers et al., 2006). Postpartum PTSD symptoms, such as lack of interest, numbness, and irritability, have been found to predict low couple relationship satisfaction two years postpartum (Ayers et al., 2006; Nicholls & Ayers, 2007), potentially leading to relationship breakdowns that can further diminish already low levels of support experienced by many mothers with postpartum PTSD (Ayers et al., 2006; Gottvall & Waldenstrom, 2002).

Additionally, research has established a strong connection between postpartum PTSD and other mental health conditions such as depression (Lev-Wiesel et al., 2009; Shlomi Polachek et al., 2016; Soderquist et al., 2009; Soderquist et al., 2006; Zaers et al., 2008), anxiety (Cohen, 2004; Lev-Wiesel et al., 2009; Soderquist et al., 2009), and substance use disorders (SUD; Dworkin et al., 2017). In one study involving 600 mothers, those with mild or moderate-to-severe depression had 4.7- and 5-times greater PTSD rates, respectively, following childbirth compared to non-depressed mothers (Shaban et al., 2013). Similarly, women with moderate-to-severe anxiety had a 3.35-fold increase in PTSD rates following childbirth compared to non-anxious mothers (Shaban et al., 2013). Furthermore, in another study, 22% of women (total N=60) reported depressive symptoms six weeks postpartum, which
stayed relatively the same at 21.3% six months postpartum (Zaers et al., 2008). Additionally, 6% and 14% of the participants reported PTSD symptoms at six weeks and six months, respectively (Zaers et al., 2008). While PPW have a lower likelihood of meeting diagnostic criteria for SUD (12.0%) compared to pregnant (14.6%) and non-pregnant women (19.9%), substance usage amongst PPW and non-pregnant women are similar (Vesga-Lopez et al., 2008). PPW may use substances to cope with PTSD symptoms (Lehavot et al., 2014), but the comorbid effect of PTSD-SUD can worsen the risk of disorganized attachment and HPA axis alterations for infants and the risk of suicide for mothers, along with other aforementioned risks (Brady et al., 1994; Eggleston et al., 2009). Furthermore, insufficient postpartum PTSD treatment can worsen PTSD symptoms and depression, anxiety, and substance use symptomatology.

While PTSD has been well studied in the contexts of military combat, natural disasters, or physical and sexual assault, it has been slow to be recognized among postpartum women (König et al., 2016; Vossbeck-Elsebusch et al., 2014). As a result, maternity services do not routinely screen for PTSD, and the screens that are conducted typically use general measures of PTSD that may not be suitable for pregnant or postpartum persons (Ayers et al., 2018). Thus, understanding traumatic life events and day-to-day stressors during the prenatal period is essential in determining the risk of postpartum PTSD.

1.2 Disrespect and Abuse by Care Providers

Healthcare professionals play an essential role in supporting and caring for pregnant and postpartum mothers. However, an alarming number of women worldwide have reported experiencing disrespect and abuse at the hands of their care providers (Bohren et al., 2014; Bohren et al., 2019; Bowser & Hill, 2010; Chadwick et al., 2014; D'Ambruoso et al., 2005; Janevic et al., 2011; Martinez-Galiano et al.,
2021; McMahon et al., 2014; Moyer et al., 2014; Odhiambo, 2011; Sando et al., 2017; Siraj et al., 2019; Thomson & Downe, 2008; Turan et al., 2008), leading to negative health outcomes and long-lasting emotional trauma (Dekel et al., 2019; Ferguson, 2018; Garthus-Niegel, Horsch, Handtke, et al., 2018).

Unfortunately, abuse during pregnancy and postpartum care has a long history (Pratt & Pratt, 1995) that has only recently begun to be fully acknowledged (World Health Organization, 2015). The lack of consensus in the literature regarding terminology to describe these harmful experiences, including “obstetric violence,” “disrespect and abuse (D&A),” and “mistreatment,” has made it difficult to address the issue effectively. The World Health Organization (WHO) has even issued a statement highlighting the lack of “international consensus on how disrespect and abuse should be scientifically defined and measured” (World Health Organization, 2014).

To fully understand women’s experiences during facility-based childbirths, it is necessary to understand the historical contexts for “obstetric violence,” “disrespect and abuse,” and “mistreatment.” Advocacy groups and feminists have been raising awareness about this issue for a considerable duration (Castro & Erviti, 2003; Comité de América Latina y el Caribe para la Defensa de los Derechos de la Mujer. Centro Legal para Derechos Reproductivos y Políticas Públicas, 1998; Diniz et al., 2015). During the early 1980s, movements by feminist academics, health practitioners, and advocacy groups in Latin America to “humanize childbirth” in institutions and combat violence in obstetric practice arose out of concerns about the overmedicalization of maternal care (Diniz, 2005; Diniz et al., 2015; Jardim & Modena, 2018; Rattner et al., 2009; Sadler et al., 2016; Savage & Castro, 2017; Shah, 2015). By the 1990s, enough support, largely by Brazilian activists, had been drawn to establish a strategic network with a regional focus of decreasing routine use of ineffective, non-evidence-based, and possibly harmful obstetric interventions (Diniz et al., 2015; Nagahama & Santiago, 2008). In 1993, Brazil termed this issue as “obstetric violence” in their foundation of the
Network for the Humanization of Labor and Birth (Sadler et al., 2016), and in 2007, Venezuela codified obstetric violence as a recognized form of sex-specific violence in their “Organic Law on the Right of Women to a Life Free of Violence” (D’Gregorio, 2010).

As more statutory bodies recognized the term, obstetric violence (Castro & Erviti, 2014; D’Gregorio, 2010; Khosla et al., 2016; Thomson & Downe, 2008) came to refer to the bullying or coercion of pregnant women during birth by healthcare personnel, specifically with regards to the forceful or excessive use of certain obstetric practices (Declercq et al., 2007; Kalish et al., 2004) due to a power differential in patient-provider interactions (Mozingo et al., 2002; Sando et al., 2017; Sleutel et al., 2007). In one study with childbearing U.S. women, 25% of mothers (N=2400) felt pressured into inducing labor or having a cesarean delivery (Declercq et al., 2013). Additionally, in a study of pregnant women aged at least 15 years from Ghana, Guinea, Myanmar, and Nigeria, 75.1% (N=235) of women were observed and 56.1% (N=526) self-reported that they did not consent to an episiotomy, while 13.4% (N=261) of women were observed and 10.8% (N=483) self-reported that they did not consent to a cesarean section, despite undergoing these procedures (Bohren et al., 2019). Given these statistics, the United Nations classified obstetric violence as a human rights violation (Craven, 1995; Crawshaw & Holmström, 2001; Hunt & Gray, 2013; UN General Assembly, 1948; United Nations. Office of the High Commissioner for Human Rights, 2009; White Ribbon Alliance, 2013; World Health Organization, 2014).

While the issue of obstetric violence has gained recognition in recent years, some caution against the use of this terminology in efforts to effect change, as it may be perceived as antagonizing to care providers (Diniz, 2005; Diniz et al., 2015). Furthermore, the World Report on Violence and Health (WRVH) defines violence as the “intentional use of physical force or power, threatened or actual, against
oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation” (Krug et al., 2002).

The intentional aspect of obstetric violence fails to account for many women’s obstetric experiences. For example, due to the perceived liability and risk of harm to the fetus, healthcare providers may pressure women into procedures or interventions that they think to be in their best interest (Abrams, 2012; Diaz-Tello, 2016; Morris, 2013; Oberman, 1999; Samuels et al., 2007). Although this action may not be intentional, it can still be abusive, particularly if it benefits the providers, not the birthing person or baby. These actions may include putting a mother in an uncomfortable supine position or using forceful pressure while birthing for the ease of the physician during examinations (Afsana & Rashid, 2001; Chadwick et al., 2014; D’Ambruoso et al., 2005; de Oliveira & Madeira, 2002; el-Nemer et al., 2006; Ganle et al., 2014; García-Jorda et al., 2012; Kyomuhendo, 2003).

As a result, recent discourse has adopted the term “disrespect and abuse” to encompass the various forms of mistreatment that a woman might experience during pregnancy or postpartum care, whether intentional or unintentional (Castro & Erviti, 2003; d’Oliveira et al., 2002). According to Sen et al. (2018), disrespect refers to the violation of a woman’s dignity as a human being, which can be due to her economic status, gender, caste, race, ethnicity, marital status, disability, sexual orientation, or gender identity (Sen et al., 2018). Often, this violation arises from the implicit and explicit biases and judgmental attitudes of care providers towards birthing persons, which can lead to acts of omission or emission that undermine a woman’s autonomy and decision-making abilities (Sen et al., 2018). Additionally, abuse refers to actions that are harmful to women and not beneficial for their well-being, including physical, emotional, and verbal forms of provider abuse (Sen et al., 2018).
Furthermore, some researchers and WHO suggest using the terms “respectful maternity care” and “mistreatment” instead, as they include unintentional forms of abuse and are less antagonizing towards care providers (Vogel et al., 2015; World Health Organization, 2015). But, these terms exclude intentional experiences that may edge on physical and sexual violence (d’Oliveira et al., 2002; Jewkes et al., 1998). Therefore, this thesis prefers the term “disrespect and abuse” to properly identify intentional acts of violence in the obstetric context, as well as any unintended consequences (Figure 1).

