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The Lived Experience of Postpartum Sleep for Black and White Women

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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

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Abstract

THE LIVED EXPERIENCE OF POSTPARTUM SLEEP FOR BLACK AND WHITE WOMEN

By Ashley MacPherson

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

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This qualitative study utilized a phenomenological research approach (van Manen, 1990), and intersectional feminist lens (Collins, 2000; Crenshaw ,1989; hooks, 2000), to uncover the lived experience of sleep in the postpartum period. Participants were 10 mothers who were less than 12 months postpartum. Data collection consisted of in-depth interviews. Data analysis procedures followed recommendations by van Manen (1990, 1997). In order to increase the trustworthiness and rigor of the study, the researcher engaged in reflexive journaling, member checking, and peer debriefing. The results were organized into six themes; 1) the importance of the sleep environment, 2) anxiety and hypervigilance, 3) adjusting to changes and finding strategies, 4) balancing self-care, 5) the emotional experience of sleep, and 6) societal expectations of mothers and sleep. Quotes from participants are included to illustrate the

findings. The results are discussed in relation to the theoretical framework of the study and the existing literature. Implications for research, clinical practice, and policy are identified. Strengths and weaknesses of the study are included, as well as suggestions for future research.

Keywords: *postpartum, sleep, intersectionality, feminism*

The Lived Experience of Postpartum Sleep for Black and White Women

Although the birth of a child can be a fulfilling and joyful event, mothers may also experience significant challenges and distress. One aspect of life that is particularly challenged in the postpartum period is sleep. Postpartum women's sleep is disrupted even before the birth of a child, as there can be chronic sleep disruption in pregnancy and acute sleep deprivation during labor (Bei et al., 2015). Following labor, women enter the postpartum period with already accrued sleep debt and continue to have disrupted sleep throughout the postpartum period due to a variety of factors including maternal hormonal fluctuations and short infant sleep-wake cycles (Owais et al., 2018). Although sleep in the postpartum period is widely acknowledged as inadequate, relatively little research has devoted resources to document this challenge. Despite the small body of research on sleep in the postpartum period, the literature is clear that poor sleep for new mothers has dire consequences such as Postpartum Mood and Anxiety Disorders (PMAD) and broader social and economic costs (Luca et al., 2019). For example, untreated PMAD is estimated to cost the U.S. $14.2 billion per year through maternal productivity loss, greater use of public services, and higher health care costs (Luca et al., 2019). Furthermore, PMAD is associated with child development outcomes such as child behavioral and developmental disorders and child injuries (Luca et al., 2019). To underscore the importance of understanding postpartum sleep, the American College of Obstetricians and Gynecologists' have stated urgent recommendations to give deserved attention to the fourth trimester and propose a radical shift in how postpartum women receive care (American College of Obstetricians, 2018). To ultimately improve the experience of sleep in the postpartum period, it is necessary to examine characteristics of postpartum sleep, factors which influence postpartum sleep, and

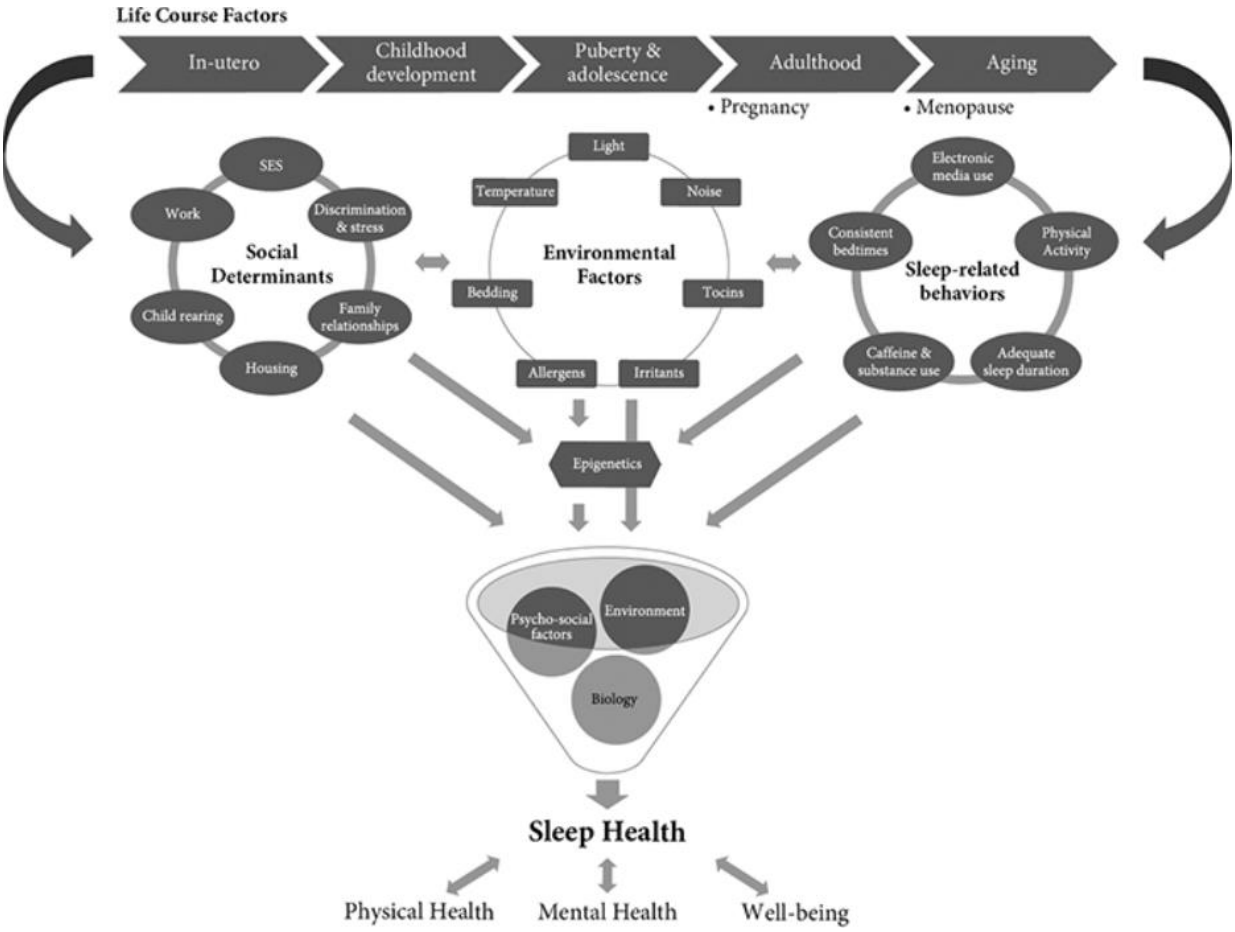
consequences of poor postpartum sleep. Through using a qualitative approach, the current study aims to highlight postpartum women's own descriptions and meaning-makings of their sleep experience in order to examine the lived experience of sleep for women in the postpartum period. Furthermore, the current study will use an intersectional-feminist lens to uncover how Black and white women's sociopolitical identities, privilege, and power shape their experiences of sleep in the postpartum period. Given the inequities experienced by mothers of different racial backgrounds, both Black and white mothers will be interviewed for the current project (Kennedy et al., 2007; Zambrano et al., 2016). Also, considering how the experience of the COVID-19 pandemic has exacerbated existing inequalities based on race and gender, the current study will explore the implications of the social changes wrought by the pandemic.

First, a review of existing qualitative and quantitative literature on postpartum sleep will be presented. Although there is a paucity of research on postpartum sleep compared to research on sleep of other groups, it is important to identify the strengths and weaknesses of existing methodological approaches and any knowledge gaps that exist. Furthermore, from an intersectional-feminist perspective, it is important to consider the socioecological context in which sleep is experienced. Hence, the current review will be guided by the Epidemiology of Sleep Health Model (Redline et al., 2019) which provides a framework for explaining how various social factors and personal identities intersect dynamically to shape the experience of sleep (see Figure 1). This model describes how behavioral, environmental, and social factors across the lifespan are associated with sleep health and provides the structure for the current literature review. Additionally, the upstream and downstream associations of physical health, mental health, and well-being with sleep health will be discussed. Next, the intersectional-feminist approach will be described, particularly noting how an intersectional-feminist lens is

needed when examining sleep in the postpartum period. Finally, the influence of the COVID-19 pandemic on the current study will be addressed.

Figure 1.

Epidemiology of Sleep Health Model



Note. The Epidemiology of Sleep Health Model describes how social, environmental, and sleep-related behavioral determinants are associated with sleep health throughout the lifespan (Redline et al., 2019).

Sleep-Related Behaviors in Postpartum Sleep

Despite the widely accepted notion that women's sleep is insufficient in the postpartum period, there is a relative lack of research describing women's sleep behaviors in the postpartum

period. Sleep-related behaviors include sleep hygiene behaviors such as avoiding caffeine and electronic use before bed as well as characteristics of sleep such as sleep duration, sleep efficiency, and sleep fragmentation. Given that the time in which a mother or family brings home an infant is sensitive and overwhelming, there are barriers to conducting intrusive research on sleep during this time. Therefore, most research on postpartum women's sleep has had small samples and minimal measures. Although the research on postpartum women's experience of sleep is sparse, the literature suggests that women experience difficulties with numerous aspects of sleep including sleep duration, sleep efficiency, sleep fragmentation, napping, fatigue, and sleepiness. Existing research has typically employed subjective and/or objective quantitative measurements of sleep. A minimal number of studies (two) have employed qualitative approaches. Subjective reports, consisting of daily sleep diaries, retrospective surveys, and qualitative interviews, are valuable because they provide information on women's own perceptions of their experiences. Additionally, objective measures are useful in that they are not influenced by subjectivity, recall biases, and personal perceptions. Sleep is measured objectively using numerous devices. Most commonly, an actigraphy watch is used to capture the timing of sleep periods and waking periods, usually within participants' homes (Martin & Hakim, 2011). A benefit of actigraphy compared to the "gold standard" objective approach of polysomnography is that it has greater ecological validity by more accurately reflecting the true experiences of sleep that happen within a person's unique home environment. Polysomnography, conversely, is mostly conducted in laboratory settings (Vensel Rundo & Downey, 2019). Consequently, polysomnography can be intrusive and may not translate to sleep in home-based settings. Although home-based polysomnography assessments have been developed, they are typically not employed for multiple nights.

Duration

Postpartum women's sleep duration, the amount of sleep obtained over a specific period of time, varies depending on the time since birth and the type of measurement. Overall, women's sleep duration in the postpartum period is below or in line with the lower sleep duration estimates of 7-9 hours per night from the American Academy of Sleep Medicine and National Sleep Foundation (Hirschkowitz et al., 2015; Watson et al., 2015).

Subjective assessments of sleep duration (Creti et al., 2017; Quillin, 1997; Thomas & Foreman, 2005) indicate that, on the lower end, women reported sleeping 6.15 hours at night one month postpartum (Quillin, 1997). At the higher end, women reported 7.18 hours per night 4-10 weeks postpartum (Thomas & Forman, 2005). Of note, the lower estimate of 6.15 hours involved assessing sleep via diaries over 7 days while the higher estimate involved a report for one 24-hours period. Given the recommended duration of 2 weeks of daily estimates to capture the variability inherent in sleep (Carney et al., 2012), the 24-hour estimate may not reflect the true variation in postpartum sleep. Subjective estimates do suggest, however, that postpartum sleep may improve over time with one study using a sleep diary over 7 days identifying a sleep duration increase at 6 months postpartum (Creti et al., 2017).

There have been fewer objective assessments of postpartum women's sleep compared to subjective estimates. One study, using objective measures found similar results to studies using sleep diaries. Postpartum women wore actigraphic watches to measure their sleep over the first 4 months of the postpartum period. Overall, women obtained an average of just over 7 hours of sleep at night throughout the first 4 months of the postpartum period (Insana & Montgomery-Downs, 2010). However, postpartum women had shorter sleep duration in comparison to their

pregnant selves or control women (Insana & Montgomery-Downs, 2010), suggesting poorer duration compared to their prenatal sleep.

Efficiency

Sleep efficiency is another important aspect of sleep health and reflects the amount of time spent in bed compared to actual time spent sleeping. Good sleep efficiency reflects a high proportion of time spent in bed that is actually sleeping (i.e., 85% or higher; Perlis et al., 2008). Postpartum women, however, have inadequate sleep efficiency with estimates ranging from 70% to 87.48% (Lee, 2000; Matsumoto, 2003; Signal, 2007). In addition to being lower than recommended efficiency, postpartum women's sleep efficiency appears to change throughout the postpartum period. For example, women's sleep efficiency was worse than before the birth of the infant every week for 15 weeks after delivery when measured using actigraphy (Matsumoto, 2003). Specifically, women's sleep efficiency was approximately 85-90% prior to delivery, whereas sleep efficiency was approximately 70-85% for the first 15 weeks after delivery. Sleep efficiency may also differ between women with one child or multiple children. Sleep efficiency was significantly worse for nulliparous women (M = 81.3%) as opposed to multiparous women (M = 82.88%) when measured by actigraphy over 1 week at 1 week postpartum (Signal, 2007). At 6 weeks postpartum, nulliparous women continued to have worse sleep efficiency (83.55%) than multiparous women (87.48%). In a similar study using polysomnography over 2 nights in women's homes, differences were found in sleep efficiency between nulliparous and multiparous women. Nulliparous women had worse sleep efficiency (≈76%) than multiparous women (≈84%) at 1 month postpartum, however nulliparous had better sleep efficiency (≈86%) than multiparous women (≈84%) at 3 months postpartum (Lee, 2000). This finding suggests that women may have created strategies to increase sleep efficiency, particularly in the immediate

postpartum period, after experiencing multiple postpartum periods. Importantly, it is possible to have good sleep efficiency and poor duration (e.g., sleeping 3 of 3 hours spent in bed). Therefore, good sleep efficiency in the absence of sufficient duration may not be consistent with healthy sleep.

Sleep fragmentation

Fragmented sleep refers to interruptions in the sleep period and contributes to lighter and poorer quality sleep. During the postpartum period, women appear to have greater sleep fragmentation or nighttime awakenings compared to non-postpartum women. Wake-after-sleep-onset (WASO) is one measurement of fragmented sleep which specifically refers to wakefulness experienced after sleep onset. It is clear that WASO is worse in the postpartum period compared to the prenatal period. Women showed greater WASO (≈100-170 minutes awake) compared to their WASO prior to delivery (≈50-60 minutes awake) when using actigraphy watches continuously over the first 15 weeks of the postpartum period (Matsumoto, 2003). Nocturnal awakenings, which also reflect sleep fragmentation, were also worse for postpartum women (13.2 - 18.2 awakenings per week) as compared to non-postpartum controls (9.5 - 11.1 awakenings per week) as reported by sleep diaries obtained over three consecutive weeks (Swain, 1997).

Napping

One way to potentially compensate for poor sleep in the nocturnal period is to incorporate daytime napping. Postpartum women appear to have a greater frequency and length of daytime naps compared to controls in studies using actigraphy watches over 15 weeks (Matsumoto, 2003) and sleep diaries over three weeks (Swain, 1997). However, some studies suggest napping may not be restorative for mothers in the postpartum period. Despite the advice that mothers should

nap when their babies nap, self-reported napping is actually not correlated with self-reported fatigue, meaning that napping was not associated with more or less fatigue (Rychnovsky & Hunter, 2009). However, the authors note there could be other factors influencing this finding. For example, mothers who napped may have had slightly better sleep outcomes, which buffered their fatigue levels.

