"If I Wasn't as Sensitive as I Am, Maybe I'd Just Take It for Granted" –

Exploring Parenting Experiences in the Postnatal Period for Mothers Identifying with

Sensory Processing Sensitivity (SPS)

Sarah Pirmohamed

A thesis submitted for the Doctorate in Clinical Psychology

Doctorate in Clinical Psychology (DClinPsych)

University of Essex

School of Health & Social Care

2020 Cohort

Submission Date: 22/07/2023

ABSTRACT

Background: Sensory processing sensitivity (SPS) is a trait characterised by heightened sensitivity to environmental stimuli, impacting individuals' experiences and interactions. Understanding the unique challenges and needs of mothers with SPS during the postnatal period is crucial for tailored support and positive maternal and child outcomes.

Objective: This qualitative study explored the parenting experiences of mothers with SPS during the postnatal period. It aimed to understand their perception of interactions with their infants, the impact of SPS on their emotional well-being, and their overall support experience.

Methods: Semi-structured interviews were conducted with 14 highly sensitive mothers. A reflexive thematic analysis approach identified emerging themes.

Results: Mothers with SPS reported heightened awareness, attunement, and responsiveness to their infants' needs, highlighting the challenges and rewards of sensitive caregiving. They sought a balance between personal solitude and social connectedness, valuing self-care strategies and supportive relationships. Empathy, validation, and understanding from support networks were emphasised. Sensory sensitivities and feelings of overwhelm affected their ability to navigate motherhood.

Clinical Implications: Healthcare professionals should adopt an individualised and person-centered approach for mothers with sensory processing sensitivity. Recognizing their heightened sensitivities and creating sensory-friendly environments can enhance their overall experience. Professionals should be mindful of service stressors, cultivating self-awareness and providing empathy, validation, and understanding. Promoting tailored self-care activities and coping mechanisms is essential. Resources, education, and specific support networks can empower mothers to prioritise their wellbeing and manage challenges.

Conclusion: This study highlights the parenting experiences of mothers with sensory processing sensitivity during the postnatal period, emphasising the impact of sensory sensitivities and overwhelm on their wellbeing and caregiving. Incorporating these insights into clinical practice can improve support, leading to enhanced wellbeing and positive outcomes. Further research and collaboration are needed to develop evidence-based interventions and guidelines addressing the needs of mothers with sensory processing sensitivity during the postnatal period.

Keywords: sensory processing sensitivity, highly sensitive individuals, motherhood, postnatal period, parenting experiences, qualitative research, clinical implications.

Declaration

I can confirm that this thesis is an original piece of work conducted by the author. It was completed and submitted as a requirement for the author's Clinical Psychology Doctorate at the University of Essex. This thesis has not been submitted for any other academic award.

Sarah Pirmohamed

16.07.2023

Acknowledgements

I would like to express my deepest gratitude to the participants of this study who generously shared their experiences and insights. Your willingness to be open and vulnerable in discussing your journey as highly sensitive mothers was invaluable to the success of this research.

I am also immensely grateful to my supervisors, Dr Silvia Rigato, Prof Frances Blumenfeld and Dr Caroline Barratt for their guidance, support, and expertise throughout the entire process. Your invaluable advice, constructive feedback, and unwavering encouragement have been instrumental in shaping this thesis.

I would like to extend my heartfelt appreciation to my family and friends for their unwavering support and understanding throughout my doctoral journey. To Liam, thank you for standing by me and providing encouragement as I pursued my path to clinical training. A special mention to my Mum and Dad - your constant encouragement, patience, and belief in me have been a source of strength and motivation. Finally, the love and companionship of my four-legged friend, Loki has been a significant comfort and reminder for me to take breaks and spend time in nature.

Table of Contents

1. INTRODUCTION

Chapter Overview

Having a baby is a time of great excitement and anticipation for parents, but it is also a time of tremendous physical and emotional change. According to the Perinatal Mental Health Care Pathways (NHS, 2018), one in five women will experience a mental health problem in the first year of birth. The adjustment to the postnatal period for mothers is a topic which has elicited interest from researchers in recent years and has contributed to the growth of perinatal and parent-infant mental health services. Mothers with Sensory Processing Sensitivity (SPS) face an increased vulnerability to developing mental health difficulties during this period. The current study aims to develop an understanding of the unique experiences of new mothers with SPS during the postnatal period. This chapter begins by reviewing the current knowledge around SPS. Based on relevant theories, it then considers the experience of motherhood, and makes suggestions as to how this experience may differ for mothers who are highly sensitive. This is followed by a systematic review of existing literature which has demonstrated certain experiences for parents with SPS. Finally, the rationale and aims of the current study are presented.