**Figure 1.** Such normalized behaviors provide the foundation for and perpetuate disrespect and abuse by care providers. Adapted from 11thprincipleconsent.org/consent-propaganda/rape-culture-pyramid and BirthMonopoly.com

Studies (Kruk et al., 2018; Okafor et al., 2015; Sando et al., 2017; C. Warren et al., 2013) have used either Bower and Hill (2020), the initial landscape analysis, or the refined Bohren et al. (2015) mixed-
methods systematic review to classify the various forms of disrespect and abuse that women might experience during childbirth (Bohren et al., 2015; Bowser & Hill, 2010; Freedman & Kruk, 2014; Freedman et al., 2014; Kruk et al., 2018; Okafor et al., 2015; Sando et al., 2017; C. Warren et al., 2013). Physical abuse, such as hitting, slapping, rough handling, pinching, physical restraints, kicking, and aggression, has been well-documented, as has verbal abuse, including threats, shouting, derogatory language, and judgmental comments (see Table 1 for relevant studies and citations). Sexual abuse is also included in the D&A classification (Table 1).

During pregnancy and childbirth, persons from diverse backgrounds may face stigma and discrimination. Specifically, Black and/or Latinx individuals, those from low-income households, people with disabilities, those who identify as LGBTQIA+, single mothers, refugees or immigrants, and those with medical conditions are at heightened risk of experiencing discriminatory treatment (Table 1). Marital status is another factor, with younger women often criticized for engaging in sexual activity before marriage (Atuyambe et al., 2005; Jewkes et al., 1998; Kruger & Schoombee, 2010). When healthcare providers fail to meet professional standards of care, including informed consent and confidentiality, engage in unnecessary or improper physical examinations or procedures, or neglect and abandon women during care or labor (Table 1), it further erodes trust in the healthcare system. For example, a study of 2,781 maternal support workers found that at least one-half of doulas, childbirth educators, and labor and delivery nurses in the United States and Canada have witnessed procedures performed against a woman’s will, and two-thirds have witnessed physicians “occasionally” and “often” performing procedures without obtaining informed consent or giving women ample time to consider the risks (Roth et al., 2014). The breakdown of rapport between women and providers is another domain of D&A (Table 1). Communication problems, lack of
supportive care, and loss of autonomy with healthcare providers are frequently reported by women, leaving them feeling poorly informed about their care (Table 1).

These experiences of D&A have been widely reported by pregnant persons and have serious consequences for their well-being and trust in the healthcare system. Yet, despite extensive research on this topic in low-income and middle-income countries (Abuya, Ndwiga, et al., 2015; Abuya, Warren, et al., 2015; Gabriel, 2015; Gibbons et al., 2010; Liambila & Kuria, 2014; Molina et al., 2016; Smith-Oka, 2015; Zacher Dixon, 2015), there is a lack of studies investigating D&A in high-income countries (Beck, 2018) like the United States. Here, the rates of maternal mortality are amongst the highest in comparable countries (MacDorman et al., 2016; Ozimek & Kilpatrick, 2018; World Health Organization, 2014), despite its high healthcare expenditure. It is interesting to note that the majority of D&A literature (total N=7 sources) in the United States (Garcia, 2020) comes from websites (Birth Monopoly, 2018), legal notes (Borges, 2018; Diaz-Tello, 2016), legal briefings (Pope, 2017), or commentaries (Williams & Meier, 2019). However, little is known about the contribution of D&A to the United States’ negative maternal and birth outcomes. This is partly because measuring D&A prevalence is complicated by aforementioned inconsistencies in definitions and measures (Bohren et al., 2019; Martinez-Galiano et al., 2021; Sando et al., 2017; Siraj et al., 2019), leading to varied prevalences. For example, the prevalence of cesarean sections for low-risk women can range from 7% to 51% depending on the location, and the rates can vary even within a zip code (Elflein, 2020).

Of the two U.S research studies, a mixed-methods study—the first to use indicators to describe D&A by care providers in the United States—found that 17.3% of women (N=2138) reported experiencing at least one type of D&A (i.e. loss of autonomy, derogatory language or threats, being ignored, neglect or abandonment) (Vedam et al., 2019). The most common types of D&A reported were being shouted
or scolded at (8.5%) and being ignored, refused help, or failing to respond in a timely manner (7.8%) (Vedam et al., 2019). Women also reported physical privacy violations (5.5%) and threats to withhold or force treatment (4.5%) (Vedam et al., 2019). This study also found that women who had unplanned occurrences, such as cesarean sections or transfers from community to hospital care, experienced higher rates of abuse (Vedam et al., 2019). Women who disagreed with a healthcare professional regarding care (78.8%) also reported higher rates of D&A (OR 22.7%, 95% CI 13.9-36.9) compared to women without a different opinion (Vedam et al., 2019). Furthermore, the second U.S. study, a qualitative analysis by Davis (2018), explored the stories of Black women in the United States during childbirth. Davis coined the term “obstetric racism,” which combines obstetric violence and medical racism to illustrate how women are targets of sex-based D&A simply “because they are obstetric patients” (Davis, 2018).

Disrespectful and abusive behavior by care providers during pregnancy and childbirth has a significant impact on maternal health outcomes (Dekel et al., 2019; Ferguson, 2018; Garthus-Niegel, Horsch, Handtke, et al., 2018). Women who experience D&A are more likely to have negative birth outcomes, such as preterm birth, low-birth weight, and increased risk of stillbirth (Bohren et al., 2015). They are also more likely to engage in harmful health behaviors, such as increased alcohol and tobacco use, exacerbating negative outcomes for maternal and fetal health (Bohren et al., 2015). Additionally, D&A during pregnancy has been linked to an increased risk of postpartum depression and PTSD among women (Andersen et al., 2012; Ayers et al., 2016; Martinez-Vazquez, Rodriguez-Almagro, Hernandez-Martinez, & Martinez-Galiano, 2021).

One study of 1301 Spanish women found that not respecting surgical intervention preferences, maternal hospital readmission, verbal-type obstetric violence, and psychological violence (i.e.
preventing presence of supporting partner, preventing contact with newborn, and transmitting guilt or blame to pregnant person) were risk factors for PTSD (13.1%, N=171) (Martinez-Vazquez, Rodriguez-Almagro, Hernandez-Martinez, Delgado-Rodriguez, et al., 2021). These women not only experienced a high risk of PTSD, but also maintained this risk for 12-36 months after delivery (Martinez-Vazquez, Rodriguez-Almagro, Hernandez-Martinez, Delgado-Rodriguez, et al., 2021).

Another study, conducted in the Atlanta metropolitan area, found that 34% of women (total N=103) reported traumatic gynecological or obstetric procedures, 1.9% (N=2) had probable diagnoses of PTSD, and 30.1% (N=31) had partial diagnoses of PTSD (Soet et al., 2003). Interestingly, some women (N=19) had PTSD symptoms but did not report their obstetric experiences as traumatic (Soet et al., 2003).

Despite Soet et al. (2003)’s evidence that their participants’ obstetric experiences were traumatic, participants failed to report them as so. This may be indicative of the normalization of disrespect and abuse, which has resulted in pregnant persons accepting treatment that they receive. Strong norms, stigmas, and pressures for pregnant persons to be happy during their pregnancy, birth, and postpartum experiences contribute to this. This finding is also demonstrated in a study conducted in Tanzania where women described their birth experiences as satisfactory despite having undergone abuse (McMahon et al., 2014). As a result, self-reported measures of D&A may underestimate prevalence. Other drivers of D&A in obstetric practice include socioeconomic inequalities, sexism, and racism. For example, Diniz et al. (2014) has found excessive obstetric intervention along socioeconomic lines. A national survey was sent to 76 heads of fellowship programs in maternal-fetal medicine and directors of maternal-fetal residency programs to ask their professional opinions regarding cases where women refused treatment deemed in the best interest of the fetus and that resulted in a court-mandated obstetrical procedure (Kolder et al., 1987). Among the women in these cases, 88% were Black, Asian,
or Hispanic. All of these cases involved women receiving public assistance, and the majority of clinician respondents agreed with the decisions of the court-ordered cases (Kolder et al., 1987). Moreover, institutional structures and processes perpetuate the issue given that pregnant persons are often teaching material for students, and excessive physical interventions further the existing power balance between providers and patients.

1.3 Racism-Related Stress

As discussed previously, D&A by care providers can stem from racist attitudes that have been shown to have serious negative consequences for the health and well-being of minoritized individuals. In the obstetric context, racism-related stress underlies existing health disparities, increases risk of complications, and undermines the overall quality of care received. To promote equitable healthcare outcomes for all pregnant and postpartum persons, regardless of their race or ethnicity, it is necessary to understand the nature and impact of racism-related stress during pregnancy and childbirth. While there are multiple definitions of racism (Bulhan, 2004; Essed, 1991; Jones, 1972; Ridley, 2005; Rothenberg, 1988), they all discuss the centrality of power. It is defined here using Harrell (2000)’s conceptualization:

*A social hierarchy in which certain groups hold power and privilege over others on the basis of race and is built upon a history of oppression towards groups seen as “inferior, deviant, or undesirable” by those in the dominant group* (Harrell, 2000). The dominant group reinforces their societal privilege by maintaining “structures, ideologies, values, and behavior” that leave the non-dominant group with limited access to “power, esteem, status, and resources” (Harrell, 2000).