Fatigue and Sleepiness

Postpartum sleepiness and fatigue are important aspects of the daily postpartum experience. Fatigue and sleepiness are two distinct, but often co-existing, characteristics of sleep-related behaviors. Sleepiness describes one's tendency to fall asleep, or their propensity for sleep (Shen et al., 2006). In contrast, fatigue refers to impairment in physiological and psychological performance. For example, fatigue can be described as an overwhelming sense of tiredness and lack of energy despite an inability to sleep (Shen et al., 2006). Overall, women have increased sleepiness and fatigue in the postpartum period as measured by objective and subjective measures. Using a sleepiness test known as the multiple sleep latency test over the course of 2 nights of polysomnography in women's homes, 10% of postpartum women who were first-time mothers had pathological levels of sleepiness, and 29% had moderate levels of sleepiness. Additionally, studies using retrospective one-time subjective measures also showed women to have worse sleepiness and fatigue in the postpartum period compared to controls (Insana & Montgomery-Downs, 2013). Qualitative methods also demonstrated worsened sleepiness and fatigue in the postpartum period. In a qualitative study using a narrative approach, women 3 months postpartum noted the experience of exhaustion as important to the postpartum sleep experience (Kennedy et al., 2007). Women reported that exhaustion was particularly intense for the first three months, and that exhaustion was cumulative, building over time. This finding is

unique because women themselves determined that exhaustion was a core concept of their sleep in postpartum, as opposed to having factors pre-determined by the researchers. However, the narrative approach to examining postpartum sleep may be limited in that it does not acknowledge the importance of sociopolitical identities have in shaping experiences like postpartum sleep.

Sleep Differences Among Parents

The most well-known contributor to poor sleep in the postpartum period is the infant's nighttime awakenings (see section below). As these nighttime awakenings theoretically influence both parents, many studies have examined sleep parameters for both parents. Of note, not all mothers have partners who identify as men and not all mothers have a partner. However, research has almost exclusively investigated heterosexual parent couples. Examining differences between parental sleep behaviors is important given the broader social context which may differentially protect or hinder the primary caregiver's sleep. Overall, numerous characteristics of sleep are worse for mothers in comparison to fathers. For example, although both mothers and fathers had comparable sleep in the last month of pregnancy, mothers had worse sleep on various parameters in comparison to fathers following the birth of the infant when measuring sleep using wrist actigraphy (Gay et al., 2004; Insana & Montgomery-Downs, 2010). Specifically, mothers on average lost 41.2 minutes of sleep per night following the birth of the infant, whereas fathers only lost an average of 15.8 minutes of nighttime sleep. Differences were also found in the amount of daytime sleep parents obtained, as mothers slept more during the day than fathers (Gay et al., 2004). Despite mothers having decreased nighttime sleep, the inclusion of daytime sleep resulted in mothers actually sleeping for more time in an overall 24-hour period (an average of 29.1 minutes) than fathers (Gay et al., 2004). Similarly, another study utilizing actigraphy found that mothers had more total sleep and nocturnal sleep than fathers (Insana &

Montgomery-Downs, 2010). Although mothers appear to have greater sleep duration than fathers, there are other important aspects of the sleep experience that must be examined.

Another characteristic of the sleep experience, sleep fragmentation, appears to be worse for mothers compared to fathers. Specifically, mothers were found to have greater fragmentation of sleep and greater wake-after-sleep-onset (WASO) in comparison to fathers when measuring sleep using actigraphy (Insana & Montgomery-Downs, 2010). The authors posit that the greater fragmentation of mothers' sleep may be due to worries about infant's safety and needs. Although no research has investigated this claim, it is possible that women have more thoughts and worries related to the infant which in turn impacts their sleep fragmentation.

As there is variable evidence determining if mothers have objectively worse sleep than fathers, it is necessary to also examine subjective investigations of mothers' sleep. Overall, mothers report worse sleep compared to fathers in studies using subjective measures of sleep. Specifically, mothers reported more sleep disturbance in the postpartum period in comparison to fathers when sleep disturbance was measured via the General Sleep Disturbance Scale (Gay et al., 2004). However, similarities were also found between mothers and fathers, as mothers and fathers both reported greater sleep disturbance for themselves following the birth of the infant than prior to the birth of the infant (Gay et al., 2004).

In sum, it seems that mothers sometimes have objectively worse sleep outcomes than fathers, and importantly, consistently have worse subjective sleep outcomes than fathers. Of note, these differences in sleep-related behaviors occur dynamically within the context of environmental factors, life course factors, and other social determinants according to the Social Epidemiology of Sleep Health Model. As gender is a social determinant which impacts one's

everyday life, these differences in sleep-related behaviors between mothers and fathers are likely not due to simple differences in gender, rather differences in the daily life experiences of gender.

Environmental Factors Related to Postpartum Sleep Health

Systematic reviews consistently show that environmental factors such as light (Dautovich et al., 2019) and noise (Basner & McGuire, 2018) impact sleep health. One environmental factor which has been shown to impact postpartum women's sleep is the bedroom environment (Doering, 2013; Mezick et al., 2008). This is particularly important to consider from an intersectional-feminist perspective as the bedroom environment largely reflects one's privileges, income, and available resources and, therefore, differs across intersections of cultures and socioeconomic statuses. For American postpartum women, the overarching guidelines for infant sleep set by the American Academy of Pediatrics state that infants should sleep in the parent's room for at least 6 months and preferably a year (American Academy of Pediatrics, 2020). However, the actual bedroom environment for postpartum women varies depending on numerous factors. For example, characteristics of the bedroom environment which reflected lower incomes, such as inadequate room temperatures and outside noises, mediated the well-known association between socioeconomic status and subjective sleep quality (Mezick et al., 2008). In a detailed survey studying the sleeping arrangements of socioeconomically disadvantaged postpartum women, 89% of participants slept in a bed, 6% slept on a couch, and 5% slept in multiple locations throughout the house (Doering, 2013). When asked where the infant slept, 82% of participants reported that the infant slept in a crib in the same room, 22% reported that the infant slept in the same bed, and 16% reported the infant slept in a crib in another room. Participants described that they slept in bed with male partners (38%), with the infant (19%), with one older child (29%), or alone (25%). Additionally, women reported numerous nighttime sounds that

awoke them, such as infant cries (56%), other people or pets in the home (21%), noises within the building or neighbors (10%), and traffic noises (7%). As this sample exclusively included socioeconomically disadvantaged women, the experiences of where the women slept, where the infant slept, who slept in bed with the women, and what awoke the women is likely shaped by their experiences of having less access to housing conducive to sleeping well.

Although co-sleeping (infants sleeping in the same room or bed with parent) is the most common sleeping arrangement in most cultures around the world, co-sleeping remains a controversial debate due to concerns for infant's physical and emotional well-being (Owens, 2004). Despite the attention paid to the effects co-sleeping has on infants, less research has examined the impact co-sleeping has on mothers and their sleep. Although there were no differences in actigraphy-assessed sleep measures for mothers with co-sleeping and solitary sleeping infants, mothers with co-sleeping infants self-reported more nighttime awakenings and poorer sleep quality (Volkovich et al., 2015). It seems that decisions regarding co-sleeping may in fact impact postpartum women's experiences of sleep.

Social Determinants of Postpartum Sleep Health

Infants

Infant's sleep and feeding are significant predictors of maternal sleep (Thomas & Foreman, 2005). As such, the various needs of an infant have been identified through quantitative research as the main contributing factors to worse sleep outcomes in the postpartum period. For example, feeding, consoling, and caretaking are often the cause of multiple nighttime awakenings, and these awakenings are exacerbated in infants with more difficult temperaments (Dennis & Ross, 2005; Hiscock & Wake, 2001). The American Academy of Pediatrics (2020) provides numerous recommendations for safe infant sleep, however some of these

recommendations may lead to worse sleep for the infant and parents. For example, the recommendations include placing the baby on their back on a firm surface to sleep and avoiding the use of soft bedding. Evidence confirms that maternal sleep is closely tied to the infant's sleep/wake behaviors (Horiuchi & Nishihara, 1999; Goyal et al., 2007). Importantly, the number of infant-related nighttime awakenings may be more important than the duration of awakenings in determining mothers' subjective sleep experiences. In fact, the frequency of infant-related nighttime awakenings was associated with perceived sleep quality, whereas self-reported total wake time was not (Gress et al., 2010). It appears that the experience of having sleep greatly disrupted by infants decreases women's perceptions of sleep quality.

Similarly, qualitative studies have found that infant sleep patterns greatly shape the postpartum sleep experience, however it is problematic that there are only two available qualitative studies investigating postpartum sleep. Findings from these qualitative studies are important as they were identified by the people experiencing postpartum sleep, as opposed to being prompted by pre-determined quantitative measures. In one qualitative study using a narrative approach, women at 3 months postpartum noted that they had to adjust their own sleep behaviors as they learned their baby's sleep patterns (Kennedy et al., 2007). Mothers' sleep was negotiated completely around the infant's needs, and eventually many mothers identified that their own sleep needed to be prioritized as well. After a learning curve of identifying their infant's cues and behaviors, the mothers became more confident and assured. Similarly, a qualitative study of low-income African American mothers using content and thematic analyses also found that women's sleep improved as their infants began to have more patterned or consolidated sleep (Zambrano et al., 2016). Although this finding aligns with other work investigating the influence of infant sleep on postpartum sleep, it is important to note that this is

only one study of African American mothers' postpartum sleep experiences, and this finding should not be generalized as representative of all Black mothers' experiences. Indeed, both quantitative and qualitative studies concur that infant sleep patterns are a main determinant for postpartum sleep.

Breastfeeding

Infants feed at night which will inevitably impact mothers' sleep, however, decisions about the way infants feed differs for every family. One quantitative study examined whether the type of infant feeding (breastfeeding or formula feeding) was associated with mothers' or fathers' sleep (Gay et al., 2004). The type of infant feeding was not associated with self-reported sleep disturbance or fatigue for either parent, and the type of infant feeding was not associated with objective measures of total sleep time for either parent. However, mothers who were breastfeeding had significantly worse wake after sleep onset (WASO) as measured by actigraphy in comparison to fathers (Gay et al., 2004).

Breastfeeding is widely encouraged, and, in fact, the World Health Organization (WHO) and United Nations Children's Fund (UNICEF) created the Baby-friendly Hospital Initiative with the main purpose of increasing breastfeeding in new mothers (Baby-Friendly USA, 2020). Although breastfeeding is associated with numerous benefits for the infant, the pressure to breastfeed has also been associated with negative consequences for new mothers. When breastfeeding is painful or unsuccessful, mothers may be at risk for feeling that they have not met expectations of motherhood. In a survey of 1,000 parents in the United Kingdom, 80% of parents felt that depression in the new mothers was contributed to by difficulties with breastfeeding (Priory, 2020). Additionally, recommendations for exclusive breastfeeding can

create an inequitable distribution of care between the parents, with breastfeeding mothers responsible for all night feedings. Overall, the decision to breastfeed is influenced by numerous factors, but it is necessary to note that breastfeeding may worsen both sleep and well-being for postpartum women.

Family Relationships

The makeup of U.S. families differs greatly; however, recent estimates suggest that 69% of families in the U.S. with children under the age of 18 live in a two-parent household (Census, 2016). Within families, the division of labor varies based on the makeup of the family. Despite a cultural shift in the U.S. towards greater gender equality, it seems that the division of household labor continues to reflect gender inequities. In heterosexual relationships, the inequity in the division of household labor appears to be starker. For example, quantitative research indicates that married mothers spend significantly more time on housework and childcare, and less time in leisure or sleep, than never-married or divorced mothers (Pepin et al., 2018). One would think that having the help of a spouse would decrease a mother's responsibilities, however, being married in a heterosexual relationship appears to actually increase a mother's responsibilities (Pepin et al., 2018). Non-heterosexual relationships appear to have differences in the division of labor compared to heterosexual relationships. For example, a systematic review found that lesbian couples have more equal division of labor compared to heterosexual couples (Brewster, 2017). Additionally, lesbian and gay parents of adoptive children shared childcare and housework more equally than heterosexual parents (Goldberg et al., 2012). It is likely that in heterosexual relationships, men, women, and mothers enact gender ideals for women which encourage more household and family responsibilities for women (South & Spitze, 1994). This

unequal division of housework happens at a largely unconscious level due to deep-rooted ideas about gender roles (Goldscheider & Waite, 1991). In fact, 45% of newlywed heterosexual couples begin their marriage equally sharing household tasks (Grunow et al., 2012). However, over time, husbands begin to reduce their share of the work, whereby after 14 years of marriage, the proportion of egalitarian couples decreases from 45-14%. Importantly, it is likely that the greater responsibility for household chores in the family may negatively impact mothers' sleep. In a qualitative study of low-income African American mothers using content and thematic analysis, women reported that completing household chores was a barrier to sleep (Zambrano et al., 2016).

In addition to a greater burden of household chores, women may also have greater responsibilities for carrying the "mental load" than their male partners. The mental load, or cognitive labor, refers to the cognitive effort required to keep household responsibilities organized and executed. For example, organizing the division of household tasks, following up on the completion of household tasks by other family members, managing family members schedules, noting when medical check-ups are due for children, and deciding on medical providers, etc. One qualitative study found that participants described cognitive labor as the work of anticipating needs, identifying options for meeting anticipated needs, deciding among the options, and monitoring the results (Daminger, 2019). Although the concept of cognitive labor is fairly new in the literature, it is clear that there are gender inequities in the division of cognitive labor. For example, in a quantitative study with a sample of married and partnered U.S. mothers, the majority of mothers reported that they were solely responsible for the cognitive labor in their families (Ciciolla & Luthar, 2019). Of note, these findings are only based on heterosexual couples, and there is no current research examining experiences of cognitive labor in couples

with other romantic and sexual orientations. However, it appears the inequitable division of cognitive load in families of heterosexual couples takes its toll on mothers, as mothers who take on more cognitive labor than their partners are more likely to have worse personal well-being and lower relationship satisfaction compared to their partners (Ciciolla & Luthar, 2019). Additionally, it is likely that the great responsibility for the cognitive load in the family may negatively impact mothers' sleep. Given that shouldering the cognitive load for a family takes time, mothers may have less time to dedicate towards sleep. Furthermore, it is also possible that being responsible for the cognitive load of a family may make it hard for mothers to mentally relax in a way that is conducive towards sleeping, as mothers are consistently using cognitive effort for organizing and planning. As gender inequities have the potential to influence the sleep experiences of postpartum women, qualitative approaches are needed to have postpartum women identify themselves if and how gender inequities and other factors shape their experiences of sleep. Instead of the researcher pre-determining what measures to include when quantitatively investigating the postpartum sleep experience, through qualitative approaches, postpartum women can identify their own experiences, interpretations, and perceptions of their sleep experience without the assumptions of the researcher. Therefore, there is space for postpartum women to describe how gender inequities and other factors shape their sleep experience if they believe that is an important piece of their experience.