1.1 Background

1.1.1 Sensory Processing Sensitivity and High Sensitivity

Humans have evolved to take in, process, and react to a wide range of physical, social and emotional stimuli, however, individuals differ in the amount of stimuli needed for the nervous system to notice or react, and the individual response in relation to these thresholds (Pluess, 2015). In other words, individuals vary greatly in their levels of sensitivity and responsiveness, with some being more, and others less influenced by the same environmental conditions. Sensitivity has been defined as a 'temperamental trait' (Boterberg & Warreyn,

2016), and as with any trait, it is understood to exist on a continuum (Pluess et al., 2023) as opposed to as binary groups of sensitivity and non-sensitivity. To describe individuals who are susceptible to a deeper level of processing due to being on the more sensitive side of the spectrum, Aron and Aron (1997) adopted the terms 'highly sensitive' or 'Sensory Processing Sensitivity'. Evidence suggests that highly sensitive individuals exhibit increased sensitivity in both positive and negative environments and therefore experience a stronger reaction than non-highly sensitive individuals to both aversive as well as advantageous or enriching experiences (Boyce & Ellis, 2005).

Aron and Aron (1997) have identified a number of key traits to conceptualise common experiences of individuals who are highly sensitive. These include a greater depth of information processing, susceptibility to overstimulation, increased emotional reactivity and empathy and greater awareness and sensitivity to sensory information. These individuals report having a rich and complex 'inner life', and increased sensitivity to hunger, pain as well as subtle differences in their external environment including sensory information (i.e., noises, lights, smells or uncomfortable clothing), or shifts in other peoples' moods (Aron & Aron, 1997). It is currently estimated that roughly 30% of the population meet the criteria related to a higher level of sensitivity (Lionetti et al., 2018). According to the Office for National Statistics (ONS) (2020), in the UK, 82% of women have a child during their lifetime. This would suggest that there are a significant number of mothers who are likely to have greater levels of sensitivity when navigating motherhood, and hence unique needs and experiences which need to be considered.

1.1.2 Biological, Evolutionary and Psychological Understanding of High Sensitivity

The ability to perceive, process and react to one's internal and external environment are strategies that are believed to have evolved to promote survival (Aron & Aron, 1997). Research has found many inherent differences in non-human species that involve being

more or less responsive, reactive, sensitive and flexible within their environment. In an evolutionary context, individuals who were more sensitive and responsive to their environment had the advantage of enhanced awareness of opportunities (including food, mates and alliances) and threats (including predators, loss of status and competitors). This proved an effective survival strategy, as long as benefits of increased sensitivity outweighed the costs. Increased ability to 'tune in' to one's environment is likely to be beneficial in the detection of ample survival opportunities, but naturally, this would create increased demand on the highly sensitive individual's metabolic and cognitive processes which would lead to a more rapid depletion of energy and hence counteract their unique advantage (Aron & Aron, 1997; Wolf et al., 2008).

An understanding of the manifestation of sensitivity in evolutionary times can be applied to the experience of highly sensitive individuals in the present context as they too face unique strengths (i.e., increased attunement, connectedness to others, increased intuition and awareness of environmental cues) and challenges (overthinking, overwhelming and depletion of energy). It is therefore important to consider the factors which may contribute to how sensitivity presents. Current research suggests that advantages or disadvantages are created as a result of the unique and complex interplay of biological and psychological factors for each individual. Numerous gene interaction studies have provided empirical evidence that sensitivity and susceptibility to the environment are genetically determined and manifest through the sensitivity of the central nervous system (Acevedo et al., 2014; Assary et al., 2021; Homberg et al., 2016). The Stress-Diathesis model (Monroe & Simons, 1991) provides some understanding of how when faced with adverse life experiences or environmental stressors and demands, these biological and inherent levels of sensitivity may increase vulnerability to negative psychological outcomes. This implies that we can identify individuals who may be at an increased risk for

11

developing psychopathology and stress-related illnesses, which would extend to mothers who face postnatal mental health difficulties in the context of adapting to the challenges of motherhood.