Racism can be covert, intentional, or unintentional (Jones, 1972; Ridley, 2005), and encompasses racial stereotypes (unfair, untrue notion of a particular group of people), racial prejudice, (biased, negative
attitudes) and racial discrimination (unfair action or treatment) (Harrell, 2000). Racism is anchored in the historical legacy of persistent inequality and disparity, which continues to impact the current conditions and experiences of entire groups of people (Harrell, 2000). Negative racial stereotypes, racial prejudice, and racial discrimination perpetuates and maintains racism, reinforcing existing power structures and preventing minoritized groups from achieving equity and justice (Lott & Maluso, 1995).

To fully understand the concept of racism, it is crucial to know its different forms and the contexts in which it manifests (Figure 2; Harrell, 2000; Jones, 1972). Individual racism refers to one’s belief that another group is inferior, while institutional racism pertains to systemic oppression and exploitation of minoritized groups (Jones, 1972). Cultural racism involves the maintenance of such oppression (Jones, 1972). In the interpersonal context, racism manifests through personal interactions with others (directly), and through observing their behaviors, nonverbal cues, and verbal statements (indirectly) (Harrell, 2000). Unfortunately, cultural and institutional racism provide the structural support for individuals to be racist in this context (Harrell, 2000). At the collective level, racism is demonstrated in racial disparities in health, educational achievement, and unemployment rates, reflecting the effects of individual, cultural, and institutional racism (Harrell, 2000). Additionally, at the cultural-symbolic level, racism is reflected in mainstream media, art and literature, and science where non-dominant groups lack representation (Harrell, 2000). Finally, individual, institutional, and cultural forms of racism manifest at the sociopolitical level (Harrell, 2000). For instance, an individual’s racist beliefs influence their voting preferences, and a society’s culture to maintain the status quo of the dominant group affects the institutional political processes within organizations. Ultimately, minoritized individuals experience a continuous culmination of all forms of racism in a variety of contexts.
Black persons not only face more daily stressors, but they are also uniquely exposed to the stressors of racism (Aldwin, 1994; Allison, 1998; Anderson et al., 2004; Clark et al., 2004; Dohrenwend & Dohrenwend, 1970; Forman et al., 1997; Kawanishi, 1995; Neighbors et al., 1983; Peters & Massey, 1983; Scott Jr, 2004; Thoits, 1991; Wheaton, 1994). As per the definition offered by Harrell (2000) and Lazarus and Folkman (1984), racism-related stress refers to:

*The race-related interactions between individuals or groups and their environment as a result of the “dynamics of racism” (Harrell, 2000; Lazarus & Folkman, 1984). These transactions may jeopardize an individual’s well-being, and “tax their collective resources” or that of their group (Harrell, 2000; Lazarus & Folkman, 1984).*
Stress from racism arises not only from the experiences themselves but also from having to provide proof of the validity of these experiences. Despite people's accurate perception of racist experiences (Taylor et al., 1994), the process of questioning and replaying these experiences can be mentally taxing (Essed, 1991; Feagin, 1991; Pierce, 1995). Harrell’s (2000) framework identifies at least six forms of racism-related stress (Table 2; i.e., racism-related life events, vicarious racism experiences, daily racism microstressors, chronic-contextual stress, collective experiences of racism, and the transgenerational transmission of group traumas).

Experiencing or anticipating these various forms of racism perpetuates the stress of minoritized individuals leading to a number of harmful health outcomes. These consequences include negative physical (i.e. hypertension\(^a\), increased cardiovascular activity\(^b\), and sleep difficulties\(^c\)), psychological (i.e. trauma symptoms\(^d\), depression\(^e\), psychological distress\(^f\), anxiety\(^g\), PTSD\(^h\), eating problems\(^i\), substance abuse disorders\(^j\), psychosomatization\(^k\), and violence\(^l\)), and social (i.e. willingness and ability to trust\(^m\), educational achievement\(^n\), and job performance\(^o\)) outcomes (see Table 3 for relevant studies and citations).

For example, a study on 153 normotensive Black youth investigated the association of gender, racism-related vigilance, and large arterial elasticity (LAE) at baseline and during a task (Clark et al., 2006). Researchers found that greater levels of racism-related vigilance, or stress from anticipating racism, were associated with higher blood pressure, pulse rate, and vascular resistance, as well as decreased arterial elasticity (Clark et al., 2006). This means the heart must work harder to pump blood into the arteries. Another study on 3105 adults from Chicago found that higher levels of racism-related stress were related to worse sleep (Hicken et al., 2013). The same sample was used in a different study that found that Black persons experience a 4% increase in odds of hypertension (OR=1.04; 95% CI: 1.00,
1.09) with each increase in unit of vigilance (0-12), whereas their white counterparts did not experience this association (OR=0.95; 95% CI=0.87, 1.03) (Hicken et al., 2014).

Regarding mental health, Kogan et al. (2015) conducted a study of 222 Black individuals and found that exposure to racial discrimination from ages 16-18 predicted depressive symptoms at age 20 (Kogan et al., 2015). In a sample of 273 Black adults from Nashville, Moody, and Lewis (2022) found that vicarious racism experiences (b=1.68, SE=0.51, p<0.01), racism-related life events (b=1.51, SE=0.39, p<0.001), and daily microstressors (b=0.32, SE=0.11, p<0.01) predicted higher levels of depression using multivariate linear regression analyses (Moody & Lewis, 2022). Sibrava et al. (2019) revealed that despite high uptake of treatment, there were poor 5-year remission rates of 0.38 amongst 152 Black adults with PTSD and anxiety, with 56.25% reporting ongoing experiences of racism (Sibrava et al., 2019). Their results suggest that racism-related stress predicts PTSD diagnosis.

In sum, racism’s impact extends beyond just the experience of discrimination, and has long-lasting physical, psychological, and social consequences for minoritized individuals. The evidence presented highlights the significant role of racism-related stress in the health and well-being of minority groups, specifically Black individuals, and emphasizes the importance of addressing its impact early on.

1.4 Vulnerability of Black Pregnant Persons to Postpartum PTSD symptoms

The double marginalization faced by Black pregnant women, being both Black and having a uterus, puts them at heightened risk of experiencing postpartum PTSD symptoms. Studies indicate that trauma-exposed Black Americans living in urban areas have high prevalence rates of PTSD, ranging from 65-90%, with lifetime rates reaching 50%, significantly higher than the national average (Gillespie
et al., 2009; Schwartz et al., 2005) and that of combat veterans (Hoge et al., 2004). Black women are specifically impacted (Gluck et al., 2021), with 1 out of 8 experiencing PTSD (Valentine et al., 2019).

Although the high prevalence of PTSD among Black women underscores the urgent need to consider the intersection of racism and D&A by care providers, their combined effects on postpartum PTSD has not been studied. The intersectional oppression of racism and D&A has been present since the gross origins of gynecology and obstetrics where Dr. Marion Sims, known as the “father of modern gynecology,” cruelly experimented on enslaved women (Khabele et al., 2021). Black women have also been victims to forced sterilization, which was legal in many states until the 1970s (Crockett, 2013). This generational trauma is demonstrated in obstetric settings, where Black women are more likely to be mistreated than their white counterparts. For example, Vedam et al., 2019 found that in their sample of U.S. women who had given birth recently or were currently pregnant, 27.2% of Black women of low socioeconomic status (SES) reported mistreatment compared to 18.7% of White women of low SES (Vedam et al., 2019).

Furthermore, studies indicate that Black mothers have a higher risk of PTSD than mothers from other racial/ethnic backgrounds (Brooks Holliday et al., 2020; Hauff et al., 2017). Gluck et al., 2021 found that 32.3% of a predominately Black urban sample of women met probable diagnoses of PTSD (Gluck et al., 2021), while a study of 633 pregnant Black women receiving care from an urban hospital found that one-third met the criteria for probable PTSD, with only 6% receiving treatment (Powers et al., 2020). Other studies have also reported high rates of trauma exposure and PTSD among pregnant Black women (Dailey et al., 2011; Seng et al., 2011; Seng et al., 2009). For instance, Seng et al. (2011) found that Black pregnant women had four times the prevalence of PTSD compared to other groups
In another study of urban postpartum women (N=1663, 54.2% Black), Black women demonstrated the greatest PTSD symptom severity overall (Thomas et al., 2021).

Moreover, the disparities in not only postpartum PTSD, but also access to healthcare, maternal mortality rates, experiencing environmental stressors, continue to persist even when sociodemographic factors and previous psychiatric diagnoses are taken into account (Colen et al., 2018; Himle et al., 2009; Phelan & Link, 2015; Turner et al., 2017; Williams et al., 2008). In a study of 2268 Black women and 506 White women, racism-related stressors explained 90% of the disparities in women’s health (Smith, 2021). Mekawi et al., (2021) found that amongst 292 trauma-exposed Black women, those who experienced more racial discrimination had more severe PTSD symptoms (Mekawi et al., 2021). Other studies have found similar connections between racism-related stressors and PTSD symptoms among Black women (Brown et al., 2000; Cénat et al., 2023; Chin et al., 2020; Dale & Safren, 2019; Fani et al., 2021; Jackson et al., 1996; Janevic et al., 2021; Kessler et al., 1999; Lewis et al., 2015; Myers et al., 2015; Pascoe & Smart Richman, 2009; Pieterse et al., 2010; Polanco-Roman et al., 2016; Priest et al., 2013; Wei et al., 2012; Williams & Mohammed, 2009; Williams & Williams-Morris, 2000), suggesting that the impact of racism and D&A by care providers on postpartum PTSD symptomatology requires more examination.