Employment

The job experience of new mothers varies greatly. Although little research has examined how the job experiences of new mothers impacts mothers' sleep, it is likely that the addition of workplace responsibilities impacts sleep in the postpartum period. Currently, only two studies have investigated how the work-status of mothers during the perinatal period is

associated with mothers' sleep. Overall, women who are employed appear to have worse sleep and fatigue in the postpartum period compared to not-employed women. Specifically, a quantitative study found that employed women had less nighttime sleep, less daytime sleep, and less total sleep time with measures of actigraphy (average of 67 minutes) in the postpartum period in comparison to not-employed women. Additionally, employed women had higher levels of fatigue both in the morning and evening when fatigue was measured using a rating scale (Gay et al., 2004). Of note, employment status was determined by the employment status of women in their last month of pregnancy, therefore the measure is not completely indicative of employment status throughout the postpartum period (Gay et al., 2004). Qualitative research has similarly found that employment and school responsibilities may worsen postpartum sleep. In a qualitative study of low-income African American mothers using content and thematic analysis, the mothers identified that completing job and school responsibilities before bed was a barrier to their sleep (Zambrano et al., 2016). As having workplace responsibilities seems to negatively impact postpartum women's sleep, it is important to note that workplace responsibilities and decisions regarding work-status after the birth of an infant differ greatly among postpartum women. Furthermore, decisions about jobs are likely shaped by the power, privilege, and marginalization that exists for all postpartum women. Overall, factors such as employment status, sociopolitical identities, and marginalization shape the postpartum sleep experience, and further work is needed to have postpartum women identify what factors are important to them in describing their experience of postpartum sleep.

Downstream and Upstream Factors Related to Postpartum Sleep Health

Beyond the sleep-related behaviors, environmental factors, and social determinants potentially influencing sleep, the bidirectional links between physical health, well-being, and

mental health and sleep health are well established (Redline et al., 2019). Nonetheless, only a small body of research has investigated the relation between physical health and sleep in postpartum women, and the research has largely focused on weight in postpartum women. For example, women who had high gestational weight gain and were rated poor sleepers were at greater odds of retaining their gestational weight gain in the postpartum period (Matenchuk & Davenport, 2021). Unlike the lack of research investigating physical health and sleep in the postpartum period, more research has investigated the association between sleep health and mental health in the postpartum period. Although joy is commonly experienced following the birth of a child, women are also more vulnerable to mood disturbances during this time (Seyfried & Marcus, 2003). Postpartum blues is one common form of mood disturbance in the postpartum period that is experienced by up to 85% of new mothers in the immediate days after delivery (O'Hara, 1987). In contrast, postpartum depression is a more severe mood disturbance that is experienced by a smaller subset of women in the postpartum period (12 – 16%) and is particularly problematic because it causes significant distress and impairment in functioning (Leung & Kaplan, 2009). As a diagnosed psychiatric disorder, postpartum depression is a serious concern and public health problem. Furthermore, health professionals and researchers are beginning to adopt an overarching diagnosis of Perinatal Mood and Anxiety Disorders (PMADs). PMAD describes the phenomenon whereby a subset of perinatal women experienced symptoms of depression, anxiety, obsessive-compulsive disorder, posttraumatic stress disorder, or postpartum psychosis (Postpartum Support International, 2020). Although PMAD is not an official diagnosis, it is estimated to occur in 15-21% of pregnant and postpartum women (Postpartum Support International, 2020).

Sleep is implicated in the development and maintenance of postpartum depression, although the direction of the association is likely bidirectional (Bei et al., 2015). In studies using actigraphic measures of sleep, higher sleep fragmentation, higher wake after sleep onset, lower sleep efficiency (Park et al., 2013), and nighttime sleep duration that was more variable was associated with greater number of depressive symptoms in the postpartum period (Tsai & Thomas, 2012). The relation between sleep and mood appears to be strongest earlier in the postpartum period. Specifically, the relation between sleep and mood was strongest at 2 weeks postpartum compared to 10-12 weeks postpartum when using actigraphy as a measure of sleep (Coo et al., 2014). Therefore, the early part of the postpartum period appears to be an integral time for poor sleep outcomes to influence depressive symptoms.

Studies using subjective measures have also demonstrated a connection between sleep and depressive symptoms. Greater subjectively assessed sleep disturbance, increased daytime sleepiness (Goyal et al., 2007), reduced total sleep time, more early awakenings, and increased sleep onset latency (Goyal et al., 2007) were tied to more depressive symptoms. In another study of sleep and mood in the postpartum period, although objective measures of sleep were not associated with mood, subjective nighttime sleep, subjective sleep-related daytime dysfunction, and napping was associated with mood. Specifically, poorer nighttime sleep, higher sleep-related daytime dysfunction, and higher frequency of daytime naps were associated with greater mood disturbances (Bei et al., 2010). This finding highlights the importance of studying phenomenon, such as sleep and mood, using a variety of measures. Both objective and subjective measures of sleep are valuable and highlight different perspectives and nuances of sleep. Overall, both subjective and objective sleep parameters for postpartum women have been significantly related to postpartum mood and depression.

Qualitative research approaches have also identified links between mood, specifically anxiety, and sleep in postpartum women. In a qualitative study using a narrative approach, women at 3 months postpartum reported feeling obsessed with their sleep and unable to stop thinking about their inadequate sleep (Kennedy et al., 2007). Postpartum women had consistent and intrusive thoughts about how to obtain more sleep and the extent of their own sleep deprivation. Similarly, low-income African American mothers also reported significant anxieties that impacted their sleep experience in a study using content and thematic analysis (Zambrano et al., 2016) such as anxieties about having a new baby, in addition to life stressors such as unemployment or housing issues. Although this sample was not assessed for symptoms of PMAD, it is clear that the women identified symptoms of anxiety, such as having worries that they could not control. These qualitative accounts are important because they reflect the saliency of anxiety in the postpartum experience as expressed by postpartum women themselves. Hearing the specific cognitions postpartum women experience is important, particularly as it can contribute to better tailored treatments for sleep in the postpartum period. The experience of sleep in the postpartum period is unique, and current behavioral sleep medicine treatments do not account for the specific and unique cognitions and beliefs that influence postpartum women's sleep.

Qualitative Approaches to the Postpartum Period

Of the body of literature examining postpartum sleep, the majority consists of subjectively or objectively assessed quantitative approaches. Currently, only two qualitative articles have explored postpartum sleep (1) examining the sleep experiences of a racially diverse sample of postpartum mothers using a narrative approach (Kennedy et al., 2007) and (2) examining the sleep experiences of low-income African American postpartum mothers using

thematic analysis (Zambrano et al., 2016). Both of these approaches enable the participants to identify what is important to them, as opposed to having researchers pre-determine what is important about an experience by selectively choosing quantitative measures. However, a phenomenological approach to describing the postpartum sleep experience would be of additional value. Phenomenology aims to describe a phenomenon completely with the hope of finding themes in the participants' experiences. With a phenomenological approach, the researcher focuses on participants' interpretations of their experience of a phenomenon (Cohen et al., 2000). By describing the postpartum sleep experience with a phenomenological approach, postpartum sleep as it is lived by postpartum women can be better understood. Past qualitative research of postpartum sleep has described pieces of what sleep is like in the postpartum period, but research has not yet understood the richness and depth of the whole postpartum sleep experience as it is experienced and interpreted by postpartum women. Therefore, the current study aims to uncover postpartum women's own descriptions and meaning-makings of their sleep experience using a phenomenological qualitative approach.

In addition to phenomenology, there are numerous approaches and designs for qualitative methods that can be combined with a phenomenological approach. An intersectional-feminist approach is of particular value during the postpartum period. The concept of intersectionality was theorized by Black feminist activists and scholars as they noticed that their unique experiences of being Black, women, and lesbian or queer was not being captured by traditional single axis identities (Moradi & Grzanka, 2017). Their identities, powers, and privileges intersected with one another to shape their unique experiences. The term "intersectionality" was first introduced by Kimberlé Crenshaw (1989) based on their observation how Black women's experiences of both racism and sexism were less understood because race and sex were seen as

separate and distinct identities. Patricia Hill Collins (2000) also greatly contributed to the roots of intersectionality theory by describing intersectionality as a matrix in which structures of oppression and privilege are dependent upon one another. In a review of the history of intersectionality and its use in research and activism, Moradi and Grzanka (2017) note several important conceptual mistakes that are often made when applying an intersectional framework. For example, many applications of intersectional theory make the mistake of solely focusing on oppression and marginalization and ignoring privileges. By ignoring privileges, the true unique experience of living within multiple systems of power is not fully captured. Additionally, many applications of intersectional theory make an assumption that intersectionality only applies to those with marginalized identities. However, Crenshaw (1991) clarifies that intersectionality applies to all people, as all people live within systems of power and privilege.

Using an intersectional-feminist approach is necessary when examining postpartum women's experiences of sleep because all aspects of postpartum women's experiences are shaped by their social identities, power, and privilege. Accordingly, Williams (2005) states that when, where, and with whom we sleep is shaped by power dynamics, privileges, and oppressions. An intersectional-feminist approach is especially valuable when examining the postpartum period as women have numerous and varying social expectations and roles during this period. The cultural expectation for U.S. mothers is that they are mainly responsible for taking care of children and children's needs should be put before their own needs (Hays, 1996). The struggles for women in the postpartum period are largely seen as necessary and expected, therefore women should simply endure these challenges. However, the challenges of motherhood combined with the pressure to be a perfect mother has been associated with increased maternal guilt, lower parenting self-efficacy, and higher stress (Rotkirch & Janhunen, 2009; Henderson et

al., 2016; Borelli et al., 2017). Additionally, mothers who felt more pressure to be perfect mothers had more parental burnout and greater difficulty finding a work-family balance (Meeussen & Van Laar, 2018). The societal expectations for mothering appear to be an important factor that shapes the experience of mothering and has the potential to shape mothers' experiences of sleep. Despite the importance of examining postpartum women's experiences of sleep using an intersectional-feminist lens, no studies to date have used this approach to fully capture the unique experiences of sleep during this time. By listening for how sociopolitical identities, privilege, and power are present influences in postpartum women's experiences of sleep, one can better understand the unique and complex phenomenon of postpartum sleep within the broader social context.

COVID-19 Pandemic as a Historical Factor

A historical factor which likely currently impacts postpartum women's experience of sleep is the coronavirus (COVID-19) pandemic. In January of 2020, the World Health Organization (WHO) was first notified that COVID-19 was the cause of an outbreak of respiratory infections in China. As the virus quickly spread, WHO declared the outbreak of the coronavirus to be a pandemic in mid-March 2020 (WHO, 2020). The WHO recommended maintaining physical distance from others as a measure to reduce the risk of transmission. As of February 15, 2021, the United States has documented 27.7 million cases of COVID-19 and 486,143 presumed deaths caused by COVID-19 (New York Times, 2020). In addition to the impacts on physical health, pandemics have historically been known to have impacts on mental health. The COVID-19 pandemic appears to be no different, as anxiety, depression, and stress levels have increased since the beginning of the pandemic (Wang, 2020).

Although very little research has been conducted to see how the pandemic has affected postpartum women's experiences, it is likely that being a mother to an infant is greatly impacted by all of the changes associated with the pandemic. In an investigation of pregnant and postpartum women's concerns that were reported to obstetricians in India, obstetricians reported that most concerns were related to worry-provoking social media messages, social isolation, changes in childbirth procedures, fears about contracting COVID-19, and family members who were not following infection control procedures (Nanjundaswammy, 2020). These reported concerns occurred over-and-above the typical concerns for pregnant and postpartum women. Additionally, clear information regarding these concerns was not always available throughout the pandemic. For example, social media gave varying messages and misinformation regarding the safety of breastfeeding during the pandemic.

Despite the little research that has been done regarding postpartum women's experiences during the pandemic, numerous writings have suggested that the pandemic would exacerbate existing inequalities such as sexism. As childcare solutions and going to schools became rare or impossible, many parents were forced to reevaluate how their children would be cared for in addition to meeting workplace responsibilities (Lewis, 2020). As women have traditionally been placed in roles of caregivers, it is possible that women may be more likely to take on the additional caregiving responsibilities in heterosexual parenting relationships. Additionally, as women on average earn lower salaries than men, women's jobs may be less practically valued and therefore women may need to step away from their careers to provide childcare. Not only is childcare incredibly impacted by the pandemic, housing issues and disparities in infection are also salient factors exacerbated by the pandemic. Furthermore, women lost substantially more jobs throughout the COVID-19 pandemic compared to men, and most of the women who lost

jobs identified as Black or Latinx (U.S. Bureau of Labor Statistics, 2021). This change in employment status highlights how sociopolitical identities and marginalization shape experiences. With unsteady incomes, many individuals faced the reality that they were unable to pay for housing during the pandemic (Goodman et al., 2021). For those with housing, enduring social isolation differed greatly depending on the type of housing available. Working a job from home, caring for family members, and helping children with online schooling is likely easier in a comfortable house with abundant space. Regarding disparities in infection, it is well documented that COVID-19 disproportionately affects persons of color (CDC, 2020). Persons of color are being infected and dying from COVID-19 at higher rates due to factors such as discrimination, healthcare access, occupations, income gaps, and housing inequalities. The experience of the pandemic is greatly shaped by the intersection of identities that everyone holds, therefore the COVD-19 pandemic impacts every postpartum woman's experience.

Summary and Aims

Sleep in the postpartum period is widely acknowledged as inadequate, however this challenge is understudied (Bei et al., 2015). Postpartum sleep has been examined primarily through quantitative methods using subjective and objective approaches. Two studies to date have examined postpartum sleep qualitatively. Existing quantitative research has shown that postpartum women's sleep difficulties are largely attributed to infant caretaking (Horiuchi & Nishihara, 1999; Goyal et al., 2007). However, there are numerous other factors which can also shape postpartum women's experience of sleep. The bedroom environment, which includes with who, where, and how one sleeps, differs among postpartum women (Doering, 2013), and these differences may reflect privileges and resources that postpartum women either have or lack. Furthermore, social factors such as breastfeeding and having workplace responsibilities are

associated with worse sleep outcomes (Gay et al., 2004). These responsibilities, again, are also shaped by an individual's privileges and oppressions. As illustrated by the Epidemiology of Sleep Health Model (CITE), sleep is a social construct that is potentially affected by the dynamic interplay of micro and macro factors.

The inadequate sleep that postpartum women obtain is especially problematic because postpartum sleep has been tied to depressive symptoms. In one literature review, there were abundant findings that poor sleep in the postpartum period is associated with mood disturbance and depression (Bei et al., 2015). As postpartum depression has dire individual, social, and economic consequences (Luca et al., 2019), and inadequate sleep in the postpartum period is a potential risk factor for postpartum depression, it is necessary to further uncover postpartum women's unique experiences of sleep.

To better understand postpartum women's sleep, it is necessary to investigate how postpartum women make meaning of their sleep experiences and disentangle their experience of sleep in their own words. Qualitative investigations of postpartum women's experiences of sleep are rare, in fact there are only two qualitative investigations currently, but these studies are rich and informative. Postpartum women described how their beliefs and consciousness regarding sleep changed throughout the postpartum period (Kennedy et al., 2007). Women reported becoming obsessed and hyperaware of how their sleep was direly inadequate, and eventually noticed a shift when they began to accept that their sleep would be different for a long time. Additionally, another qualitative study was conducted with low-income African American mothers (Zambrano et al., 2016), however this is the only one qualitative study of African American mothers' experiences, and therefore may not be generalizable to Black motherhood as a whole. The study found that women described how there were numerous barriers to obtaining

good sleep, and many of these barriers had nothing to do with the infant (Zambrano et al., 2016), despite quantitative studies suggesting the infant is a main factor influencing sleep (Thomas & Foreman, 2005). Instead, women described inequalities they experienced regarding income and housing as being important barriers to adequate sleep. Overall, the findings from these qualitative investigations are quite different from quantitative investigations. Because quantitative studies have made assumptions about what is important regarding postpartum women's sleep when selecting research questions and methods, quantitative studies may miss what postpartum women identify as important to their experience of sleep.