Despite this, the Stress-Diathesis model does not provide a complete understanding of the mechanisms of this interaction, nor does it explain various other non-problematic outcomes for highly sensitive individuals, i.e., those who thrive even in the face of challenges. The Biological Sensitivity to Context theory (Boyce & Ellis, 2005) is helpful in providing further understanding of this complex interplay. This theory suggests that for individuals who carry sensitivity genes, sensitivity does not simply indicate exaggerated arousal and stress reactivity under challenge, but a biological sensitivity to *all* contexts. Therefore, whilst highly sensitive individuals face greater vulnerability to negative health effects under conditions of adversity; they also experience an increase in favourable outcomes in supportive and protective environments. As well as this, although some research identifies adverse childhood experiences and early trauma as significant predisposing factor to increased stress sensitivity (Grasso et al., 2012), Boyce and Ellis (2005) suggested through the Biological Sensitivity to Context theory that both highly stressful *and* highly protective environments yield disproportionate numbers of highly sensitive individuals when compared to environments that are more neutral. Typically, the majority of individuals would not have been exposed to environments of either extreme, therefore they will less likely develop increased stress-reactivity.

For individuals with sensitivity genes, exposure to a highly stressful environment as a child maximises stress sensitivity and reactivity, and this increases capacity to respond to environmental dangers and threats (Boyce et al., 1995; Pluess, 2015). Equally, exposure to a highly supportive environment as a child also increases stress sensitivity and reactivity, with

a function of increasing receptivity to social resources and support (Boyce et al., 1995; Pluess, 2015). This suggests that for children with sensitivity genes, exposure to either a predominantly threatening or supportive environment through childhood improve cognitive processes for responding to their specific environment. This provides an understanding as to why highly-sensitive individuals are affected more deeply by negative experience, but also thrive more than their non-highly sensitive counterparts in positive environments (Aron & Aron, 1997; Greven et al., 2019). To further demonstrate this effect, Boyce et al. (1995) explored incidence of respiratory illness over several months in highly sensitive and non-highly sensitive children within high and low-stress family environments. Boyce et al. (1995) found that in high-stress environments, highly sensitive children had significantly higher rates of respiratory illness than their non-highly sensitive peers did. Despite this, highly sensitive children in low-stress settings were the healthiest of all children within the samples. For children who were not highly sensitive, respiratory illness incidence was approximately the same mid-level rate in both high and low-stress conditions. Therefore, for individuals with sensitivity genes present, sensitivity may manifest as vulnerability in adverse environments, vantage sensitivity in supportive environments or general sensitivity in neutral environments (Figure 1).

Figure 1

Sensitivity outcomes according to individual's biological and environmental context (Boyce & Ellis, 2005)
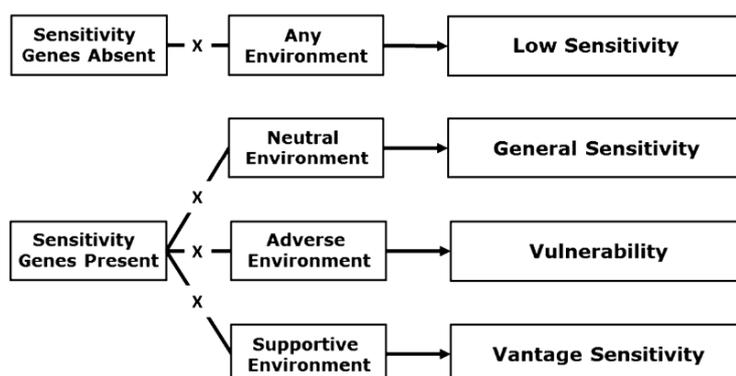
1.1.3 Societal Context of Sensitivity and Emotional Expression

Whilst it is clear that heightened stress sensitivity resulting from adverse early environments can increase vulnerability to stress-related disorders in highly sensitive individuals, there are other societal factors that also contribute to compromised mental health in this population (Sand, 2016). A salient factor is the stigmatisation of sensitivity, particularly prevalent in Western cultures, where it is not typically considered a desirable trait. Such individuals are often subjected to negative feedback, such as being deemed "too sensitive," and may experience a lack of acceptance from their peers (Chen & Rubin, 1992). In British culture specifically, emotional suppression, commonly known as a "stiff upper lip" entails suppressing emotions such as anger or hurt, even in times of crisis. This coping mechanism has been encouraged since World War II, where veterans were expected to accept high levels of pain without medical intervention (Machin & Williams, 1998). The COVID-19 pandemic further highlighted the prevalence of the unfaltering resilience and "keep calm and carry on" mentality, leading to burnout among many healthcare workers in the UK (Curtin et al., 2020). These societal norms convey a message that sensitivity is not a valuable or advantageous trait to possess, which is likely to contribute to negative self-concepts in highly sensitive individuals.