1.5 The Current Study

While there is sufficient evidence that Black pregnant persons are more likely to be disrespected and abused during obstetric care, and that racism is associated with increased PTSD symptoms, there are noteworthy gaps in the literature that warrant further investigation. First, the majority of the research on D&A is conducted in Latin America and lower-income countries, with only two studies having been conducted in the United States. Given the varying typologies and terminologies, and depending
on the stakeholders in the research or obstetric context, certain actions of D&A may fail to be considered. Second, research on racism-related stress often excludes non-race-based trauma exposure that may impact PTSD development. Furthermore, there is a lack of research specifically examining the impact of racism-related stress on the development of postpartum PTSD symptoms. Finally, most studies on postpartum PTSD research only examine PTSD symptoms relating to childbirth, excluding pre-childbirth experiences. As such, this thesis aims to address these gaps in the literature by examining the interplay of these experiences to fully understand the multifaceted experiences of Black postpartum women who have experienced D&A and racism and how they lead to adverse outcomes, like postpartum PTSD. Importantly, findings from the nexus of racism-related stress and D&A by care providers on postpartum PTSD symptoms could inform culturally-sensitive trauma care, respectful postpartum healthcare, policies that aim to address systemic racism and D&A in the healthcare system, and medical school curricula that includes the history of racism in medicine, implicit bias training, and cultural humility training. Results will hopefully contribute to further conversations about the underlying drivers of D&A and racism within the healthcare system and inform ways to combat these issues.

The current thesis had two main hypotheses: (a) consistent with previous literature, it was predicted that racism-related stress and experiences of D&A by care providers will be positively associated with postpartum PTSD severity, (b) racism-related stress will moderate the association between experiences of D&A and overall postpartum PTSD severity, whereby this relationship will be strongest among individuals who report higher-levels of racism-related stress. Due to the limited research on the interaction between racism-related stress and experiences of D&A to predict postpartum PTSD symptoms, specific predictions about differential moderating effects for symptom clusters (i.e birth-related symptoms and general symptoms of postpartum PTSD) were not made.
2 Methods

2.1 Participants
Study participants were Black women (Table 4; 6-10 weeks postpartum, N=47) receiving care from the Gynecology and Obstetrics Clinic at the Grady Memorial Hospital, which is publicly funded and predominantly serves a Black, inner-city population with few economic resources in Atlanta, GA. Subjects were recruited at random using the infrastructure of a larger study investigating trauma exposure of the Grady Trauma Project, an interdisciplinary study of civilian trauma exposure and adverse health sequelae. To be considered eligible, individuals had to be pregnant, give informed consent, and be between 18-40 years old. Informed consent forms were approved by the Emory Institutional Review Board and Grady Hospital Research Oversight Committee. Exclusion criteria included any active psychosis or hospitalization for mental health reasons within the last month.

2.2 Clinical Assessments

The following scales were administered to participants to assess racism-related stress, disrespect and abuse by care providers during pregnancy and childbirth, and postpartum PTSD symptoms.

2.2.1 Index of Race-Related Stress (IRRS)

The IRRS is a reliable and valid measure of stress caused by daily instances of racism and discrimination in the lives of Black persons (Utsey & Ponterotto, 1996). The IRRS has been concurrently validated with the more widely known measure of racism, Racism and Life Experience Scale-Brief Version (RaLES-B), and measure of perceived stress, Perceived Stress Scale (PSS). Participants answer questions using a 5-point Likert-type scale to indicate if a race-related stress happened to them or someone close to them (0 = This has never happened to me; 1 = This event happened, but did not bother me; 2 = This event happened and I was slightly upset; 3 = This event
happened and I was upset; 4 = This event happened and I was extremely upset). This thesis uses the IRRS-Brief Version (B), which is a shorter 22-item version of the original IRRS, and has three subscales: (a) Cultural Racism, (b) Institutional Racism, (c) Individual Racism, which combined computes a global measure of racism. IRRS-B scores range from 0-88, scores range from 0-88, with higher scores indicating more race-related stress.

2.2.2 Mistreatment by Care Providers in Childbirth Indicators (MCPC)

Aligned with the typologies of Bohren et al. (2015), the MCPC is a set of patient-designed indicators of mistreatment during pregnancy and childbirth and is validated with the more widely known MADM and MORi scales (Vedam et al., 2019). This instrument provides a continuous measure of a woman's childbearing experience in the United States regarding the following areas: physical and sexual abuse (“You experienced physical abuse, such as aggressive physical contact, inappropriate sexual conduct, a refusal to provide anesthesia for an episiotomy, etc.”), verbal abuse (“A healthcare provider shouted at or scolded you”; “Healthcare providers withheld treatment or forced you to accept treatment that you did not want”; “Healthcare providers threatened you in any other way”), neglect and abandonment (“Healthcare providers ignored you, refused your request for help or failed to respond to requests for help in a reasonable amount of time”), poor rapport between women and providers, loss of confidentiality (“Your private or personal information was shared without your consent”; “Your physical privacy was violated, for example being uncovered or having people in the delivery room without your consent”), and lack of supportive care.

2.2.3 City Birth Trauma Scale (CiBTS)

The CiBTS is a highly validated and reliable (Cronbach’s Alpha = 0.92 for the total scale) measure of postpartum PTSD symptoms consisting of 29 questions according to the DSM-V criteria (i.e. stressor criteria, re-experiencing, avoidance, negative cognitions and mood, hyperarousal, duration of
symptoms, significant distress or impairment, and exclusion criteria) and DSM-IV criteria (i.e. birth-related fear, helplessness or horror, and emotional numbing) (Ayers et al., 2018). Two dichotomous questions (yes/no) assessed the stressor criteria (i.e. perceived or actual threat of death or injury to mother or baby). A 22-item four-point Likert scale (0=never; 1=once; 2=2-4 times; 3=5 or more times; sum score ranges from 0 to 60) assessed intrusion, avoidance, negative cognitions/mood, and hyperarousal symptoms. The questionnaire has two subscales to evaluate general symptoms (0-30; Questions 3-12) and birth-related symptoms (0-30; Questions 13-22). Two of these questions assessed for dissociative symptoms of postpartum PTSD. Higher scores (0-60; Questions 3-22 inclusive) indicate higher levels of overall postpartum PTSD symptoms, pertaining to either the pregnancy; just before, during or after the birth; or the infant. Participants answer two additional questions indicating the onset (before the birth; in the first 6 months after the birth; more than 6 months after birth; not applicable) and duration (less than 1 month; 1-3 months; 3 months or more; not applicable) of symptoms. In addition, distress (yes/sometimes/no), impairment (yes/sometimes/no), and exclusion criteria (i.e. symptoms may be resulted from medications, alcohol, drugs, or physical illness; yes/maybe/no) are evaluated.

2.3 Statistical Analyses

Initially, preliminary analyses were conducted to determine basic descriptive data and investigate the correlations between the main study variables: racism-related stress, disrespect and abuse by care providers during pregnancy and childbirth, and postpartum PTSD symptoms. Subsequent moderation analyses employed PROCESS SPSS Macro developed by Hayes et al. (2017), which relied on least squares regression (Hayes & Rockwood, 2017). The analyses aimed to establish whether the link between mistreatment by care providers during pregnancy and childbirth and postpartum PTSD symptoms is dependent on experiences of racial discrimination. Predicting outcomes for postpartum
PTSD, models were run with the following independent variables: IRRS total, sum of MCPC indicators, and individual MCPC indicators. A confidence interval not containing “0” indicated a significant effect.

3 Results

3.1 Participant Characteristics

Participating women (N=47) were 28 years old, on average, who identified as Black or African-American (Table 4). Of the women who responded to the scale items, the majority were single, never married (N=27, 57%), and completed only a post-secondary education (N=16, 34%). While 62% of women were employed, the majority were not currently supported by disability (96%). Of the participants, 2% reported past substance use, 26% reported having been to jail, and 6% reported having been incarcerated. Regarding insurance, approximately 75% reported having Medicaid, 17% had private insurance, and 6% reported none. Moreover, most women had given birth to their first (26%) or second (23%) child and received care from an obstetrician or OB-Gyn doctor (70%). Per Bohren et al. (2015)’s disrespect and abuse typologies, around 15% of participants reported neglect or abandonment with their requests for care having been ignored, and around 6% equally reported verbal abuse and a lack of privacy (Table 5). Moreover, per the CiBTS, 48.9% of the sample had a probable diagnosis of postpartum PTSD, with 17% reporting feeling detached or in a dream, and 15% reporting feeling distorted or as if things were not real, indicating probable dissociative symptoms of postpartum PTSD.