Further qualitative work is needed to expand our understanding of how postpartum women make meaning of their own sleep experiences. As qualitative work is less generalizable and more so a reflection of a study's particular sample, it is necessary to conduct qualitative work with numerous samples to further uncover diverse and unique experiences of a phenomenon. The existing qualitative investigations of postpartum sleep used narrative analysis and thematic analysis. The proposed phenomenological approach to describing postpartum sleep in the current study is of particular value. A phenomenological approach would aid in uncovering what is the essence of the phenomenon of postpartum sleep. Using phenomenology, postpartum women's day-to-day reality and lived experience of sleep can be better understood. Additionally, current qualitative research has not acknowledged that postpartum women's experiences of sleep are shaped by women's sociopolitical identities, privileges, and marginalization experiences. By using a different qualitative methodology, a phenomenological approach with an intersectional-feminist lens, the phenomenon of postpartum women's experiences of sleep can be better understood. Furthermore, during the unique historical event of the COVID-19 pandemic, it is especially important to see postpartum women's experience of

sleep through an intersectional-feminist lens. The experience of the COVID-19 pandemic differs greatly between people as the pandemic has highlighted structural and systemic inequalities such as racism and sexism (CDC, 2020; Lewis, 2020). By examining postpartum women's experiences of sleep using a qualitative design and intersectional-feminist approach, postpartum women can make greater meaning of their sleep experiences with limited influence of assumptions by the researcher.

Therefore, the aim of this study is to better understand the experience of sleep for women in the postpartum period using a qualitative design, phenomenological approach, and intersectional-feminist lens. Furthermore, this study aims to better understand the experience of sleep for postpartum women in the unique context of COVID-19.

Methods

Participants

Participants included a convenience sample of 10 English-speaking mothers from the United States over the age of 18. To qualify for the study, mothers had given birth within the past 12 months to qualify for the study, identified their race as Black or white, and were a caregiver for their child. To increase the racial diversity of identities in the sample while still exploring the heterogeneity that may exist within racial groups, purposive sampling was utilized. The study aimed for half of participants to identify their race as Black (5 participants) and half of participants to identify their race as white (5 participants). Although this sampling method does not result in diversity of participants based on other identities (e.g., sexual orientation, socioeconomic status), this sampling method resulted in a sample who may show variability in experiences based on their racial identity. Participants were recruited via Prolific, an online

platform for data collection. Participants were compensated $25 following the completion of a brief questionnaire and semi-structured interview. Participants who opted to complete member-checking were also compensated $15. Participants were given the option to receive a summary of the results of the study.

Study Design

A qualitative design was used to investigate how postpartum mothers interpret their experiences of sleep. Qualitative designs are employed in research for three reasons: (1) to elicit exploration and discovery, (2) gain breadth and context, and (3) provide a summary and interpretation of the underlying mechanisms of a phenomenon (Merriam & Tisdell, 2016). Unlike quantitative research designs, which involve pre-determination and assumptions that may limit participants' responses, qualitative methods allow the flexibility for participants to express their experiences freely. By limiting constraints usually employed by the researcher, the participant's understanding of their experience may be more accurately captured (Rumsey & Marks, 2004). Overall, the primary advantage of qualitative, relative to quantitative designs, is that they allow researchers to gain insight and elicit exploration amongst an under-researched community or area of interest from the participants' perspective. Given the unique strengths associated with a qualitative design, a qualitative approach was deemed appropriate for the current study. Specifically, a qualitative design was used to (1) elicit exploration and discovery of the postpartum sleep experience, (2) gain breadth and context regarding the postpartum sleep experience, and (3) provide a summary and interpretation of the underlying mechanisms of the phenomenon of postpartum sleep. Although there are numerous studies that examine postpartum sleep, the majority of these approaches have been quantitative and have focused on postpartum sleep in relation to mood disturbance and depression. Therefore, through a qualitative approach I

was better able to elicit and explore postpartum sleep with fewer *a priori* limitations on the scope of postpartum sleep. Also, through using a qualitative approach, the current study can report on how participants make meaning of their lived experience of postpartum sleep. This study aims to add to the small number of existing qualitative studies to further our understanding of the postpartum sleep by incorporating a phenomenological perspective using a feminist intersectional lens.

There are numerous qualitative designs that can be used to further understand complex phenomena. Ethnography aims to describe and disentangle shared experiences of individuals within a culture (Wolcott, 2008). Grounded theory strives to understand a process and build a theory of how a process works using the gained understanding (Charmaz, 2006). Narrative inquiry aims to understand individual's stories about their experiences (Kim, 2015). Lastly, phenomenology strives to understand how individuals describe and make meaning of their experiences of a phenomenon (Creswell, 2013; van Manen, 2014). Phenomenology is not based on an imposed structure that the research brings to the data, but rather, focuses on participants' interpretations of their experiences (Agar, 1986; Cohen, 2000). In phenomenology, humans are posited to live in an intersubjective and meaningful world where phenomena are experienced. *Phenomena* are experienced by acting human beings, but are not reflected upon or theorized, they are simply lived as truths. There is no objective reality, rather humans' experiences of phenomena, or *lived experience*, and perceptions of these phenomena are the reality. Humans naturally and subjectively *make-meaning* of these phenomena or lived experiences. Ultimately, the goal of phenomenology is to make the "taken for grantedness", or the existing assumptions and beliefs, that guide experiences of phenomena known (Hein & Austin, 2001, p. 6). Although all of these qualitative designs are similar in that they aim to identify how participants describe a

phenomenon that they have lived, a phenomenological design is most appropriate for the current study in order to reflectively examine and describe how participants make meaning of their lived experience of sleep in the postpartum period (Reeder, 2010).

A phenomenological approach is most appropriate for this study, as it is an approach to qualitative research that aims to reflectively examine and describe a phenomenon or lived experience (Reeder, 2010). For example, in a narrative inquiry approach, one may report participants' stories such as "My sleep continuously deteriorated over the months following the birth". However, in a phenomenological approach, one would report how participants interpret, describe, and make meaning of their sleep, as well as what they as participants find salient about their lived experience of sleep. For example, a phenomenological approach may find that postpartum women "take for granted" a belief that postpartum sleep is supposed to be a terrible experience and a belief that they should simply endure that negative sleep experience.

Phenomenology

A phenomenological approach requires an introspective process of questioning and evaluating to ultimately get as close to the actual phenomenon as possible. In phenomenology, the researcher collects and analyzes the lived experience of a phenomenon, all while recognizing and setting aside their own preconceived notions and biases (Reeder, 2010). To best understand the phenomenological approach, it is necessary to review the history of how the philosophical underpinnings of phenomenology were fine-tuned over time by prominent figures such as Edmund Husserl (1859-1938), Martin Heidegger (1889-1976), Maurice Merleau-Ponty (1908-1961), Hans-Georg Gadamer (1900-2002), and Max van Manen (1942-present).

The concept of phenomenology was first introduced by the philosopher Edmund Husserl (Liujpen & Koren, 1969) and is deeply rooted in philosophy (Munhall, 2007). Phenomenology

notes the importance of the “lived experience”, which Husserl posited must be reexamined as the lived experience is not readily accessible in consciousness. The lived experience is simply a reality for humans that is taken for granted in one’s everyday life and must be reflected upon in order to be brought to one’s consciousness. Bracketing is another key concept within phenomenology, referring to the process whereby researchers recognize and set aside their assumptions and biases. As biases are present in everyone, it is necessary to disconnect from biases to increase the objectivity of the research (Koch, 1995). Husserl’s phenomenological approach is ultimately different from other qualitative approaches because there is an interest in uncovering the lived experience of a phenomenon, which is the taken-for-granted reality of everyday experiences that is unconscious. In the current study, for example, participants may share taken-for-granted beliefs and assumptions that contribute to their postpartum sleep experiences.

A refined version of phenomenology, hermeneutic phenomenology, was developed by Martin Heidegger (Dowling, 2005; Heidegger, 1962). Hermeneutic phenomenology posits that we understand our world based on the culture of which we are informed, we subconsciously organize and give meaning to our culture, and our culture both shapes us and is shaped by us (Koch, 1995). Therefore, there is unity between people and their culture or the world. In order to understand, one must be immersed in the world as opposed to trying to simply know (Heidegger, 1962, van Manen, 1997). In hermeneutic phenomenology, Maurice Merleau-Ponty posited that one’s understanding of the world is subjective and based on perception. Therefore, knowing the world, responding to the world, and consciously sensing the world is only possible through subjectively being in the world and perceiving the world (Munhall, 2007). In the current study, participants and their experiences were understood differently than in other qualitative

approaches. As the current study used a phenomenological approach, participants were understood as agents within their subjective worlds. Participant's understanding of their lived experience of sleep was understood as participant's subjective perceptions of postpartum sleep, in which participant's worlds shaped are by the culture in which they are tied to.

Hermeneutic phenomenology also includes important concepts such as prejudice, play, and the hermeneutic circle (Gadamer, 1976; Walsh, 1996). Prejudice refers to the bias or judgment that is present before a situation is even examined (Walsh, 1996). In phenomenological approaches, it is important for researchers to be aware of their prejudices which may influence their pre-understandings before hearing from participants. Play refers to the stance a researcher takes towards their research. As opposed to framing a researcher as either objective or subjective in the research process, Gadamer says that a researcher is a player in the process. Spontaneity, flexibility, and movement are necessary to expand understanding of phenomena (Gadamer, 1976). Lastly, the hermeneutic circle is a key concept within hermeneutic phenomenology developed by Gadamer, which is a process of interpreting and reinterpreting in a circular fashion (Walsh, 1996). In the hermeneutic circle, a researcher repeats a process making interpretations, then broadening their scope to ensure their interpretations still reflect the whole of the experience. In sum, hermeneutic phenomenology posits that researchers have prejudices and assumptions related to their phenomena of interest. Additionally, researchers bring their own play and movement into the research process as researchers are also humans in the world.

Hermeneutic phenomenology was further developed by Max van Manen, who describes the lived experience as involving individual's consciousness of life before reflection (van Manen, 1997). van Manen combines descriptive and interpretive elements in this approach to phenomenology. Phenomenology describes what is present and familiar, and interpretation

provides meaning about the experience. van Manen says “phenomenological text is descriptive in the sense that it names something and hermeneutic text is interpretive in the sense that it mediates” (van Manen, 1997, p. 26). The essence and uniqueness of a phenomenon is described in order to better understand what the lived experience is like (van Manen, 1990). Overall, van Manen’s approach to phenomenology aims to describe the lived experience and provide meaning or interpret the experience.

The current study used van Manen’s method of hermeneutic phenomenology. van Manen’s hermeneutic phenomenology grew from the work of Edmund Husserl (1859-1938), Martin Heidegger (1889-1976), Maurice Merleau-Ponty (1908-1961), and Hans-Georg Gadamer (1900-2002), ultimately culminating in a deep, rich, and thoughtful approach to phenomenology. I was particularly drawn to van Manen’s approach because their hermeneutic phenomenology aims to study the lived experience of a phenomenon while understanding that the lived experience is pre-reflective and pre-theorized. Additionally, van Manen specifies that the lived experience of a phenomena is described pre-reflection and better understood through participant’s meaning-makings. Therefore, van Manen’s approach is most appropriate as I worked to better understand women’s lived experience of the phenomenon of postpartum sleep.

Intersectional-Feminist Approach

Phenomenology has been combined with an intersectional-feminist approach for exploring lived experiences (Cosgrove & McHugh, 2008). Both approaches posit that lived experiences are shaped by culture and context, with intersectional-feminist approaches specifically recognizing that lived experiences are shaped by social constructions of identity, such as gender or race, and systems of oppression. Additionally, both approaches are consistent with one another because phenomenology and intersectional-feminist approaches both aim to

listen, describe, and interpret meaning of lived experiences (Cosgrove & McHugh, 2008). Therefore, within the current phenomenological study, an intersectional-feminist approach was used throughout data collection and analysis.

Intersectional feminist theory helps to center the experiences of women with attention to the power structures that shape the social expectations and roles for women (hooks, 2000). By situating sexism as the power dynamic that is analyzed, intersectional feminist theory highlights the stories of diverse women and brings attention to the gendered, oppressive context these stories take place within (Allen & Jaramillo-Sierra, 2015). Further, an intersectional feminist approach considers how gender intersects with other social identities (e.g., race, sexual orientation, socioeconomic status) to shape experiences and interpretations. This attention to the ways in which gendered norms are configured by power helps situate the participants' experiences as they constitute their own stories within and outside of gendered norms of motherhood. An intersectional-feminist approach informed the semi-structured interview and data analysis by focusing on how sociopolitical identities shape participants' experiences and interpretations. This study's use of a phenomenological methodology provided an opportunity to examine the phenomenon of postpartum sleep in relation to other factors, as phenomena do not occur in a vacuum. The phenomenological approach simultaneously works together with intersectional feminism to examine the ways in which identity intersections (i.e., ethnicity, gender, socioeconomic status, sexuality, etc.) interact within the phenomenon of sleep in the postpartum period. Ultimately, this study aimed to use a phenomenological design to uncover how participants make meaning of their experience of sleep in the postpartum period, and to use an intersectional-feminist approach to uncover how participants lived experience of sleep may be shaped by sociopolitical identities. As participants described their lived experience of postpartum

sleep, I used my own knowledge of intersectionality to guide the open-ended probing of participant's experiences to see how sociopolitical identities may be shaping the lived experience of the phenomena. My aim was not to guide participants to theorize how intersectionality applies to the postpartum sleep experience or to educate participants about how sociopolitical identities shape experiences. Instead, my aim was to uncover how participants make meaning of their lived experience, and to understand how participants perceive sociopolitical identities to shape their lived experience.

Procedure

The current study was approved by the Virginia Commonwealth University Institutional Review Board. Participants were recruited through Prolific, an online crowdsourcing tool for research studies. Prolific enables researchers to set participant criteria, advertise their study, and distribute monetary compensation to participants (Palan & Schitter (2017). Prolific also has a track record similar to Amazon MTurk in that they both obtain participants who are attentive to the study and represent a wide variety of identities. Prolific is favorable to Amazon MTurk because it is specifically for research purposes, therefore participants are aware and agreeable to participating in research (Palan & Schitter, 2017). Additionally, Prolific outlines strict guidelines for fair participant compensation, which is a common critique of the Amazon MTurk platform.

Access to the study through Prolific was restricted to individuals who identify as over the age of 18, women, Black or white, English speaking, and living in America. Participants must have reported that they have reliable internet connection and are able to participate in an audio recorded interview. Additionally, participants must have given birth within the past 12 months and be caregivers for their child. As Prolific houses demographic information for all participants, eligible participants were screened in prior to being given access to the study advertisement.

Once participants were recruited through Prolific and consented to the study, they were automatically sent a link with the study's procedure. Participants completed an informed consent prior to the interview, which included a review of possible risks and benefits of participation, the requirements of the study, and safeguards to confidentiality. Participants were also sent a demographics questionnaire link to a secure website hosted by REDCap. Demographics are reported in the results to simply describe the sample's attributes.