In the 18th and 19th centuries, 'female hysteria' was a common diagnostic term utilised to pathologise behaviours in women that deviated from what was deemed acceptable or manageable by societal norms, often dictated by their male counterparts. The word hysteria originates from the Greek word, "hysterika", which means "belonging to the womb". This terminology served to reinforce damaging gender stereotypes and conventional gender roles, painting women as emotionally volatile and irrational. From a feminist theory lens, this stigmatisation of women's emotional responses can be viewed as a

deeply ingrained and frequently effective silencing strategy which surfaces particularly when women vocalise their experiences of victimisation or marginalisation, effectively delegitimising their claims by attributing them to excessive emotional sensitivity or instability (Ussher, 2017).

Historical allegations of hysteria against women can be seen as comparable to contemporary accusations of being "too sensitive" or "too emotional". These parallels suggest that despite changes in terminology and understanding, society still struggles with biases that frame women's emotions and sensitivities as pathological rather than natural human responses to distressing stimuli or circumstances. Bauer (2020) demonstrated this effect in a modern US political context, finding that once these gender stereotypes of women as overly sensitive and emotional are activated, they have a direct and negative effect on voting decisions that support female candidates, who are then deemed "unfit" for election. It is evident that this harmful stigma and patriarchy continue to shape women's experiences in contemporary society and raises questions about how women, particularly those labeled as "overly sensitive" or "overly emotional" are understood and validated when expressing emotional vulnerability and a need for support during postnatal stages.

1.1.4 Language and Identity

Given the stigma associated with sensitivity, it is important to carefully consider the language used to describe individuals who exhibit increased awareness and responsivity to physical, emotional, or social stimuli. Although the scientific term for this trait is "Sensory Processing Sensitivity" (SPS), it is crucial to distinguish it from other Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association, 2013)-recognised conditions such as sensory processing disorder, which is a complex neurological condition that can affect how the brain processes information from the senses.

While SPS includes a biological aspect and understanding of sensitivity, it is not recognised as a diagnosis or condition by the DSM-5 and is instead considered an innate temperament trait.

It is important to maintain this distinction, and consider SPS not as an ailment that needs to be managed or recovered from, but rather an individual difference that exists in the same way as other differences in disposition might. Another term that is commonly used in conjunction with SPS is "highly sensitive person" (HSP) (Aron & Aron., 1997), which is more recognised in informal contexts such as social media communities, where resources such as books and support groups are available for those who identify as an HSP. However, it is essential to remain aware of how participants may prefer to be identified, as some may interpret the term "highly sensitive person" negatively, particularly if they have experienced negative responses from others around their levels of sensitivity.

Whilst an individual may strongly identify with being sensitive, the experience of becoming a mother can bring about a significant shift in one's sense of self, creating a new and central aspect of their identity. This can change how they perceive and experience the world, and for many can mean less focus on aspects of their identity that were previously central to their lives (Reveley, 2019). Laney et al. (2015) conducted interviews with new mothers and found that, while their identities had shifted, many also experienced an intensification of their personalities after becoming mothers. As one participant described it:

> "Being a mother brings out the characteristics that you already have – you're more intensified because you're already an emotional rollercoaster all the time as a mother, so you are more of who you are. If you had a short temper, you'll have even more of a short temper when you're a mother. If you were really compassionate, then you'll be even more compassionate…" (p. 138)

This passage serves as an example of how sensitivity can be amplified after becoming a parent. As such, many people may see their sensitivity as a central part of who they are and recognise the significant impact it has on their perception and experience of the world, and their role as a parent. Throughout this paper, alongside "Sensory Processing Sensitivity", the term "highly sensitive person" is used due to its more widespread use within the community, which played a key role in participant recruitment. Details on how this term was utilised and how mothers' preferences were obtained and applied around terminology will be further explained within the methods section (2.1).