3.2 Correlational Analyses
An overview of the main study variables’ means, standard deviations, and intercorrelations are provided in Table 6. As expected, we observed a correlation between D&A by care providers and racism-related stress \((r=0.395, p<0.01)\) that may not be linked to prenatal care. Higher frequency of D&A by care providers was linked to greater overall postpartum PTSD symptoms \((r=0.462, p<0.01)\), as well as birth-related postpartum PTSD symptoms (specifically, intrusions or avoidance; \(r=0.560, p<0.01)\). Interestingly, general symptoms, not related to the birth, (specifically negative cognitions and mood, and hyperarousal) were not associated with D&A by care providers. Similarly, higher levels of racism-related stress, not necessarily connected with prenatal care, were associated with greater overall postpartum PTSD symptoms \((r=0.300, p<0.05)\), as well as general symptoms \((r=0.336, p<0.05)\), but not birth-related symptoms. Again, please note that the CiBTS has two subscales to assess the birth-related symptoms of intrusions or avoidance and general symptoms, not relating to the birth, of hyperarousal and negative cognitions and mood. Together, these make up overall postpartum PTSD severity. To test the difference in magnitude of the correlations for D&A and racism-related stress associated with postpartum PTSD, Lee and Preacher’s (2013) web utility was used, which implements Steiger’s (1980) formulas for comparing such coefficients. The two associations did not statistically differ from one another \((z=1.09, p=0.276)\).

### 3.3 Moderation Analysis of Racism-Related Stress and D&A on Postpartum PTSD Symptom Severity

#### 3.3.1 Overall Postpartum PTSD Symptom Severity

The model significantly predicted postpartum PTSD symptoms with a main effect of racism-related stress \((B=3.22, p=.03)\) and disrespect and abuse by care providers \((B=13.45, p=.04)\), whereby more experiences of mistreatment and greater racism-related stress, not necessarily connected with prenatal care, predicted higher postpartum PTSD symptoms (Table 7 and Figure 3). There was a significant
interaction between D&A and racism-related stress \((B=-3.69, \text{SE}=1.83, \ p=.05)\), where the effect of D&A on postpartum PTSD symptoms was present only for individuals with less racism-related stress. Additional analyses were conducted to examine the conditional effects at various levels of the moderator (racism-related stress, and the relationship with D&A and overall postpartum PTSD symptoms was the strongest at the 16th percentile of racism-related stress \((\Theta_{x\rightarrow y}=4.55, 95\% \ CI \ [0.38, 8.73])\)). There was a significant effect at the 50th percentile of racism-related stress \((\Theta_{x\rightarrow y}=3.02, 95\% \ CI \ [0.23, 5.81])\), but there was not a significant effect at the 84th percentile of racism-related stress \((\Theta_{x\rightarrow y}=0.46, 95\% \ CI \ [-1.31, 2.22])\), suggesting that the association between D&A by care providers and postpartum PTSD symptoms is stronger at lower levels of racism-related stress.

**Figure 3.** A graphical depiction of the moderating effects of racism-related stress on the association between D&A by care providers and postpartum PTSD symptom severity across various levels of racism-related stress.
3.3.2 Birth-Related Postpartum PTSD Symptoms

This moderation analysis (Table 7) examined the main and interactive effects of racism-related stress and D&A during pregnancy and childbirth on birth-related symptoms (intrusions or avoidance) of postpartum PTSD. While there was a main effect of D&A by care providers ($B=2.09$, $p<.05$) on birth-related postpartum PTSD symptoms, the model itself was not found to be significant in accounting for the variance in symptom severity.

3.3.3 General Postpartum PTSD Symptoms

This moderation analysis (Table 7) tested the main and interactive effects of racism-related stress and D&A during pregnancy and childbirth on general symptoms (negative cognitions and mood, and hyperarousal) of postpartum PTSD. While there was a main effect of racism-related stress on general postpartum PTSD symptoms ($B=2.22$, $p<0.05$), the model itself was not found to be significant in accounting for the variance in symptom severity.

4 Discussion

4.1 Discussion of Results

The current understanding of how D&A by care providers during and after pregnancy and racism-related stress affects postpartum PTSD in Black women is limited. While research has looked into the impact of D&A on postpartum PTSD (Martinez-Vazquez, Rodriguez-Almagro, Hernandez-Martinez, Delgado-Rodriguez, et al., 2021), it does not take into consideration the effect of constant stressors, such as racism-related stress that occur also prior and after giving birth. This thesis adds to the growing body of research on the impact of racism-related stress on Black pregnant and birthing persons. Specifically, it was found that both D&A by care providers and racism-related stress contributes to the development of postpartum PTSD symptoms in Black women, and that there is a significant
interaction between D&A and racism-related stress. However, the effect of D&A is only evident for women who experienced lower levels of racism-related stress.

As discussed in the introduction, racism permeates in a variety of contexts making it a daily stressor (Harrell, 2000). Overworking of the body’s stress response systems have demonstrated significant dysregulation of multiple physiological systems and poor health outcomes, and this likely explains why racism-related stress is associated with poor postpartum mental health outcomes (Utsey et al., 2012). Another possible explanation for the main moderation finding is that Black pregnant persons who have experienced higher levels of racism-related stress may have, unfortunately, developed a greater tolerance for D&A by care providers. In other words, the daily experiences of racism-related stress may have desensitized individuals to D&A by care providers, which could reduce the impact that D&A has on postpartum PTSD severity. For Black women experiencing higher levels of racism-related stress, their coping skills and resilience are already strained, so postpartum PTSD severity remains high despite the degree of D&A. Conversely, for Black women who experience lower levels of racism-related stress, D&A by care providers may be a more salient stressor, leading to a greater moderating effect on postpartum PTSD severity. It is important to note that these findings do not imply that Black women need to simply “cope better” or “tolerate” D&A from care providers. It is not the responsibility of the individuals to manage the negative effects of racism and D&A. Rather, healthcare providers have a responsibility to provide high-quality, respectful care to all patients, including taking steps to mitigate the root causes of racism and D&A to prevent them from occurring in the first place.

While there was a significant interaction between racism-related stress and D&A on overall postpartum PTSD symptoms, there were not significant interactions with that of birth-related
symptoms or general symptoms, alone. This suggests that overall symptoms may provide a more comprehensive understanding of the impact of racism-related stress and D&A on postpartum PTSD. For example, racism-related stress may lead to birth-related symptoms of postpartum PTSD, if the stress is associated with a lack of control or agency during the birthing process. But, racism-related stress may also understandably lead to ongoing feelings of anxiety or mistrust towards healthcare providers, leading to more general symptoms of postpartum PTSD, such as negative cognitions, mood, and hyperarousal. Therefore, it is important to consider both birth-related symptoms and general symptoms in understanding the impact of prenatal experiences on postpartum mental health.

4.2 Legal, Clinical, and Policy Implications

In the United States, the drivers of D&A in the obstetric setting are centered around the obstetric paradox (Liese et al., 2021). As discussed heavily in the introduction, obstetric interventions like cesarean sections, fetal monitoring, and episiotomies are often used to prevent complications and enhance birthing outcomes, but they can actually result in harm (Davis-Floyd, 2001). For example, electronic fetal monitoring can lead to normal fetal heart rate decelerations being interpreted as a crisis in non-high-risk pregnancies (Devane et al., 2017). The intense legal ties that obstetrics has in the United States also contribute to D&A (Diaz-Tello, 2016). Providers may feel pressure to enforce procedures or even become intentionally, or unintentionally, verbally abusive due to fears of lawsuits. Due to the perceived liability of care providers and prioritization of the baby over the pregnant person placed by the courts, providers may tell women that they are endangering the lives of their babies if they refuse to undergo a certain procedure. This is particularly concerning for the Black women in the current sample, who may be immediately marked as high-risk, and perceived as non-compliant, leading to more forced interventions, worse treatment, and poorer outcomes.
The results from this study have implications for understanding the impact of racism on postpartum PTSD symptomatology in marginalized groups, specifically trauma-exposed Black pregnant persons. Not only should clinicians routinely screen for postpartum PTSD, but they should also provide culturally informed approaches to trauma treatment, which help Black women process their racism-related stress (Carter, 2007; Carter et al., 2017). Since racism is unfortunately a constant stressor, providers can assess its impact early on in pregnancy and help to mitigate postpartum PTSD outcomes. Yet, concrete action should take place.

To reduce racism-related stress in the obstetric context of D&A, it will be necessary to implement policies that enable for a balance between highly technical and intervention-based models of care with that of a pregnant person’s rights and autonomy. Moreover, systemic solutions must be implemented. It is not sufficient to only implement provider training or penalties. Preventative interventions that address the attitudes of care providers that give rise to D&A in the first place must also be implemented. Therefore, protocols for respectful care should be established and further research on rights-based medical education must be conducted. In fact, prevention of D&A can be incorporated into existing models, such as the Violence Against Women Act (Sacco, 2019) and White Ribbon Alliance (White Ribbon Alliance, 2013), resulting in victim restitution mechanisms and funding for research in this area. Overall, it is important for healthcare providers to be aware of the impact of their actions and attitudes on the well-being of pregnant persons, and to provide compassionate care to ensure the best maternal and fetal health outcomes.

4.3 Limitations and Future Directions

Although the present study has several strengths, including generalizability due to the recruitment of a community sample and increased validity due to the use of validated clinical scales of postpartum
PTSD, D&A by care providers, and racism-related strengths, there are several limitations. First, the study relied on self-reported data to measure D&A by care providers during and after pregnancy, which could potentially underestimate the true prevalence of these experiences due to the normalization of D&A, especially unintentional aspects. Participants may not have reported D&A because they believed that it was simply part of the standard care they received or were desensitized to it, as a result of other stressors. As such, future studies may employ qualitative methods to gain a more comprehensive understanding of the lived experiences of pregnant persons in the obstetric context, but ethical challenges should be taken into account when witnessing and documenting experiences of D&A.