Demographic Questionnaire

Participants answered questions pertaining to age, gender, race/ethnicity, occupational status, socioeconomic status, relationship status, sexual orientation, and level of education. Participants also answered questions regarding the number and ages of children in the household, if they were currently breastfeeding, as well as sleeping arrangements of members in the household.

Participant Interviews

Participants completed a one-hour semi-structured audio interview via Google Meet, an online meeting platform. I completed the semi-structured interview with each participant, with the goal of detailing the phenomenon of postpartum sleep and its intersections with identity. Interviews are a primary method used in qualitative research (Merriam & Tisdell, 2016). The interview included open-ended questions that were relevant to the study's aims and broadly worded so that a variety of potential experiences could be captured. The use of broad and open-ended questions is signature of phenomenological interviewing (Bevan, 2014), and is commonly used in qualitative research so that questions are not unintentionally leading or suggestive (Gorden, 1998). Interviews were approached as an open dialogue, whereby I was particularly aware of the potential power dynamic present between myself and the participant. I aimed to

reduce the power dynamic within the interview by first acknowledging the potential power dynamic at the beginning of the interview, and then sharing with the participant that my intention is to listen and understand the participant's own unique experiences without imposing my own biases or preconceived notions upon the participant. Confidentiality was also reviewed at the beginning of the interview so that participants could ask questions and fully understand the confidentiality of the study. Throughout the interview, I aimed to appropriately pace the interview so that the participant did not feel rushed. Additionally, I allowed for some silence, which is a powerful tool for allowing participants to continue elaborating on their responses (Gorden, 1998).

While conducting the interview, the interviewer was mindful of various factors which contribute to the quality of the interview. The interviewer assessed and attempted to increase the comfort of the participant's interview environment. Although many environmental factors are uncontrollable while conducting interviews virtually, the interviewer made suggestions to increase the participant's comfort such as asking the participant to find a space that is comfortable, quiet, and private. Of note, although I attempted to increase the participant's comfort and privacy, there were factors outside of the participant's control (e.g., caregiving responsibilities, crowded households) which likely limited the comfort and privacy of the interview. The interviewer also began the interview by explaining the process and answering the participant's questions about what to expect from the interview. Importantly, the interviewer also indicated that the interview would be audio recorded.

To guide the semi-structured interview, a preliminary interview guide was developed by the research team and is included in the Appendix. Of note, the nature of phenomenological questioning makes it difficult to design a structured questionnaire, because questions mostly

emerge as the phenomenon is better understood throughout the interview. However, van Manen (1990) states that forethought about interview questions is important when using hermeneutic phenomenology, as "the interview process needs to be disciplined by the fundamental question that prompted the need in the first place" (p. 66). The interviews started with general questions such as "What does a typical day look like for you?" and "What do you like to do with your family?". Asking these general questions likely helped ease the participant into the interview and develop rapport between myself and the participants. From there, questions from the interview guide were more tailored towards answering the study's research questions (e.g., "Describe in as much detail as possible a typical night of sleep" and "How has your sleep changed after having a baby?"). Ultimately my role as the interviewer was to elicit rich description of participant's lived experience of sleep in the postpartum period which is naturally shaped by intersectionality. Although no explicit questions are included in the initial interview guide to address intersectionality, my own knowledge of intersectionality helped guide my probing of participant's responses. As participants described their lived experience of postpartum sleep, I listened and probed for ways in which sociopolitical identities and systems of oppression may have been shaping their lived experience. For example, if a participant mentioned that their lived experience of postpartum sleep included feeling overwhelmed because she was responsible for most of the household responsibilities, I would probe by asking "How is your responsibility for the household shaped or not shaped by your identity as a white woman?". The probes were not designed to reshape participant's lived experiences through my questioning. Rather the goal was to uncover the already existing lived experience which is naturally shaped by intersectionality.

Throughout the interview, I kept field notes that included observational comments about the interview. These comments assisted later data analysis regarding the nuances of the

interview, such as participants' nonverbal behaviors and my thoughts regarding the interview, such as personal reactions, follow-up questions, and reflections (Merriam & Tisdell, 2016). These field notes were used in conjunction with participant data to ensure there was a more holistic view of the participant's interview.

Data Analysis

Demographic Data. Demographic data collected in the interview was analyzed with descriptive statistics using SPSS 27.

Interview Data. Interviews were transcribed verbatim by an online transcription software, TranscribeMe. The research team also checked all transcriptions for accuracy by listening to the recordings while reading transcriptions. To analyze the data, transcripts were read multiple times by the research team (more detail about the team included below) to increase familiarity and insight into the data. Transcripts were formatted with a wide right margin so that researchers may take notes and identify themes. Field notes from each participant interview were also reviewed to add to the richness and detail of each interview.

Interview data was analyzed using hermeneutic phenomenological methods. Specifically, data was analyzed using van Manen's (1990, 1997) methodological approach to description and interpretation:

1. The research team oriented to a phenomenological style of thinking and orienting, whereby everyone recognized personal biases and preconceived notions and adopted a framework of reflective attention to the lived experience. The research team also adopted an intersectional-feminist style of thinking, whereby everyone recognized that sociopolitical identities and systems of oppression shape the lived experience.

2. The research team identified significant pieces of text that are relevant to the phenomenon of interest.
3. The research team conducted a reflective thematic analysis of each interview through a) multiple readings and reflection of the text in its entirety, b) selective reading for significant statements, and c) detailed line by line reflective examination of the text.
4. Meanings within the text were interpreted through an iterative process of reading, reflection, and considering both parts of text and the whole text in the manner of the hermeneutic circle. As interpretations are made, each interpretation was then compared to the whole of the text to assure the phenomenon is still being attended to. This process was repeated numerous times while interpreting to ensure that singular interpretations reflect the overall lived experience of the phenomenon.
5. Common themes and shared meanings were confirmed by reading text across the multiple participant interviews.
6. The interpretive understanding of the phenomenon was communicated via the writing of a phenomenological narrative. The resulting narrative reflected many different and unique stories of meaning, whereby there were both similarities and differences between themes and discoveries. These deidentified themes are described in the results and include relevant quotes to aid in disentangling themes.

Ethics, Trustworthiness, and Rigor

The quality of the current study was strengthened through a prioritization of ethics, trustworthiness, and rigor. Lincoln and Guba (1985) describe four concepts for establishing rigor and trustworthiness in qualitative research; credibility, transferability, dependability, and confirmability. Credibility refers to the truth value of the research (Sandelowski, 1986), or rather

that the described phenomena is truthful in a way that those who have experienced the phenomena would recognize it as their own after having read about it in the qualitative study. To achieve credibility, I used purposeful sampling and audiotaped interviews transcribed verbatim. I also conducted the study using a team which regularly engages in peer debriefing and reflection. Lastly, I maintained an audit trail related to all steps and decisions made throughout the study. Transferability refers to having findings that actually fit the data from which they are obtained (Sandelowski, 1986). To assure transferability I wrote a "thick and rich" narrative description in the presentation of findings (Lincoln & Guba, 1985). Regular peer debriefings and reflections were conducted to facilitate authenticity of the interpretations. Dependability is achieved when the qualitative findings are consistent and reliable (Lincoln & Guba, 1985). Detailing the exact steps throughout the study increased the dependability and reliability of the study. I maintained a detailed audit trail outlining all steps and decisions made within the study in a way so that another researcher could easily follow the decisions made throughout the study. Lastly, confirmability refers to when auditability, truth value, and applicability are established (Lincoln & Guba, 1985), which I aimed to achieve by maintaining an audit trail and reflexive journal. A reflexive journal aids the bracketing process, whereby assumptions and preconceived notions are recognized and reflected upon (Munhall, 2007). I made time to write in my reflexive journal before and after interviews, and periodically throughout the data analysis process.

In addition to using a reflexive journal to facilitate bracketing, it is important that my own identities and the identities of the research team are disclosed to readers of this research. I am a white, heterosexual, able-bodied young adult who is a graduate student in a Counseling Psychology program. I do not currently have children; therefore, I do not have my own lived experience with the phenomenon of interest. However, I have preconceived notions regarding

postpartum sleep which are likely based on both research and anecdotal messages I have received. I think that women in the postpartum period struggle to have adequate and satisfying sleep, and I think women receive the message that they should just accept this inadequate sleep because it is part of life. Of note, I am also a psychologist in training with 5 years of therapist experience. I found that I needed to use my reflexive journal to put aside my role as a therapist when I entered interviews with participants. As a therapist, my goal is to help client's alleviate distress, however that goal had to be put aside when interviewing participants.

Other members of the research team identified as Middle Eastern, South Asian, and white cisgender women. The research team included women in early and middle adulthood, and included one woman who was a mother. In particular, peer debriefings focused on recognizing the research teams' different lived experiences as mothers and non-mothers and different lived experiences of racial identity. In conversations of peer debriefing, the research team was able to identify potential assumptions and biases that may have been influencing the data analysis process. For example, peer debriefing aided in recognizing the times in data analysis where team members may have been centering the white experience.

Several steps were also taken to maintain ethical rigor throughout the study. These steps included protecting participants' rights to confidentiality and ensure privacy by: (1) obtaining consent, (2) asking them to refrain from stating any identifying information during the interview, (3) using de-identified quotes in the final write-up of the codes and themes, and (4) storing data behind two lines of electronic security (computer password and secure institutional online data storage).

Lastly, the current study highly benefitted from the practice of member checking. Following data analysis, each participant was contacted by phone to ask if they would be

interested in providing feedback on the results of the study. Among the 10 participants who were contacted, four responded. The lead researcher provided participants with an overview of the study's results and inquired about participants' reactions and feedback. Most of participants' comments expressed agreement with the described results and many reported they felt validated hearing their own experiences summarized in the results. One participant asked for clarification about a descriptive quote, but ultimately expressed understanding after being provided a second description of the quote's accompanying theme. Overall, no suggestions for changes were made by participants. The positive feedback from participants was reassuring that the description of the findings was clear and representative of their experiences.

Research Team. Data collection was led by the principal investigator, who facilitated each semi-structured interview. The coding team consisted of three undergraduate research assistants, the principal investigator, and one faculty member. All team members were trained in best practices in qualitative research and fulfilled requirements for ethical practice (including CITI training) prior to data analysis. All coders only reviewed de-identified transcripts.

Data Preparation. All individual interviews will be recorded using GoogleMeet and stored in a password-protected computer folder. Only study staff approved by the VCU IRB had access to the audio recordings and transcripts. Audio files underwent initial transcription by an online transcription service, TranscribeMe. Transcripts were then reviewed for a second time (for second-data entry) by the research team to check for accuracy. Audio files will be destroyed following completion of the study.

To bolster both the credibility of qualitative research, and the quality of interpretations made from it, researchers are encouraged to provide precise and comprehensive documentation of the data collection, analysis, and interpretation process via an audit trail (Creswell, 2013;

Rodgers & Cowles, 1993). As such, all materials that were collected during the study (i.e., consent forms, audio recordings of individual interviews, interview transcriptions, and coding team notes) were maintained in an organized fashion and stored in a password-secured computer folder. All notes generated during the data analysis were stored in this folder as well.

Measures

Demographic Questionnaire

Participants answered questions pertaining to age, gender, race/ethnicity, occupational status, socioeconomic status, relationship status, and level of education. Participants also answered questions regarding the number and ages of children in the household, as well as sleeping arrangements of members in the household.

Results

The current study used a phenomenological approach and intersectional-feminist lens to describe the phenomenon of postpartum women's sleep while recognizing that lived experiences are shaped by culture, context, and systems of oppression (Cosgrove & McHugh, 2008). Phenomenological studies also attend to the lived experiences and identities of the researchers, as these lived experiences have potential to influence the meaning-makings of data (Gadamer, 1976). Therefore, the results include both findings from interviews as well as the researchers' perspectives as they made meaning of the phenomenon. Data analysis yielded six themes; 1) the importance of the sleep environment, 2) anxiety and hypervigilance, 3) adjusting to changes and finding strategies, 4) balancing self-care, 5) the emotional experience of sleep, and 6) societal expectations of mothers and sleep.

Descriptive Statistics

Participants were 10 adult women who had given birth within the past 12 months and were caregivers for their child. Five women identified as white and 5 women identified as Black. Participants ranged in age from 22 to 33 years old, with the average age being 27.4 (*SD* = 3.26). Overall, the majority of the women reported they were currently employed, were married, heterosexual, had some college education, and had one child. Half of the women reported room sharing or co-sleeping with their infant and most women were not currently breastfeeding. Specific descriptive statistics are included in Table 1. Specifically, eight women reported currently worked jobs. Seven women identified as married, two identified as in a relationship, and one identified as single. All women self-identified as heterosexual. Four women reported a household income between $10,000 to $50,000. Six women reported a household income between $50,000 to $100,000. Three women had obtained a high school diploma, three women had obtained Associate's degrees, three women had obtained Bachelor's degrees, and one woman had obtained a Master's degree. Seven women reported having one child, two women reported having two children, and one woman reported having three children. Additionally, three women reported that their infants slept in the same room as them and two women reported that other children slept in the same bed as them. Lastly, three women were currently breastfeeding and seven women were not currently breastfeeding. To contextualize individual quotes reviewed in the Results, demographic descriptions of each participant are included in Table 2.

Table 1.

Descriptive Statistics

	Black Participants			**White Participants**		
	M	*SD*	*n*	*M*	*SD*	*n*
Age	26.60	3.92		28.2	2.14	
Employment						
Employed			5			3
Not-employed			0			2
Relationship Status						
Married			3			4
In a relationship			1			1
Single			1			0
Sexual Orientation (self-identified)						
Heterosexual			5			5
Income						
$10,000-50,000			2			2
$50,000-100,000			3			3
Education						
High School			2			1
Associate's			2			1
Bachelor's			0			3
Master's			1			0
# of Children						3
1 Child			4			1
2 Children			1			1
3 Children			0			
Sleeping Arrangement						
Children in separate room			3			2
Children in same room			1			2
Children in same bed			1			1
Breastfeeding						
Currently breastfeeding			1			2
Not currently breastfeeding			4			3

Table 2.

Descriptions of Individual Participants

Pseudonym	**Description of Participant**
Emily	Emily is a white woman who is employed, married, and heterosexual. She has an income between $50,000-100,000 a year and has a Bachelor's degree. She has two children who sleep in a separate room and is not currently breastfeeding.
Amaya	Amaya is a Black woman who is employed, married, and heterosexual. She has an income between $50,000-100,000 a year and has a Master's degree. She has one child who sleeps in the same room as her and is currently breastfeeding.
Sarah	Sarah is a white woman who is employed, married, and heterosexual. She has an income between $50,000-100,000 a year and has a Bachelor's degree. She has three children who sleep in a separate room and is not currently breastfeeding.
Deandra	Deandra is a Black woman who is employed, in a relationship, and heterosexual. She has an income between $10,000-50,000 a year and has an Associate's degree. She has one child who sleeps in a separate room and is currently breastfeeding.
Nicole	Nicole is a white woman who is not-employed, married, and heterosexual. She has an income between $10,000-50,000 a year and has a high school degree. She has one child who sleeps in the same room as her and is currently breastfeeding.