1.1.5 SPS and Diagnosable Conditions

SPS has been linked to various psychological conditions such as anxiety, depression, and post-traumatic stress disorder (PTSD) (Aron & Aron, 1997; Liss et al., 2008). While some studies have found a positive correlation between SPS and anxiety and depression symptoms, others have found no significant association (Acevedo et al., 2014; Jagiellowicz et al., 2010). These mixed findings suggest that SPS may not be a direct predictor of these conditions. Instead, SPS may be a factor that influences how individuals process and respond to their environment, given that highly sensitive individuals experience more intense emotions in response to negative events (Aron & Aron, 1997).

One area where SPS may have a significant impact is parenting. The increased vulnerability to stress and negative emotional experiences due to increased sensitivity to sensory stimuli and emotional cues is likely to have a significant impact in new mothers. They may find it more challenging to navigate the demands of motherhood, such as adjusting to new routines, coping with sleep deprivation, and dealing with the stress associated to caring for a newborn (Aron, 2020).

SPS has also been compared to clinical disorders with seemingly related presentations of sensitivity to environmental stimuli such as post-traumatic stress disorder (PTSD), schizophrenia, attention-deficit/hyperactivity disorder (ADHD) and autism spectrum disorder (ASD) (Ghanizadeh, 2011; Acevedo et al., 2014). However, evidence from brain imaging studies of these presentations suggests distinct neural markers and cardinal features within areas of the brain involved in empathy, awareness, reward processing for SPS versus schizophrenia and ASD (Acevedo et al., 2014). In terms of functioning, individuals with SPS experience the opposite extreme of hyper-empathy, whereas ASD is characterised by difficulties in social communication, such as reciprocating social-emotional cues and nonverbal communication (impaired empathy, restrictive interests, and repetitive behaviours (DSM-5 American Psychiatric Association, 2013; Schauder & Bennetto, 2016). There are also distinct differences in functioning and behaviour between SPS and other disorders, including in the realm of dissociation and present-moment awareness (PTSD vs. SPS; Sartory et al., 2013), theory of mind, inhibition and emotional processing (Schizophrenia vs. SPS; Sugranyes et al., 2010) and in self-regulation, impulsivity and attention (ADHD vs. SPS; Shiels & Hawk, 2010).

Overall, the study of SPS is still a relatively new and evolving field, and there is much that researchers still do not understand about the trait and its implications for mental health and wellbeing. However, as our understanding of SPS continues to grow, it may hold important insights for how we can better support individuals who are highly sensitive and vulnerable to stress and emotional experiences during parenthood.

1.2   The Experience of Motherhood

1.2.1 Societal Context and Expectations of Motherhood

In the broader exploration of the experience of motherhood, it is crucial to delve into the intricate dynamics of societal influences, expectations, and pressures that significantly shape maternal experiences. This sub-section illuminates the impact of social norms and media portrayals, underscoring the need to dissect these influences to comprehend the holistic journey and transition to motherhood, and how this may vary depending on a variety of individual factors.

One influence may be an individual's personal expectations and beliefs about motherhood, which may be shaped by their own unique upbringing and experiences, as well as exposure to other mothers' parenting journeys (Mott et al., 2020). With the advent of social media, many mothers turn to relevant platforms to connect with other mothers and gain insight into their experiences (DeGroot, 2019). However, as DeGroot's (2019) research has shown, social media can create a pressure for mothers to present a positive self-image and personal experience of motherhood, which can lead to an inaccurate portrayal of the postnatal period. Mothers may feel obligated to avoid discussing challenges and only share positive experiences, despite recognising the harm this social construction can cause. This pressure to conform to a specific image of motherhood can create feelings of isolation, inferiority, and a lack of control among highly sensitive mothers. Therefore, it is important to understand the impact of the presented narrative of the postnatal period on mothers' individual experiences of motherhood. Comparing oneself to other mothers can accentuate differences in the way that they perceive and experience this transition, leading to greater feelings of inadequacy and a lack of support (DeGroot, 2019). Sensory processing sensitivity can also play a role in the experiences of mothers from marginalised communities. Highly sensitive mothers may be more affected by societal barriers and inequalities, such as discrimination and lack of support systems, which can exacerbate feelings of stress and anxiety during the transition to motherhood (Aron, 2020).