Secondly, due to the cross-sectional design of the study, causal conclusions about the impact of racism on postpartum PTSD cannot be made. Future longitudinal studies, possibly conducted at each trimester, could examine how racism-related stress and D&A during different stages of pregnancy affect the progression of PTSD symptoms. Additionally, it would be interesting to explore how racism-related stress and D&A vary depending on intended and actual location of birth, such as at an urban hospital, private care facility, or home, as well as how different types of births (cesarean vs. vaginal) may impact postpartum PTSD symptoms. Moreover, it would be worthwhile to examine the main moderation model in relation to zip code, area deprivation indexes, and population makeup, as racism-related stress may vary depending on whether an individual lives with others of their own race or is a minority in a predominantly white area. This would provide further insights into the contextual factors that influence the experiences of pregnant persons and the impact of racism-related stress and D&A on their mental health.
5 Conclusion

The evidence presented in this thesis demonstrates that racism-related stress exacerbates the association between disrespect and abuse by care providers and the severity of overall postpartum PTSD symptoms in Black women. These findings emphasize the importance of acknowledging these stressors when conceptualizing postpartum PTSD in this population. Given the prevalence of both racism-related stress and disrespect and abuse, healthcare providers must be aware of their impact on the mental health of Black pregnant and postpartum individuals. It is also essential to continue conducting empirical research to reduce the onset, course, and severity of overall postpartum PTSD symptoms among this group. Furthermore, this research underscores the urgency of addressing systemic racism within healthcare settings, and fixing the United States’ convoluted, commercialized healthcare system with strained resources that perpetuates acts of disrespect and abuse. By taking steps to reduce racism-related stress and provide respectful care, healthcare providers can help prevent and mitigate postpartum PTSD symptoms among Black postpartum persons. Overall, it is hoped that the results of this thesis will serve as a call to action for healthcare providers and policymakers to prioritize the mental health needs of Black postpartum persons, work towards creating more inclusive and equitable healthcare environments, and improve the care and support of this population.
Figure 1. Such normalized behaviors provide the foundation for and perpetuate disrespect and abuse by care providers. Adapted from 11thprincipleconsent.org/consent-propaganda/rape-culture-pyramid and BirthMonopoly.com
Figure 2. Racism’s context and its manifestations in each. Adapted from Harrell (2000)’s framework.
Figure 3. A graphical depiction of the moderating effects of racism-related stress on the association between D&A by care providers and postpartum PTSD symptom severity across various levels of racism-related stress.
Table 1. Documentation of Disrespect and Abuse

<table>
<thead>
<tr>
<th>Form of Disrespect and Abuse</th>
<th>Study/Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Abuse</td>
<td><em>(Chadwick et al., 2014; Crissman et al., 2013; el-Nemer et al., 2006; Fonn &amp; Philpott, 1995; Forssen, 2012; Grossmann-Kendall et al., 2001; Ith et al., 2013; Jewkes et al., 1998; Kruger &amp; Schoombee, 2010; McMahon et al., 2014; Miller et al., 2003; Moyer et al., 2014; Mselle et al., 2011; Mselle et al., 2013; Odhiambo, 2011; Rahmani &amp; Brekke, 2013; Silan et al., 2014; Teixeira &amp; Pereira, 2006)</em></td>
</tr>
<tr>
<td>Verbal Abuse</td>
<td><em>(Afsana &amp; Rashid, 2001; Aguiar et al., 2013; Atuyambe et al., 2005; Chadwick et al., 2014; Chalmers &amp; Hashi, 2000; Chalmers &amp; Omer-Hashi, 2002; Cindoglu &amp; Sayan-Cengiz, 2010; Crissman et al., 2013; D'Ambruoso et al., 2005; Dehlendorf &amp; Wolfe, 1998; Dietsch et al., 2010; Dzomeku, 2011; Fonn &amp; Philpott, 1995; Forssen, 2012; Ganle et al., 2014; Grossmann-Kendall et al., 2001; Ith et al., 2013; Jewkes et al., 1998; Kruger &amp; Schoombee, 2010; Kumbani et al., 2012; Magoma et al., 2010; McMahon et al., 2014; Mirkuzie, 2014; Moyer et al., 2014; Mselle et al., 2013; Ng'anjo Phiri et al., 2014; Odhiambo, 2011; Oyerinde et al., 2013; Rahmani &amp; Brekke, 2013; Silal et al., 2012; Small et al., 2002)</em></td>
</tr>
<tr>
<td>Sexual Abuse</td>
<td><em>(Bohren et al., 2015; Busanello et al., 2011; Freedman &amp; Kruk, 2014; Freedman et al., 2014; Kruk et al., 2018; Okafor et al., 2015)</em></td>
</tr>
<tr>
<td>Discrimination</td>
<td><em>(Afsana &amp; Rashid, 2001; Atuyambe et al., 2005; Chalmers &amp; Omer-Hashi, 2002; Davies &amp; Bath, 2001; Dietsch et al., 2010; Fonn &amp; Philpott, 1995; Garcia-Jorda et al., 2012; Hulton et al., 2007; Janevic et al., 2011; Jewkes et al., 1998; Jomeen &amp; Redshaw, 2011; Kruger &amp; Schoombee, 2010; McMahon et al., 2014; Ng'anjo Phiri et al., 2014; Odhiambo, 2011; Saizonou et al., 2006; Sando et al., 2017; Small et al., 2002; Turan et al., 2008)</em></td>
</tr>
<tr>
<td>Failure of providers to meet</td>
<td><em>(Atuyambe et al., 2005; Cindoglu &amp; Sayan-Cengiz, 2010; Odhiambo, 2011; Redshaw &amp; Hockley, 2010; Sando et al., 2017; Turan et al., 2008)</em></td>
</tr>
</tbody>
</table>
professional standards of care

Improper physical examinations or procedures (Aguiar et al., 2013; Bergstrom et al., 1992; Chalmers & Omer-Hashi, 2002; de Oliveira & Madeira, 2002; el-Nemer et al., 2006; Forssen, 2012; Hassan et al., 2012; Ith et al., 2013; Jewkes et al., 1998; Kruger & Schoombee, 2010; Kumbani et al., 2012; Magoma et al., 2010; Mselle et al., 2011; Odhiambo, 2011; Oyerinde et al., 2013; Redshaw & Hockley, 2010; Richard et al., 2003; Saizonou et al., 2006)

Neglect and abandonment (Chadwick et al., 2014; Cindoglu & Sayan-Cengiz, 2010; D'Ambruoso et al., 2005; Davies & Bath, 2001; Dietsch et al., 2010; Dzomeku, 2011; el-Nemer et al., 2006; Enderle Cde et al., 2012; Fonn & Philpott, 1995; Forssen, 2012; Gao et al., 2014; Gao et al., 2010; Hatamleh et al., 2013; Ith et al., 2013; Izugbara & Ngilangwa, 2010; Janevic et al., 2011; Jewkes et al., 1998; Jomeen & Redshaw, 2011; Kruger & Schoombee, 2010; Kumbani et al., 2012; McMahon et al., 2013; Ng'Ambo Phiri et al., 2014; Odhiambo, 2011; Redshaw & Hockley, 2010; Richard et al., 2003; Roost et al., 2009; Saizonou et al., 2006; Silal et al., 2012; Teixeira & Pereira, 2006)

Lack of communication (Afsana & Rashid, 2001; Beck, 2004; Chadwick et al., 2014; Chalmers & Omer-Hashi, 2002; Coyle et al., 2001; Davies & Bath, 2001; Dzomeku, 2011; el-Nemer et al., 2006; Enderle Cde et al., 2012; Fonn & Philpott, 1995; Ganle et al., 2014; Grossmann-Kendall et al., 2001; Hatamleh et al., 2013; Ith et al., 2013; Janevic et al., 2011; Jomeen & Redshaw, 2011; Miller et al., 2003; Mselle et al., 2011; Nagahama & Santiago, 2008; Ng'Ambo Phiri et al., 2014; Odhiambo, 2011; Redshaw & Hockley, 2010; Richard et al., 2003; Roost et al., 2009; Silal et al., 2014; Small et al., 2002; Teixeira & Pereira, 2006; Turan et al., 2008)

Breakdown of support (Beck, 2004; Chadwick et al., 2014; Chalmers & Omer-Hashi, 2002; Coyle et al., 2001; Crissman et al., 2013; D'Ambruoso et al., 2005; Dietsch et al., 2010; el-Nemer et al., 2006; Enderle Cde et al., 2012; Esposito, 1999; Gao et al., 2010; Garcia-Jorda et al., 2012; Grossmann-Kendall et al., 2001; Hatamleh et al., 2013; Hulton et al., 2007; Ith et al., 2013; Jomeen & Redshaw, 2011; Kumbani et al., 2012; Kyomuhendo, 2003; McMahon et al., 2014; Nagahama & Santiago, 2008; Ng'Ambo Phiri et al., 2014; Oyerinde et al., 2013; Redshaw & Hockley, 2010; Richard et al., 2003; Small et al., 2002)
Loss of autonomy

(Afsana & Rashid, 2001; Beck, 2004; Chadwick et al., 2014; Coyle et al., 2001; D'Ambruoso et al., 2005; de Oliveira & Madeira, 2002; Dietsch et al., 2010; el-Nemer et al., 2006; Enderle Cde et al., 2012; Esposito, 1999; Fonn & Philpott, 1995; Forssen, 2012; Ganle et al., 2014; Garcia-Jorda et al., 2012; Grossmann-Kendall et al., 2001; Hatamleh et al., 2013; Kowalewski et al., 2000; Kyomuhendo, 2003; Miller et al., 2003; Moyer et al., 2014; Nagahama & Santiago, 2008; Odhiambo, 2011; Teixeira & Pereira, 2006)