Jada	Jada is a Black woman who is employed, single, and heterosexual. She has an income between $10,000-50,000 a year and has a high school degree. She has one child who sleeps in a separate room and is currently breastfeeding.
Megan	Megan is a white woman who is not-employed, married, and heterosexual. She has an income between $50,000-100,000 a year and has an Associate's degree. She has two children, has a child who sleeps in the same bed as her, and is currently breastfeeding.
Nia	Nia is a Black woman who is employed, married, and heterosexual. She has an income between $50,000-100,000 a year and has an Associate's degree. She has one child who sleeps in the same bed as her and is currently breastfeeding.
Rebecca	Rebecca is a white woman who is employed, in a relationship, and heterosexual. She has an income between $10,000-50,000 a year and has a Bachelor's degree. She has one child who sleeps in a separate room and is currently breastfeeding.
Shawn	Shawn is a Black woman who is employed, married, and heterosexual. She has an income between $50,000-100,000 a year and has a high school degree. She has two children who sleep in a separate room and is not currently breastfeeding.

The Importance of the Sleep Environment

While reviewing the interview transcripts, meaning units came forth describing the importance of the sleep environment for sleep in the postpartum period. In particular, participants described numerous ways that their physical environment impacted their sleep. These variations in the sleep environment were also shaped by socioeconomic status. For example, women's access to quality mattresses for themselves and for infants was greatly influenced by their financial means. One participant noted how her sleep greatly improved when she bought a new mattress. Another mother described that using a SNOO bassinet, a bassinet with technology features to improve infant sleep which costs over $1200, positively impacted her own sleep.

> Emily: *Are you familiar with the SNOO bassinet? So, we got that. We used it from the beginning. I would say, like the first week or so using it, I was very skeptical, like the way that the baby looks in that they're so small and especially because she was early, she was a little smaller and I was like, this thing is just like shaking her. This is dangerous. We shouldn't do it. And once, I got over that hesitation, she really took to it and it kept her sleeping all night.*

Additionally, women described how infant sleep technology shaped their sleep experiences in the postpartum period. Some women found that infant sleep technology, such as audio and video baby monitoring, reassured their fears about infant safety, making mothers better able to relax and sleep.

> Amaya: *So that was like a huge piece of mind for me because I was very, very worried in the transition about her dying of SIDS.*

Other participants described aspects of their sleep environment that negatively impacted their sleep experience. For example, participants noted that environmental noise, such as neighbor's dogs barking, negatively impacted their sleep.

Women also identified how the COVID-19 pandemic, sleeping arrangements, postpartum recovery, and technology impacted their sleep. Within the context of the COVID-19 pandemic, several participants described difficulty sleeping due to working a job from home. They explained that because they didn't feel a distinction between their job environment and sleep environment, they found it was difficult to fall asleep.

> Sarah: *I get less sleep only because my work is here. Everything I do is inside of this house, so that can also be very stressful. There's no outside of work anymore. It's all right here. So there's drama at work, it's still right here, so that's a lot for me. I can't think of anything that would have helped my sleep cycle from the pandemic.*

Several participants also described how having infants or children sleeping in the same room impacted their sleep. For example, one participant reported that her sleep benefitted from having her infant sleep in the same room.

> Amaya: *When she cries, I'm right there so I can get to her quicker. Yeah, and then I still don't have to move from my bed.*

Another woman described that despite uncertainty she felt regarding co-sleeping, she found that co-sleeping with her child increased her sense of connection with her child. The participant describes this as a "compromise", whereby she accepts worse sleep in favor of connecting with her child.

> Megan: *I started sleeping with my older daughter, who was probably only maybe like one and a half. I was always against co-sleeping. I mean, I figure people can make their own*

choices. But for me, I was just so afraid, especially her being my first. And you hear all these horror stories about sleeping and about all these things. But it just got to a point where I was still working that I was working like two hours away. I had to get up really early and I didn't get home till really late. I missed, you know, spending a lot of time with her, which is ultimately why I decided to stay home. But also, I just had to sleep. I mean, I was messing up and making mistakes, so I just put her in the bed with me because it was the only way that she would sleep. So I had to kind of compromise on my own.

Additionally, several women reported how the physical effects of the postpartum period negatively impacted their sleep. For example, one woman described that pain she felt in the postpartum period made her nighttime responsibilities and sleep experience more difficult.

Rebecca: *With the physical changes, I had cramps, and really bad cramps because my uterus is going back to normal size, so that was a little bit tough. And especially if I'm holding her and she wakes up and I'm cramping really bad, that was difficult.*

Notably, many women discussed how technology impacted their sleep in the postpartum period. For example, women described a conflict between wanting to use their cell phones as a form of self-care and noticing how using their cell phones was negatively impacting their sleep. Women noted how spending time using cell phones not only detracted from their time for sleep, but also negatively impacted their sleep due to the light from cell phones.

Nia: *A big thing for me is like my cell phone because I can't put it down and I keep reading the next thing and the next thing, and then I read something that's interesting, and I want to learn more about that. You have this, you know, all this information that I used to read books. My books would actually help me fall asleep. Now I can't really have lights on to*

read books or, you know, a book like, so I read on my phone, but it doesn't really work with sleeping.

Anxiety and Hypervigilance

Women gave detailed descriptions of their typical sleep experiences and behaviors. Overall, women largely described sleep dissatisfaction and daytime fatigue, which they identified as being influenced by factors such as concerns about infant safety, hypervigilance, and safety checking behaviors. For example, one woman described how she was constantly on alert to hear her infant's cries or signs of distress, which made it difficult to relax and fall asleep.

Shawn: *It's really hard to sleep because I'm still worried about her. So even in my sleep, I still like listening to see if I hear her crying or anything.*

Many women described a sense of being "on alert" for signs of infant distress and safety, which decreased the quality of their sleep.

Rebecca: And then just even when she is asleep, it is hard for me to get to sleep just because I want to make sure that she's doing well in her sleep. So it's kind of like I'll drift off to sleep, but never a full, deep, comfortable sleep is always alert sleep.

One woman described how panic and fear related to their infant's safety may be a common experience for women.

Sarah: *I feel like it's helped to talk to other moms and to know that I'm not alone in that feeling. I remember like telling my mom I was feeling that way, like I would wake up in these like fits of panic. And she told me that she had the same panic, and separately, my father told me that my mom used to have those panics.*

Similarly, numerous women reported nightmares related to their fears about infant safety.

Deandra: *It's feelings like I've never had before, like I've certainly had periodic nightmares growing up, but like since having a baby. I mean, it only started after she was born. I'll wake up in these panics of thinking that I've smothered her in the bed or that she's in the bed with us, or that she has been lost in the blanket and like those kind of panic modes or like, where is she? She's not in her crib or it's always a lot of like, where is the baby and the baby has died or the baby was dying or being smothered. And so that definitely distracts from my quality of sleep a lot.*

Another woman describes nightmares regarding infant safety:

Amaya: *The quality, I would say, is very poor. I would say that I regularly wake up in a panic and nightmare kind of mode since having a baby...like my body won't let me forget that she could be dying.*

To cope with fears about infant safety, women increasingly checked on their infants. Although these checking behaviors alleviated anxiety, getting out of bed to check on their infants disturbed their sleep routine.

Rebecca: *I'm basically just, especially with the young one, I'm worried about even her falling off the bed or worried about all of that. So I really just sometimes when I wake up, I'll go check on her because she could be sure she knows how to unlock doors like unlocked the sliding door to get on the balcony, stuff like that. So I really just be worried about going to instead of worrying about myself. That's what this keeps me up.*

Another mother describes the frequent checking behaviors:

Emily: *When I was a first-time parent, I would always check to see if she's breathing, I'm like, hold on, let me check every few seconds. I was just a new mom and I was just being overly cautious, so I got into the habit of getting up and checking on her.*

Women also described decreased sleep due to difficulty relaxing. Numerous mothers felt that they were so busy throughout the day that it was difficult to "switch" into a relaxed state congruent with sleep.

Deandra: *It takes me a while to unwind, I think because I'm just so I think I'm just so busy during the day, so it just takes a while for me to unwind.*

Similarly, one woman found that it was difficult to relax and sleep because there were so many tasks to do. It was hard for her to accept that some things would be left uncompleted if she chose to prioritize her own sleep.

Nicole: *Life in general, really, it's just always having to do something else. You have other people to take care of and you have other stuff to do, so finding the time to actually stop, slow down, and sleep is not easy sometimes.*

Adjusting to Changes and Finding Strategies

From the interviews, it was clear that women had a strong desire to improve their sleep and spent a lot of energy finding ways to improve their sleep. Many women described this phenomenon of experimenting with strategies to improve their own sleep. One woman described how experimenting with strategies to improve her sleep came from a state of desperation. She felt that her current sleep experience was so unbearable that something needed to change.

Jada: *You know, I actually googled because I was so desperate. I was like, I need some sleep, I need something. Nothing's working, and I can't remember the exact website, but the first thing they mentioned was try just music that maybe you don't listen to regularly, like classical music or even like nature sounds, stuff like that, and so I tried that and it worked.*

Some mothers found that sleeping whenever their infant slept was an effective strategy to improve their own sleep.

> Nia: *Just to expect, you know, that you're not going to get much sleep but to sleep whenever the baby sleeps. I wish I would have started doing that like early on because I didn't really figure that out until later. But to just really take advantage of when the baby is sleeping so that you can sleep too and rest and just don't put so much pressure on yourself.*

Another woman described how she also found the strategy of sleeping while the infant slept:

> Rebecca: *It's something that I actually figured out on my own. I just had, like happened to fall asleep when she was sleeping, and then I was like, oh my gosh, why have I not been doing this? I think what happened is, I, you know, I got so exhausted that I ended up falling asleep when she was sleeping, and then I realized that that needed to be a thing.*

However, another woman noted that the strategy of sleeping whenever her baby was sleeping didn't work for her. She described that sleeping whenever the baby sleeps may actually present new challenges for some mothers. Sleeping whenever the baby sleeps is not always easy or even an option for some mothers.

> Sarah: *There's a social forum on there that you can join with people, with other moms that have babies born the same month as yours at the same year, and a lot of people say, oh, I'm so tired, well just sleep when the baby sleeps. Well, it's not that easy.*

Participants also described the phenomenon whereby mothers' and infants' sleep is constantly changing and adjusting.

> Jada: *The past few months when her pattern changed, mine has changed as well.*

This frequent adjustment to new sleep patterns and routines was frustrating for mothers.

> Rebecca: [In frustrated tone] *It's like as soon as you start to feel like you're getting in a groove and the pattern changes or my body's changing or something's changing, so like, your routine is not a routine for very long…It's never ending.*

Despite differences in what strategies women found to be effective for their sleep, it was clear that the postpartum sleep experience involves experimentation, adjustment, and recalibration.

Balancing Self-care

Mothers also described difficulty balancing the need for self-care and the need for sleep. Some mothers greatly enjoyed self-care activities at night because that was the only time of day they did not have caretaking responsibilities. However, they found they would stay up late doing self-care activities which decreased the amount of sleep they were able to obtain.

> Shawn: *I have a hard time going to sleep at a normal hour. At night, it's my creative juices come alive after everybody else is asleep. And so I'll go and practice my guitar and my bass and do my cross-stitching and read and just do things like that and I lose track of time.*

Another woman described how the desire for self-care conflicted with her sleep:

> Megan: *Especially since I have another child, it's really the only time I'm by myself. Or I mean, I'm not even physically by myself. It's the only time that I don't necessarily have to have my undivided attention on somebody else. So it's like, you know, I feel like it's the only time I have to read things and figure out what's going on in the world or learn things or play games or whatever it is, and so I start doing it, then it's hard to stop, and then I realize it's been an hour and I suppose I go to sleep.*

Many women described that they knew choosing to spend their nights doing self-care was not a "responsible" decision. One mother even describes being criticized for staying up late doing

self-care activities. Mothers knew that by doing self-care they were losing time to sleep, but many times the need for self-care was more valued than the need for sleep.

> Nicole: *And then at nighttime, and it's like, okay me time, and my husband's like, why do you do that? Why don't you just go to bed at a normal hour? Well, it gives me my sanity to get through the day. I guess I just knowing that I, I take time to mentally decompress and do those things, and I'll like, listen to audio books while I cross stitch, and it just it's my mental therapy, I guess my self therapy, so just to relax and unwind.*

Women's self-care decisions ultimately shaped their sleep experiences, and women worked through decisions on whether self-care behaviors or sleep had more value to them.

The Emotional Experience of Sleep

The phenomenon of sleep loss and fatigue as an emotional experience also emerged from participant's interviews. In particular, women described intense and difficult emotions tied to their sleep loss and exhaustion and described how they coped with this emotional experience. One woman described significant exhaustion, frustration, and hopelessness tied to her sleep loss.

> Megan: *It was exhausting, and then also frustrating at times as well. I had to really push myself to get up sometimes and my husband would have helped. But he was working nights at that time so he would get home early in the morning. But there's just so many nights with him where he just did not sleep well. Wow. And it was exhausting. Exhausting. I felt defeated, like feeling defeated and not really having a solution to make things better other than trying to get some rest during the day, trading off with my husband and maybe having a better night the next night. Trying to think of things that would help them to sleep better. I don't know. We just tried on so many different things.*

Another woman described having strong memories of her experiences of exhaustion. The exhaustion was so significant that the memories of her exhaustion were haunting.

> Sarah: *Well, people always tell you, oh, you're not going to get much sleep, but I don't think it's possible to really understand the full weight of what that's really going to be like until you've gone through it. So yeah, I think that didn't have much emotional meaning to me as it does now. Now it has emotional meaning. When somebody says, Oh, hey, I got a new baby home or I didn't sleep much last night., baby had me awake all night. It's like I go back to that place mentally of going through that so many times. And yeah, I can be a little more empathetic because I have lived it. You have, you have a home and you know, you're able to kind of put yourself back in those shoes and even have some visceral memories of these times.*

One mother described that she believes she has changed due to the significant emotional experience of exhaustion in the postpartum period. She wondered if she would ever feel like herself before the postpartum period, as if she had lost some of her spirit.

> Deandra: *Yeah, it is really not enough sleep to get back to how you were. I don't think I will ever. Maybe in the long run when they get older because no more kids for me. Maybe I can get back to the old me before I had my first daughter, but the sleep is a very big thing for me and with me being tired all the time, I just can't get back to myself. I used to be so energized and happy, and I mean, I'm still happy, but I'm just tired. That person now being tired really does take away from, you know, kind of like your personality and your enjoyment in those things. That's my day-to-day activities. It's very hard because all of those things, even if they were enjoyable before, they just take so much energy.*

In an attempt to soothe the emotions related to sleep in the postpartum period, several women described self-talk strategies they had developed. One woman described using self-talk to soothe anxiety she had related to her infant's safety and well-being.

> Nia: *It's really hard to sleep because I'm still worried about her. So even in my sleep, I'm still like listening to see if I hear her crying or anything. I try to tell myself that like she's doing OK, she's OK, OK.*

Another woman described feeling soothed by reminding herself this difficult period of exhaustion was temporary.

> Shawn: *When I started getting sleepy, I started thinking about my kids, and school, you know, I only have to go through this for a limited amount of time. A lot of people don't really realize that this is only for a limited amount of time. You're not going to have to do this the rest of your life.*

The decision to have self-care or sleep was also an emotional experience for some women. The lack of self-care for one mother was so significant that she felt sadness when faced with the decision between self-care and sleep. Choosing sleep over her self-care, even if it meant better sleep, was truly a loss.