Note: Adapted from Vedam et al. (2019)’s MCPC indicators, which is based on Bohren et al., (2015)’s typologies of disrespect and abuse.
<table>
<thead>
<tr>
<th>Type</th>
<th>Notes</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racism-Related Life Events*</td>
<td>While these significant experiences may have long-lasting impacts, the experiences themselves are time-limited.</td>
<td>Police harassment; housing discrimination; loan rejection; D&amp;A by care providers</td>
</tr>
<tr>
<td>Vicarious Racism Experiences*</td>
<td>Racism-related stress that is experienced through observation and report, not just through direct experience.</td>
<td>Hearing other family members or close friends’ experiences of racism; even those of strangers can create increased distress (e.g., 2020 murder of George Floyd)</td>
</tr>
<tr>
<td>Daily Racism Microstressors</td>
<td>Often called “microaggressions” and include indirect, subtle, or unintentional acts of racism that constantly reminds persons that their race or ethnicity is triggering. These occur more commonly than that of racism-related life events, yet are often not deemed serious enough and are easily minimized.</td>
<td>Being ignored at a store; mistaken for an employee; being followed or observed in public</td>
</tr>
<tr>
<td>Chronic-contextual Stress*</td>
<td>Racism-related stress that is reflective of institutional and societal structures that enables disparities in resources and opportunities.</td>
<td>Limited access to affordable and nutritional food; toxic waste facilities in minoritized communities; liquor stores at street corners; poor-quality education</td>
</tr>
<tr>
<td>Collective Experiences*</td>
<td>This involves an individual’s perception of racism’s effect on their group or community. Different from vicarious racist experiences since they aren’t associated with a specific individual.</td>
<td>Observation of the conditions that their community lives in; lack of representation and misrepresentation in politics or media</td>
</tr>
<tr>
<td>Transgenerational transmission&lt;sup&gt;f&lt;/sup&gt;</td>
<td>This considers the historical and enduring context of today’s racism, in which the current interactions of a group with the larger American environment is reflected in historical events and processes.</td>
<td>Transmission of group traumas like the slavery of African people; removal of indigenous people; internment camps</td>
</tr>
</tbody>
</table>

*Note:* Adapted from Harrell (2000)’s framework.

<sup>a</sup>(Feagin, 1991)

<sup>b</sup>(Essed, 1991; Root, 1993)

<sup>c</sup>(Adams, 1990; Carter, 1994; Ellis, 1993; Essed, 1991; Feagin, 1991; Guthrie, 1995; Harrell, 1997; Maluso, 1995; Pierce, 1995)

<sup>d</sup>(Harrell, 2000)

<sup>e</sup>(Crosby, 1984; Feagin, 1991; Taylor et al., 1994)

<sup>f</sup>(Feagin, 1991; Landrine et al., 1995; Turner & Kramer, 1995)
### Table 3. Documentation of Health Outcomes Associated with Racism-Related Stress

<table>
<thead>
<tr>
<th>Health Outcome</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical</strong></td>
<td></td>
</tr>
<tr>
<td>aHypertension</td>
<td>(Hicken et al., 2014; Jackson et al., 2013; Woods et al., 2022)</td>
</tr>
<tr>
<td>bIncreased CV activity</td>
<td>(Anderson, 1989; Jackson et al., 2013; Jackson et al., 1996; Krieger, 1990; Lewis et al., 2019; McCord &amp; Freeman, 1990; Outlaw, 1993)</td>
</tr>
<tr>
<td>cSleep difficulties</td>
<td>(Hicken et al., 2013)</td>
</tr>
<tr>
<td><strong>Psychological</strong></td>
<td></td>
</tr>
<tr>
<td>dTrauma symptoms</td>
<td>(Adams, 1990; Harrell et al., 1997; Root, 1993)</td>
</tr>
<tr>
<td>eDepression</td>
<td>(Bernard et al., 2022; Broman, 1997; Comas-Díaz &amp; Greene, 1994; de Snyder, 1987; Fernando, 1984; Moody &amp; Lewis, 2022; Simpson &amp; Yinger, 1985; Woody et al., 2022)</td>
</tr>
<tr>
<td>fPsychological distress</td>
<td>(Amaro et al., 1987; DeAngelis, 2022; Jackson et al., 1996; Moody et al., 2022; Pak et al., 1991; Scott, 2004; Utsey et al., 2002)</td>
</tr>
<tr>
<td>gAnxiety</td>
<td>(Moody et al., 2023)</td>
</tr>
<tr>
<td>hPTSD</td>
<td>(Williams &amp; Zare, 2022)</td>
</tr>
<tr>
<td>iEating problems</td>
<td>(Thompson, 1992)</td>
</tr>
<tr>
<td>jSubstance abuse disorders</td>
<td>(Grekin, 2012; Landrine &amp; Klonoff, 1996; Neuspiel, 1996)</td>
</tr>
<tr>
<td>kPsychosomatization</td>
<td>(Comas-Díaz &amp; Greene, 1994; Letzen et al., 2023)</td>
</tr>
<tr>
<td>lViolence</td>
<td>(Kirk, 1986)</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td></td>
</tr>
<tr>
<td>mAbility to trust</td>
<td>(Steele &amp; Aronson, 1995)</td>
</tr>
<tr>
<td>nEducational Achievement</td>
<td>(Steele &amp; Aronson, 1995)</td>
</tr>
<tr>
<td>oJob performance</td>
<td>(Steele &amp; Aronson, 1995)</td>
</tr>
</tbody>
</table>
Table 4. Demographics and Disrespect and Abuse, reported by select indicators

<table>
<thead>
<tr>
<th>Age</th>
<th>n(%)</th>
<th>n(%) report any mistreatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-25</td>
<td>15 (32%)</td>
<td>5 (33%)</td>
</tr>
<tr>
<td>26-30</td>
<td>19 (40%)</td>
<td>2 (11%)</td>
</tr>
<tr>
<td>31-39</td>
<td>12 (26%)</td>
<td>6 (50%)</td>
</tr>
</tbody>
</table>

**Highest Grade Completed in School**

<table>
<thead>
<tr>
<th>Grade</th>
<th>n(%)</th>
<th>n(%) report any mistreatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 12th</td>
<td>2 (4%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>12th grade/High School Graduate</td>
<td>16 (34%)</td>
<td>4 (25%)</td>
</tr>
<tr>
<td>GED</td>
<td>3 (6%)</td>
<td>1 (33%)</td>
</tr>
<tr>
<td>Some college or technical school</td>
<td>11 (23%)</td>
<td>3 (27%)</td>
</tr>
<tr>
<td>Technical school graduate</td>
<td>4 (9%)</td>
<td>1 (25%)</td>
</tr>
<tr>
<td>College graduate</td>
<td>9 (19%)</td>
<td>4 (44%)</td>
</tr>
</tbody>
</table>

**Employment Status**

<table>
<thead>
<tr>
<th>Status</th>
<th>n(%)</th>
<th>n(%) report any mistreatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>29 (62%)</td>
<td>8 (28%)</td>
</tr>
<tr>
<td>No</td>
<td>17 (36%)</td>
<td>5 (29%)</td>
</tr>
<tr>
<td>Supported by Disability</td>
<td>2 (4%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

**Household Monthly Income**

<table>
<thead>
<tr>
<th>Income</th>
<th>n(%)</th>
<th>n(%) report any mistreatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0-249</td>
<td>5 (11%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>Income Range</td>
<td>Count</td>
<td>Percentage</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>$250-499</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>$500-999</td>
<td>4</td>
<td>9%</td>
</tr>
<tr>
<td>$1,000-1,999</td>
<td>9</td>
<td>19%</td>
</tr>
<tr>
<td>&gt;$2000</td>
<td>17</td>
<td>77%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medical or Social Factors</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of Substance Abuse</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Been to Jail</td>
<td>12</td>
<td>26%</td>
</tr>
<tr>
<td>Incarcerated</td>
<td>3</td>
<td>6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relationship Status</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single, never married</td>
<td>27</td>
<td>57%</td>
</tr>
<tr>
<td>Married</td>
<td>7</td>
<td>15%</td>
</tr>
<tr>
<td>Divorced</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Widowed</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Domestic Partner</td>
<td>10</td>
<td>21%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health Insurance</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicaid</td>
<td>35</td>
<td>75%</td>
</tr>
<tr>
<td>Private</td>
<td>8</td>
<td>17%</td>
</tr>
<tr>
<td>None</td>
<td>3</td>
<td>6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary Maternity Provider</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Doctor</td>
<td>4</td>
<td>9%</td>
</tr>
<tr>
<td>Profession</td>
<td>Count (Percentage)</td>
<td>Count (Percentage)</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Obstetrician or OB-Gyn Doctor</td>
<td>33 (70%)</td>
<td>11 (33%)</td>
</tr>
<tr>
<td>Midwife</td>
<td>9 (19%)</td>
<td>2 (22%)</td>
</tr>
</tbody>
</table>
Table 5. Disrespect and Abuse Responses, by typology

<table>
<thead>
<tr>
<th>Items</th>
<th>(%) who agreed with item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Your private or personal information was shared without your consent</td>
<td>4.3%</td>
</tr>
<tr>
<td>2 Your physical privacy was violated</td>
<td>6.4%</td>
</tr>
<tr>
<td>3 A healthcare provider shouted at or scolded you</td>
<td>6.4%</td>
</tr>
<tr>
<td>4 Healthcare providers withheld treatment or forced you to accept treatment that you did not want</td>
<td>4.3%</td>
</tr>
<tr>
<td>5 Healthcare providers threatened you in any other way</td>
<td>2.1%</td>
</tr>
<tr>
<td>Healthcare providers ignored you, refused your request for help or failed to respond to requests for help in a reasonable amount of time</td>
<td>14.9%</td>
</tr>
<tr>
<td>7 You experienced physical abuse, such as aggressive physical contact, inappropriate sexual conduct, a refusal to provide anesthesia for an episiotomy, etc.</td>
<td>4.3%</td>
</tr>
<tr>
<td>8 None of the above</td>
<td>72.3%</td>
</tr>
</tbody>
</table>

Note: From Vedam et al. (2019)’s MCPC indicators, which is based on Bohren et al., (2015)’s typologies of disrespect and abuse.

Table 6. Means, Standard Deviations, and Correlations among Main Study Variables

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Disrespect and Abuse by Care Providers (MCPC)</td>
<td>0.7</td>
<td>0.39</td>
<td>0.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Racism-Related Stress (IRRS)</td>
<td>0.88</td>
<td>2.27</td>
<td>1.03</td>
<td>.395**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(3) Overall Postpartum PTSD Symptoms (CiBTS)

<table>
<thead>
<tr>
<th>B</th>
<th>95% CI</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>RRS Effect</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-60</td>
<td>9.39</td>
<td>11.1</td>
<td>.462</td>
<td>.300</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(4) Birth-Related Postpartum PTSD Symptoms

<table>
<thead>
<tr>
<th>B</th>
<th>95% CI</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>RRS Effect</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30</td>
<td>3.59</td>
<td>5.80</td>
<td>.560</td>
<td>.154</td>
<td>.883**</td>
<td>.36, 17.81</td>
<td>.04</td>
</tr>
</tbody>
</table>

(5) General Symptoms Postpartum PTSD Symptoms

<table>
<thead>
<tr>
<th>B</th>
<th>95% CI</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>RRS Effect</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30</td>
<td>4.94</td>
<td>5.81</td>
<td>.187</td>
<td>.336</td>
<td>.859**</td>
<td>.36, 17.81</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note: *Correlation is significant at the .05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed)

Table 7. Hypothesis Regression Results and Moderator-Level Conditional Effects

<table>
<thead>
<tr>
<th>Overall Postpartum PTSD</th>
<th>B</th>
<th>95% CI</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>Conditional Effects Based on Racism-Related Stress (RRS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Severity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RRS Effect 95% CI p</td>
</tr>
<tr>
<td>Overall D&amp;A by Care Providers</td>
<td>13.45</td>
<td>[.61, 26.29]</td>
<td>6.37</td>
<td>2.11</td>
<td>.04</td>
<td>1.18 [.36, 17.81] .04</td>
</tr>
<tr>
<td>Racism-Related Stress</td>
<td>3.22</td>
<td>[.33, 6.10]</td>
<td>1.43</td>
<td>2.46</td>
<td>.03</td>
<td>2.09 [0.096, 11.57] .05</td>
</tr>
<tr>
<td>D&amp;A x RRS</td>
<td>-3.69</td>
<td>[-7.38, .002]</td>
<td>1.83</td>
<td>-2.02</td>
<td>.05</td>
<td>3.61 [-3.55, 3.84] .94</td>
</tr>
<tr>
<td>(B) Overall Postpartum PTSD Severity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RRS Effect 95% CI p</td>
</tr>
<tr>
<td>D&amp;A Domain: Physical/Sexual Abuse</td>
<td>26.36</td>
<td>[-34.24, 86.96]</td>
<td>30.05</td>
<td>.88</td>
<td>.39</td>
<td></td>
</tr>
<tr>
<td>Racism-Related Stress</td>
<td>3.16</td>
<td>[.42, 5.90]</td>
<td>1.36</td>
<td>2.33</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>D&amp;A x</td>
<td>RRS</td>
<td>Effect</td>
<td>95% CI</td>
<td>p</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
<td>--------</td>
<td>-------</td>
<td>----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-9.16</td>
<td>8.72</td>
<td>-1.05</td>
<td>.30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(C) Overall Postpartum PTSD Severity

<table>
<thead>
<tr>
<th>D&amp;A Domain: Verbal Abuse (Harsh Language)</th>
<th>RRS</th>
<th>Effect</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>74.59 [46.77, 102.41]</td>
<td>13.79</td>
<td>5.41</td>
<td>.00</td>
<td>51.57 [32.67, 70.47]</td>
</tr>
</tbody>
</table>

Racism-Related Stress

<table>
<thead>
<tr>
<th>RRS</th>
<th>Effect</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.43 [1.22, 5.64]</td>
<td>1.10</td>
<td>3.13</td>
<td>.00</td>
</tr>
</tbody>
</table>

D&A x RRS

| -19.45 [-27.62, -11.27] | 4.05 | -4.80 | .00 | 4.48 [-4.92, 13.87] | .34 |

(D) Overall Postpartum PTSD Severity

<table>
<thead>
<tr>
<th>D&amp;A Domain: Verbal Abuse (Threats and Blaming)</th>
<th>RRS</th>
<th>Effect</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>-19.63 [-64.74, 25.47]</td>
<td>22.36</td>
<td>-0.88</td>
<td>.38</td>
<td></td>
</tr>
</tbody>
</table>

Racism-Related Stress

<table>
<thead>
<tr>
<th>RRS</th>
<th>Effect</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.57 [-1.17, 5.3]</td>
<td>1.36</td>
<td>1.89</td>
<td>.07</td>
</tr>
</tbody>
</table>

D&A x RRS

| 6.02 [-8.34, 20.38]                      | 7.12 | 0.84 | .40 |

(E) Overall Postpartum PTSD Severity

<table>
<thead>
<tr>
<th>D&amp;A Domain: Lack of Privacy</th>
<th>RRS</th>
<th>Effect</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.22 [-34.32, 40.66]</td>
<td>18.56</td>
<td>0.17</td>
<td>.86</td>
<td></td>
</tr>
</tbody>
</table>

Racism-Related Stress

<table>
<thead>
<tr>
<th>RRS</th>
<th>Effect</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.73 [.004, 5.45]</td>
<td>1.35</td>
<td>2.02</td>
<td>.05</td>
</tr>
</tbody>
</table>

D&A x RRS

| -0.24 [-15.01, 14.52]        | 7.32 | -0.03 | .97 |
(F) **Overall Postpartum PTSD Severity**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Mean</th>
<th>CI</th>
<th>T</th>
<th>p</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Confidentiality</td>
<td>84.26</td>
<td>[-118.85, 287.37]</td>
<td>100.71</td>
<td>0.84</td>
<td>.41</td>
</tr>
<tr>
<td>Racism-Related Stress</td>
<td>3.18</td>
<td>[.38, 5.98]</td>
<td>1.38</td>
<td>2.29</td>
<td>.03</td>
</tr>
<tr>
<td>D&amp;A x RRS</td>
<td>-23.18</td>
<td>[-75.38, 29.02]</td>
<td>25.88</td>
<td>-0.9</td>
<td>.38</td>
</tr>
</tbody>
</table>

(G) **Overall Postpartum PTSD Severity**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Mean</th>
<th>CI</th>
<th>T</th>
<th>p</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neglect and Abandonment</td>
<td>3.94</td>
<td>[-24.90, 32.78]</td>
<td>14.30</td>
<td>.28</td>
<td>.78</td>
</tr>
<tr>
<td>Racism-Related Stress</td>
<td>2.66</td>
<td>[-0.23, 5.54]</td>
<td>1.43</td>
<td>1.86</td>
<td>.07</td>
</tr>
<tr>
<td>D&amp;A x RRS</td>
<td>-0.76</td>
<td>[-10.57, 9.04]</td>
<td>4.86</td>
<td>-1.16</td>
<td>.88</td>
</tr>
</tbody>
</table>

(H) **Birth-Related Symptoms of Postpartum PTSD**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Mean</th>
<th>CI</th>
<th>T</th>
<th>p</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>D&amp;A by Care Providers</td>
<td>6.56</td>
<td>[.41, 12.70]</td>
<td>3.05</td>
<td>2.15</td>
<td>.04</td>
</tr>
<tr>
<td>Racism-Related Stress</td>
<td>.75</td>
<td>[-.63, 2.13]</td>
<td>.69</td>
<td>1.10</td>
<td>.28</td>
</tr>
<tr>
<td>D&amp;A x RRS</td>
<td>-1.69</td>
<td>[-3.46, .08]</td>
<td>.88</td>
<td>-1.93</td>
<td>.06</td>
</tr>
</tbody>
</table>

(I) **General Symptoms of Postpartum PTSD**
D&A by Care Providers 4.57 [-3.30, 12.45] 3.90 1.17 .25

Racism-Related Stress 2.22 [.45, 3.99] .88 2.53 .02

D&A x RRS -1.42 [-3.69, .84] 1.12 -1.27 .21

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