> Rebecca: *It's more so sad that I have to go to sleep because I want a little bit of me time, but at that point I'm so, so tired. It's like it's better that I do get sleep.*

Despite the known need for sleep, this participant described that attaining sleep could actually be sad when it means losing time for other valuable activities.

Societal Expectations of Mothers and Sleep

When describing their roles as mothers, women's descriptions were that the work of mothers is not valued as important or difficult. For example, women with husbands reported

valuing their husband's jobs more than their work as caregivers. The devaluation of mothers' work led to mothers minimizing their stress related to caregiving and made mothers take on additional tasks. For example, one woman described that it was hard to ask for help with caregiving because her husband had just finished a job shift. She did not acknowledge her own caregiving shift as laborious compared to her husband's job shift.

> Nicole: *Because my husband would work throughout the night and then when he would get home. Of course, he's exhausted from working, but I'm exhausted from taking care of the baby, so it was hard for me to ask for help at that time.*

Similarly, another woman describes viewing her husband's job as more difficult or important than her caregiving work. Viewing her own work as less difficult led her to take on more caregiving responsibilities and sacrifice her own sleep.

> Megan: *If I can get the baby to nap while the oldest is still gone, I can maybe get an hour or so of sleep then, but I have to be alert when my husband's home, he's sleeping and he works all night. So I, if the baby doesn't want to sleep then or if she's, you know, she's having a hard time and she's fussing because of her teeth or whatever, then I just don't take a nap. I definitely can feel the effects of it like mentally.*

In heterosexual relationships, it seems that women's work as caregivers is viewed as easier and less important than men's work. One woman describes that caregiving is her primary role, but doesn't acknowledge it as work equally valued to her husband's work.

> Megan: *I feel like I wear that weight on my shoulders and project that onto myself also. And so I feel like we have an agreement in our home life that because my husband is working a traditional job, you know, I won't get to sleep throughout the night more peacefully than I would because I'm taking that as my primary role for it right now.*

During interviews, the researcher found that she agreed with participants' statements that placed higher value on men's work. She found that she took these statements for granted as facts and worked to set aside her own identity as a woman to better make meaning of these statements. The value placed on women's and men's work is not fact, but rather made of meaning based on systems of power such as sexism.

Lastly, mothers expressed the underlying belief that the role of mothers was to be the ultimate caregiver who never has any human needs. One mother describes feeling like a "robot", a caregiver without emotions or human needs.

> Nia: *Interviewer: You said you were getting up in the middle of the night multiple times, how do you feel when that's happening or what thoughts are going through your head when that's happening?*
>
> *Interviewee: I would love to tell you, I have some awesome thought, but I sort of feel like a robot. His crib is in our room, so I get out of bed and there's like a rocking chair, so I get in the rocking chair. I nurse him, I rock him, sometimes I fall asleep in the rocking chair, sometimes I don't. I'll put him back in there, jump back into bed and then just keep doing it all night long.*

Mothers discussed receiving messages about postpartum sleep from a variety of sources such as family, friends, medical professionals, the internet, and social media. Some women identified that they did not receive messages or information about sleep in the postpartum period.

> Nia: *My doctor was pretty good about talking about postpartum depression and all the signs to expect with that, but didn't get a lot of information about sleep beforehand.*

Other women described that their expectations of sleep in the postpartum period were usually incorrect, and they experienced a period of adjustment having to un-learn these expectations. For example, one woman expected that sleep would be “the very worst” due to societal messages that mothers will have a terrible time sleeping in the postpartum period. She found that her expectations of having awful sleep did not align with her true experience.

> Shawn: *I mean, it was pretty rough, especially at the beginning, but it was almost better than I expected because I just honestly expected the very worst. I expected to not sleep at all because I knew my schedule and my husband's schedule just would not align, and so I knew that I probably wouldn't be getting much sleep, and so I just kind of counted on that. It was at least good rather than expected, but maybe a little better than I expected, if that makes sense.*

Overall, mothers wanted clearer expectations and information regarding sleep in the postpartum period. Recognizing societal pressures around infant’s and mother’s sleep may also be protective. One mother described the importance of setting aside societal expectations of motherhood in favor of finding strategies that work best for each individual family.

> Rebecca: *You don't want to scare new moms, because that's never cool, but, I do think it's important to say, you know, you're going to get less sleep. That's just part of it. You have to figure out some way to manage on less sleep. I don't know any other way that you can even do that. Your kids are going to wake up. It's okay to take care of them, like you don't have to let them cry it out and you're not a bad mom if you do decide to let them cry it out in the crib like it's all relative. It's all what you figure out with your family.*

Mothers described various societal pressures that negatively impacted their sleep. For example, there is a pressure for mothers to be able to complete all tasks, to never need rest, and

to have a pre-pregnancy body as quickly as possible. From these different societal pressures, the belief that mothers are not enough simply “as they are” frequently led to overworking, anxiety, and therefore worsened sleep. One mother described feeling pressured to focus on her body shape, finish all her tasks, and be a good mom. These pressures were significant and were prioritized over her own sleep.

> Nicole: *I think just the pressure to, you know, be a good mom and get everything done around the house and try and be taking care of yourself as well. Because when you have your baby, you know your body changes, you're upset about that. You want to try and get in better shape. So you have all these things that you want to do and you put a lot of pressure on yourself.*

Women identified that the societal pressures of motherhood are learned and can be harmful to mothers.

> Emily: *I think it's just like the stigma of motherhood, right? Like, you're just expected to do these things and it's not always right, and it doesn't always make sense, but I think that's just what so many women, including myself, have been conditioned to believe and act upon.*

Another woman identifies the harmful pressures on mothers:

> Amaya: *As a society, we really glorify, like overworking and trying to do it all, and I think that needs to take a step back.*

Some mothers, who largely identified as white, also described how societal pressures regarding mother’s choices impacted their sleep. Mothers faced many choices when it came to the sleep of their infants and themselves. For example, women noted choices regarding sleeping arrangements, sleep technology, and infant sleep training. With these many choices, some

women described feeling ashamed about their choices and feared they would be judged by others for their choices. For example, some women felt ashamed that they co-slept with their children, leading them to keep this a secret from family members.

> Megan: *They act like they have it all figured out and you do feel a little bit like, I wouldn't tell my friends that she slept in the bed. She sleeps in the bed with me.*

Other women described that after exposure to many potential judgments about mothers' choices, they were able to feel less impacted by these potential judgments. These mothers accepted that judgments of mothers exist and chose to move forward by choosing what was best for them.

> Jada: *My OBGYN, she's like more like mainstream type medicine. So she's like let your kid cry it out, don't get him from the crib, yadda yadda yadda. So like my actual family physician is more holistic. And she's like, if your child's waking at night, there's a reason they're waking. You need to check on them. There shouldn't be like a whole sleep schedule thing for your baby. It's okay if they wake. Just go get them. Find out what draws them back to sleep. That changes once they're like a year old. But right now, the baby's just like, you know, you're going to get woken up. That's just life. So I just kind of expected that. So that doesn't bother me, and I don't really look at anything, really, like on the internet regarding children's sleep, because everybody has their whole either let your kid cry it out and you sleep or don't let your kid cry it out.*

One mother describes that although societal expectations suggest that certain choices are more shameful, she realized that she didn't agree with these societal expectations.

> Sarah: *You're not a bad mom if you do decide to let them cry it out in the crib like it's all relative. It's all what you figure out with your family.*

Although the shaming of mother's choices was a significant part of the experience of postpartum sleep for white mothers, this phenomenon didn't appear as a significant part of the experience for Black mothers. Black mothers were aware of these pressures but did not express significant concern related to the judgments of mother's choices. In interviews, Black women processed mother's choices as opportunities for autonomy. They didn't describe their choices as carrying any particular meaning, but simply as choices they made.

All together, these results describe the phenomena of postpartum sleep. Participant's lived experience of postpartum sleep was illustrated through deep and rich interview data and analysis. Women's descriptions of their sleep environment, sleep behavior, and emotions tied to sleep were significant pieces of the postpartum sleep experience, Additionally, the influence of systems of power shaped women's sleep in the postpartum period. In particular, the devaluation of motherhood and societal expectations of motherhood influenced mother's individual experiences of sleep in significant ways.

Discussion

The purpose of this study was to understand and describe the experiences of sleep for women in the postpartum period in Black and white women. In-depth interviews with 10 participants were transcribed and analyzed using a phenomenological approach to qualitative research. Interviews and data analysis also used an intersectional-feminist lens to better understand how unique intersections of identity shaped postpartum sleep experiences. The results were organized into six themes; 1) the importance of the sleep environment, 2) anxiety and hypervigilance, 3) adjusting to changes and finding strategies, 4) balancing self-care, 5) the emotional experience of sleep, and 6) societal expectations of mothers and sleep.

Phenomenological research entails the close involvement of the researcher as the instrument of data collection, analysis, and presentation of the findings. Therefore, the values and ideas of the researcher are inevitably a part of the research. The use of the reflexive journal served as a tool for me to articulate my thoughts and feelings about the research process and findings. This discussion begins with a narrative section in which the bracketed assumptions of the researcher are shared. Next, I reflect on the results of the study followed by a discussion of the findings in relation to the existing literature. I next discuss research and clinical implications of this study, including suggestions for future research. Lastly, I present the strengths and limitations of the study, followed by a brief conclusion.

Bracketing of Researcher's Assumptions

It is important to acknowledge that my experiences, values, thoughts, and feelings have shaped this project from inception to final product. To examine how my views may relate to the discussion of the findings, I have identified several personal assumptions, beliefs, and life experiences that are part of my worldview.

First, central to my professional identity is the core value that the human experience is rich with not only hardship and challenge, but also resilience and strengths. Despite strongly holding this value, I noticed my own tendency to focus on the challenges of the postpartum sleep experience. It is likely that my review of the literature on postpartum sleep, which largely focused on deficits and challenges, inadvertently shaped my own perspective on postpartum sleep. Additionally, my personal conversations with women I knew in the postpartum period also tended to focus on their experiences of stress and defeat regarding sleep. Because of this personal experience, I noticed myself surprised when speaking with participants who did not describe challenges being a central part of their sleep experiences. By acknowledging and reflecting upon

this tendency to be attuned to negative experiences, I was able to broaden my views and identify several areas of resilience and positive coping within postpartum sleep experiences.

Second, part of my motivation for conducting this study was to seek answers to questions that arose in my own personal relationships with women in the postpartum period. In my conversations with mothers, I had a sense that postpartum sleep was seen by many as an inevitable hardship that women must endure, but I suspected women would benefit from having a more nuanced and validating description of their postpartum sleep experience. I believed postpartum sleep should not simply be written off as unimportant, but rather a daily and significant experience for women.

Lastly, my own experiences of identity have shaped my worldview. In particular, I found that my worldview as a woman brought up a lot of opportunity for reflection and bracketing. Despite identifying as a feminist, who believes in the equality of all regardless of gender, I found my own internalized sexism was triggered throughout the study. For example, when a participant described how her family decided it was more important for her husband, a truck driver, to get adequate sleep than for her to get sleep, I initially took this description at face-value. My own father is a truck driver and I know it is important for anyone driving to be alert for safety reasons. However, when I set aside my experience as a woman and as a daughter of a truck driver, I realized that saying it is more important for a truck driver to sleep well than for a mother to sleep well is a valued judgment. The unspoken value is that men's jobs are more important than women's jobs. In fact, is it not also important for a mother to be alert when parenting an infant? Additionally, I noticed my own hesitancy to interpret lived experiences that were likely different than my own. I am not a mother or a Black woman, and I was concerned I would misinterpret the experiences of these identities as different or negative simply because these experiences did not

fit into my worldview. Using a reflexive journal and peer debriefing was helpful as I worked to de-center my own experiences throughout data analysis.

Results and Theoretical Framework

The Importance of the Sleep Environment

Participants expressed numerous ways in which the environment impacted their sleep experience and how this environment was dependent on facets of identity such as socioeconomic status and cultural views on sharing spaces. First, some participants had the financial means to shape their sleep environment to be more conducive to quality sleep, whereby they had good mattresses, high-tech infant bassinets, and sleep technology. As such, the comfort of the sleeping environment was indicated as related to financial means for several participants. Other participants had sleep environments reflective of less financial means, whereby they had more neighborhood noise and co-sleeping due to limited household space. These differences are particularly important to consider from an intersectional-feminist perspective as the bedroom environment largely reflects one's privileges, income, and available resources and, therefore, differs across intersections of cultures and socioeconomic statuses. These differences, in turn, could perpetuate already existing disparities. For example, aspects of the bedroom environment which are reflective of lower income, such as inadequate room temperatures and environmental noise, are associated with worse sleep quality (Mezick et al., 2008). Additionally, although co-sleeping is the most common sleeping arrangement in most cultures around the world and was practiced by several mothers in the current study, co-sleeping is culturally controversial in American society and may not be beneficial for the mother or child if it is not the chosen sleeping arrangement (Owens, 2004).

The current study found the sleep environment was also uniquely shaped by the COVID-19 pandemic, as the current study was conducted during 2021 while the COVID-19 pandemic was in its second year. Many participants reported that working a job from home or schooling their children from home negatively impacted their sleep. When participants spent their time working a job from home and schooling from home, they described difficulty sleeping in the same environment. Research on sleep changes in the time of COVID-19 reported similar findings. For those working a job in person in the U.S., total sleep time decreased (Conroy et al., 2021). For those working a job from home, total sleep time was unchanged, however bedtimes and wake times both shifted later (Conroy et al., 2021). Although total sleep time may have been less altered by working a job from home for the general population, the timing shift of the sleep period could have consequences for both sleep and daytime functioning due to potential misalignment with natural light and dark cues that anchor sleep and alerting rhythms (Roenneberg et al., 2013). In addition to the timing of sleep, sleep quality and insomnia was more likely to worsen for those working a job from home (Brynjolfsson et al., 2020; McCall et al., 2021). Several contributing factors to poor sleep in the pandemic have been documented for postpartum mothers. For example, postpartum mothers experienced isolation or monotony from working a job from home or being housebound during the Pandemic (Goyal et al., 2022). Postpartum mothers' sleep was also affected by poor sleep hygiene (Goyal et al., 2022) and subsequent lack of stimulus control that occurs when the bedroom cannot be reserved solely for sleeping (Bootzin & Epstein, 2000). These contributing factors are in line with participant's descriptions that the thoughts and emotions they normally had at their job were now experienced at home which led to sleep difficulties.

Anxiety and Hypervigilance

One notable finding of the current study is the sense of hypervigilance many women experienced and its impact on women's sleep. Participants reported they felt on-alert and vigilant for signs of distress from their infant, and this vigilance was incongruent with trying to obtain sleep. Women even described intense fears of their infants being in danger while the women tried to sleep, going so far as to have nightmares about their infants being in danger. Hypervigilance has been associated with worse sleep in patients with posttraumatic stress disorder (Westermeyer et al., 2010) and in caregivers for persons with dementia (McCurry et al., 2007). Worries about infant safety have also been established as a significant part of postpartum anxiety (Fallon et al., 2016), however the current study's finding regarding the relationship between hypervigilance and sleep in the postpartum period is novel. The Cognitive Model of Insomnia may best explain the mechanism by which hypervigilance impacts sleep in the postpartum. This model posits that excessive worries trigger arousal and distress, which then lead to the development selective attention of sleep-related threat cues, such as listening to the baby monitor or being vigilant for infant sounds of distress (Harvey, 2000). The excessive worries about infant safety and hypervigilance to threat cues were described as a significant part of the postpartum sleep experience in the current study.

Adjusting to Changes and Finding Strategies

Because of the difficulties obtaining adequate sleep, and the consistent adjustments required for sleep in the postpartum period, women found strategies to help their sleep. Participants described a process of experimenting with various strategies to ultimately find what worked best for them. The adjustment to sleep in the postpartum period is similar to the overall adjustment to motherhood, whereby mothers hone behaviors through interactions with the

changing needs of an infant (Mothander, 1992). In maternal adjustment, mothers' cognitive beliefs about motherhood interact with infant's needs to further hone mother's behaviors. Cognitive beliefs about motherhood, such as having unrealistic and perfectionistic ideas about parenting or believing mothers should be able to do it all, have been shown to worsen the adjustment to motherhood (Henshaw et al., 2014). It is likely that cognitive beliefs about motherhood would have similar effects on the adjustment to sleep in the postpartum period. Although some beliefs would help mothers adjust and find strategies to improve their sleep, other cognitive beliefs could hinder sleep improvements. For example, having the cognitive belief that mothers should be able to complete all household responsibilities and caregiving could lead mothers to be inflexible in reducing responsibilities to prioritize their own sleep. Additionally, many cognitive beliefs about motherhood are developed through cultural messages about motherhood (Hays, 1996). These cognitive beliefs based on cultural messages do not always interact well with the reality of infant behaviors, likely leading to poor adjustment to sleep in the postpartum period. For example, there are strong social messages in the United States about safe infant sleep practices, even at the cost of infant sleep (Moon et al., 2022). These messages may conflict with messages about the importance of getting the infant to sleep for their development and gendered messages that encourage women to take care of themselves and "bounce back" after pregnancy. Ultimately, the honing of infant sleep through interactions between mothers and their infants may be complicated by social messages about sleep, development, and gendered expectations.

The Emotional Experience of Sleep

The emotional experience of postpartum sleep was an overarching theme in this study. Women described that the intense fatigue felt in the postpartum period was experienced as an

emotion. Their inadequate sleep also felt like a loss, as if the women were grieving the more well-rested and well-cared-for version of themselves prior to the postpartum period. Many women were faced with a choice between getting better sleep or having some time for their own self-care, a choice that often felt like a loss. Qualitative research on women's change in identity as new mothers similarly described a sense of loss in the adjustment to motherhood (Laney et al., 2015). To form their new identity as mothers, women described first losing their own sense of identity, and then incorporating their children and motherhood into their identity (Laney et al., 2015). Sleep and self-care appeared to be important aspects of women's identities in the current study, and the loss of these pieces of identity in the postpartum period was emotional.

The association between sleep and emotions is well known, in fact, one daily diary study found mothers who had longer sleep duration were found to have greater positive emotions, lower negative emotions, and lower perceived stressfulness (Newman et al., 2022). However, mothers defining sleep loss and fatigue as emotional experiences is undocumented in the literature, and the current study suggests that mothers' experience of sleep loss and fatigue is so significant that mothers make meaning of this experience through emotional processing. In fact, mothers in the current study described the emotional experience of sleep loss and fatigue as so significant that they viscerally remembered these past experiences (e.g., "You're able to kind of put yourself back in those shoes and even have some visceral memories of these times"). As research exerts highly emotional events, especially negatively emotional events, lead to increased memory of the event (Kensinger, 2009). Results of the current study further point to sleep loss being an impactful and durable emotional experience for women.

To cope with this emotional experience of sleeplessness, women in the current study described self-talk strategies. Women would engage in self-reassurance and reality testing as a

way of coping. For example, women would tell themselves their infant was safe or would tell themselves that the infancy period was temporary. An ecological momentary assessment study of patients with depression found that engaging in coping strategies, such as cognitive reframing, decreased rumination and stress (Rosenbaum et al., 2022).

Societal Expectations of Mothers and Sleep

An underlying belief that the work of motherhood for women is less important and less difficult than the work of men appeared to affect women's postpartum sleep. Because participants believed their responsibilities as mothers were less important than their husband's responsibilities, the participants minimized their difficulties with their responsibilities, took on increased responsibilities, and accepted the fate of lesser sleep. This finding is in line with previous research which found mothers are responsible for the majority of child-rearing compared to fathers (Sayer & Gornick, 2011). In fact, mothers in heterosexual relationships with men spent significantly more time on housework and childcare, and less time in leisure and sleep, compared to never-married and divorced mothers (Pepin et al., 2018). It seems that expectations of mothers are greatly influenced by gender ideals and sexism, whereby mothers, and not fathers, are expected to be primarily responsible for childrearing (Hays, 1996).

Participants described receiving fearful messages about postpartum sleep, which lead them to believe that postpartum sleep would be inevitably terrible. These messages did not seem helpful in preparing women for difficulties they may endure with postpartum sleep, and in fact did not align with the true experience of postpartum sleep for some women. Research on fear-based messaging related to health behaviors has similarly found these messages to be unhelpful. Fear-based messages have been shown to be ineffective in health behavior change, unless fear-based messages also enhance self-efficacy (Carey & Sarma, 2016). Instead of fear-based

messages, women in the current study expressed a desire to have more factual information regarding postpartum sleep. They also expressed a desire to have more practical and validating advice for how to cope with difficulties with postpartum sleep. Messaging about postpartum sleep that is factual, framed as supportive, and enhances self-efficacy may be more effective in preparing mothers for the postpartum sleep experience.

Participants spoke of societal expectations for mothers to have it all together and be able to do it all. They described that mothers feel ashamed of their behaviors and choices because of the societal expectations of motherhood. For example, some mothers in the current study shared that they were secretive about their co-sleeping practices due to fear of judgment from others. Societal expectations of mothers have been shown to have negative consequences. For example, mothers who felt more pressure to be perfect mothers had more parental burnout and greater difficulty finding a work-family balance (Meeussen & Van Laar, 2018). In the case of postpartum sleep, societal expectations of mothers may lead mothers to de-prioritize their own sleep in favor of completing more tasks. Additionally, societal expectations of mothers may lead mothers to make decisions that are not best for their own well-being in favor of avoiding judgment from others.

Although both Black and white mothers articulated the societal expectations of mothers in terms of mothering and sleep, Black participants were less likely to internalize these societal expectations compared to white participants. For example, Black mothers described their mothering choices as simply their own choices and described being un-swayed by the likely judgments of others. White mothers, conversely, spoke about their choices as opportunities to be judged and shamed due to societal expectations for mothers. They even expressed internalized shame about some of their mothering choices. For example, one white mother described how her

shame over letting her children co-sleep led her to keep this practice a secret from family members.

In order to understand the intersection of social expectations about motherhood and race, it is helpful to consider the research which has centered white mothers' experience compared to the Black feminist approach to motherhood. Previous research, largely centered on the experiences of white mothers, identified social expectations of mothers as being always selfless caregivers who invest great amounts of time, money, energy, and emotional labor into parenting (Hays, 1996). Sharon Hays coined the term for this societal expectation of mothers as "intensive mothering." The intensive mothering ideal is harmful not only because it is an impossible standard, but also because it enforces the expectation that mothers should sacrifice other aspects of their lives, like work, recreation, and well-being, in favor of this ideal (Forbes et al., 2021). Although these experiences of intensive mothering are important, they are not representative of all experiences of motherhood, and may not represent the experience of Black mothers in particular. For example, although research has found women of both white and Black identities are aware of intensive mothering ideals (Blair-Loy, 2003; Hays, 1996; McCormack, 2005), Black mothers may not conform to these ideals for a variety of reasons. Firstly, Black mothers have not had economic, social, or legal privileges to have the opportunity to conform to intensive mothering ideals (Dow, 2016). Secondly, Black mothers may have different beliefs, attitudes, and practices related to motherhood than white mothers (Collins, 2009). For example, the culture of motherhood for Black women values the help of community members in caregiving, which may be a cultural value in response to a history of economic necessity (Collins, 2009). However, the culture of white motherhood, which values intensive mothering ideals, may put pressure on white mothers to take on the majority of caregiving independently. In relation to postpartum

sleep, these differences in cultural ideals of motherhood may impact mothers' choices surrounding sleep. White mothers may be more likely to make choices based on intensive mothering ideals, whereas Black mothers may instead make choices related to postpartum sleep that are best for themselves and their children. The current study has begun to uncover how race and gender intersect to shape mothers lived experiences, including their lived experiences of sleep in the postpartum period.

Implications and Future Directions

This study provided a detailed description of women's sleep experiences in the postpartum period. To date, this is the first study to explain the phenomenon of postpartum sleep using an intersectional-feminist lens. This study broadens the literature on postpartum sleep by providing a description of a women's unique and nuanced lived experiences of postpartum sleep. There are several research, clinical, and policy implications from this work. First, postpartum sleep was described by women as being shaped by intersections of socioeconomic status, gender, and race. Women's access to resources and environments which improve sleep was related to socioeconomic status. The implications of these findings include highlighting the benefits *and* potential inequities associated with better sleeping environments and technologies. In addition to broader discussions about inequities associated with neighborhood quality, there is a need for future research to explore how technologies designed to protect infants and promote better sleep will widen socioeconomic disparities and create further barriers for lower socioeconomic women to achieve mental, physical, social, and financial wellness due to poorer postpartum sleep.

Second, women's expectations of motherhood were seemingly related to gender and race. Next steps in research might include developing interventions at the individual and societal level to address the devaluing of women's experiences during the postpartum period. For example,

future research may investigate the effectiveness of various approaches to public health messaging which convey a sense of valuing women's experiences during the postpartum period. At the societal level, changes in parental leave policies have the potential to convey that women's experiences in the postpartum period are valued. Additionally, as Black women in the current study exhibited greater resilience to prescriptive societal expectations of motherhood, future research may seek to better understanding Black mother's protective factors and coping strategies which moderate their internalization of prescriptive social messaging around motherhood and sleep.

Additionally, the current study was novel in describing how the hypervigilance and constant adjustments experienced in the postpartum period affects women's sleep. Women reported being on alert and on guard due to safety concerns for their infants, which made it difficult to initiate and maintain sleep. Women also described the challenge of constantly adjusting their sleep to their infant's changing sleep patterns. To address these concerns about infant safety and sleep adjustments, mothers may benefit from interventions which strengthen their skills in effectively solving problems. The ability to effectively solve problems is helpful in decreasing the effect of stress on well-being, however problem-solving is often difficult in the face of stress (Bell & D'Zurilla, 2009). Problem Solving Therapy is an intervention which aims to increase problem-solving skills to better protect mental well-being. This therapy helps individuals identify how to appraise and approach problems in a realistic and helpful way, particularly in the face of strong emotions (D'Zurilla & Nezu, 2001). In postpartum women, Problem Solving Therapy was helpful in reducing depressive symptoms (Sampson et al., 2016). It is likely that increasing problem-solving skills, potentially by using Problem Solving Therapy,

may aid women as they go through a process of consistently adjusting to changes in infant sleep patterns and making choices about infant safety.

Lastly, women described emotional factors which impacted their sleep in the postpartum period. Women reported feeling a sense of grief due to losing sleep and self-care time. Women also reported using self-talk strategies to cope with emotions related to sleep adjustments and sleep loss. Acceptance and commitment therapy (ACT) may address some of the unique emotional and logistical sleep challenges for postpartum women. The goal of ACT is to increase psychological flexibility with several processes: acceptance, contact with the present moment, diffusion, self-as-context, values, and committed action (Hayes et al., 2006). In the postpartum period, ACT may be beneficial by helping women to let go of their attempts to control sleep and increase the willingness to accept various sleep states and emotions (Lundh, 2005), which is particularly important as infant sleep behaviors, and therefore postpartum sleep, is not controllable despite consumer messaging and marketing suggesting that it can be controlled. Additionally, because sleep loss feels so significant in the postpartum period, women may over-direct their attention to sleep at the expense of attending to other valued aspects of their lives (Espie et al., 2006). Using ACT may be a way to increase women's diffusion of catastrophic sleep thoughts and live a more meaningful life through committed actions (Dalrymple et al., 2010). In fact, a recent meta-analysis has shown ACT to improve insomnia and sleep quality compared to waitlist controls (Ruan et al., 2022).

Strengths and Limitations

Strengths of this study included the depth of description derived from qualitative research and the phenomenological approach. Through this approach, the voices of women were amplified so that their individual lived experiences of sleep in the postpartum period could be

heard. Large volumes of data were sorted, clustered, and analyzed through a careful, exhaustive process by the researcher using methods informed by phenomenology. Another strength of the phenomenological methodology of this study was the utilization of several tools to increase trustworthiness. The reflexive journal, the audit trail, peer debriefing, and the practice of member checking all helped to ensure that the data accurately reflected the experiences of the participants.

The researcher's experiences, thoughts, and feelings were central to the present work, which was likely both a strength and a weakness. The researcher's self-awareness and openness to feedback enhanced the study's trustworthiness. Through self-awareness and a commitment to ongoing self-examination, the researcher capitalized on the reflexive journal as a way to bracket assumptions. Through openness to feedback and willingness to consider alternative ideas, the researcher could approach the work with an open mind to hearing the full range of experiences, positive and negative, described by the participants.

Additionally, the researcher had education and training in behavioral sleep medicine, postpartum mental health, and feminist theory. This background was an asset in that it increased the researcher's investment in the study and provided a knowledge base from which to draw upon to ensure that the study constituted a relevant and meaningful contribution to the literature on postpartum sleep. On the other hand, the lens that the researcher brought to the study undoubtedly shaped the understanding and interpretation of the participants' experiences. For example, the researcher's lack of lived experience with the postpartum period likely influenced data analysis. Additionally, the researcher's social location as a white cisgender woman may have been more similar and dissimilar to different participants, creating the opportunity for assumptions and biases to have unintended influence on the analysis.

Conclusion

This qualitative study explored the experience of sleep in the postpartum period. The current study used an intersectional-feminist lens to attend to the influence of sociopolitical identities and systems of power on postpartum sleep. Research methods were guided by a phenomenological approach, with the primary aim to describe and understand women's lived experience of sleep in the postpartum period. Six themes were uncovered; 1) the importance of the sleep environment, 2) anxiety and hypervigilance, 3) adjusting to changes and finding strategies, 4) balancing self-care, 5) the emotional experience of sleep, and 6) societal expectations of mothers and sleep. The categories included a range of positive and negative experiences as part of postpartum sleep. This project resulted in several research and clinical implications for the future study and treatment of postpartum sleep. Strengths and limitations of the study were explained, along with suggestions for additional research.

In conclusion, the present study constitutes a valuable addition to the small body of literature on postpartum sleep. This is the first study to examine postpartum sleep using a qualitative design and intersectional-feminist lens. The experiences of the 10 participants in this study provide readers with an increased understanding of the lived experience of postpartum sleep. This is a preliminary step in beginning to understand the nuanced lived experience of postpartum sleep more fully. Finally, this work is a building block for future researchers and practitioners in postpartum sleep and mental health.

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Appendix

Questions to Uncover Lived Experience

Describe in as much detail as possible a typical night of sleep.

What did your sleep look like prior to giving birth?

How has your sleep changed after giving birth?

Can you describe how your sleep changed over time after giving birth?

What was it like to navigate your sleep after having a baby?

How did you experience the changes to your sleep over time after having a baby?

What has been important/salient about your sleep experience in the postpartum period?

What would you like people to know about sleep in the postpartum period?

Vita

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