19

Furthermore, highly sensitive mothers may also be more impacted by inadequate healthcare access and culturally insensitive support systems (Hackett et al., 2020). Therefore, it is important for healthcare providers and support systems to not only address systemic issues but also consider the individual needs of highly sensitive mothers from marginalised communities. By acknowledging and addressing the unique challenges faced by highly sensitive mothers from marginalised communities, we can work towards creating a more inclusive and supportive environment for all mothers and acceptance for the diversity of experiences that come with motherhood.

1.2.2 Family Life Cycle Theory

The Family Life Cycle Theory (Gladding, 2009) is a helpful theory to further explore the 'typical' and anticipated trajectory for women and their families within societal contexts. It offers valuable insights into the stages of development that families go through from childhood to retirement and recognises adjustment of roles to adapt to new circumstances, such as the transition to parenthood.

While this framework is helpful in identifying typical and successful family development, it is important to acknowledge that some families may experience compromised transitions leading to negative outcomes, including stress-related disorders. This further highlights the value and importance of considering diversity within experiences of motherhood.

Although practical factors such as social support, living arrangements, and employment may contribute to mental health difficulties during times of transition, some individuals may experience increased inherent susceptibility to stress and overwhelm during these periods. Research has shown that individuals with high levels of sensitivity may be more vulnerable to negative outcomes during times of life transition through family life cycle

stages, particularly to parenthood (Schmuckle et al., 2017). This highlights the importance of acknowledging the transitional period to motherhood as a critical time where individuals with increased vulnerability to the development of stress-related disorders may benefit from additional support. However, it does not fully account for the diverse needs of families or provide insights into non-traditional family transitions, nor does provide specific guidance on how to address the diverse needs of families during these transitions. By merging the insights from the Family Life Cycle theory with our knowledge of SPS, we can provide targeted support that meets the specific needs of individuals with high SPS. This approach would promote positive outcomes and improve overall well-being during important life transitions including the transition to parenthood.

1.2.3 Attachment Theory

As recognised in the previous section, the circumstances surrounding a family can impact the success of a transition, and this can be further heightened by levels of sensitivity. Societal expectations around maternal roles and responsibilities can create pressure on mothers to balance their caregiving duties with other aspects of life. Attachment theory posits that the initial emotional bond formed between a parent and an infant is crucial for healthy development (Ainsworth & Bowlby, 1991). This theory underscores the importance of parental availability and responsiveness to an infant's needs as the foundation for the child's sense of security (Bernier et al., 2021). Infants rely on their attachment figures as a reliable base for exploration and as a source of comfort when they return. The patterns of attachment formed between the infant and the caregiver establish internal working models that shape an individual's expectations and thoughts in future relationships, which are carried throughout their lives. Numerous studies suggest that the failure to form secure attachments in early life can adversely impact an individual's emotional wellbeing and behaviour in later life (Gordon

et al., 2022). This reinforces adequate support systems as crucial in helping caregivers to navigate the challenges of parenting, enabling them to provide responsive care that is vital for secure attachments.

According to Bowlby's original work, it is primarily mothers who play a significant role in providing sensitive, accepting, and available care to meet the needs of the child (Zimmerman et al., 2022). In the United Kingdom, mothers typically spend more time with their babies in the first year of life, given previous entitlement to 52 weeks of maternity leave for mothers, compared to fathers who are only entitled to two weeks of paternity leave. In 2014, Shared Parental Leave (SPL) was introduced where couples have the opportunity to share up to 50 weeks of leave, and up to 37 weeks of pay (Department for Business, 2014). Despite this, evidence still shows mothers opting to take maternity leave instead of fathers, as it has been reported that only between 2% to 7% of eligible couples were using SPL to transfer paid leave to the child's father (People Management, 2020; University of Birmingham, 2019). Although Attachment Theory has significant value in elucidating the importance of consistent care and connection in infant development, it relies heavily on conventional notions of femininity and maternal instinct, reinforcing narrow roles for women in Western societies. Consequently, this creates societal pressure on women to be perfectly bonded with their babies while also juggling the increasing demands of modern parenting (Coombe et al., 2019).

Furthermore, Bowlby's "monotropic" interpretation of attachment theory, which assumes that infants have only one preferred person, fails to account for the significant cross-cultural variation in parenting practices (Keller, 2018). While families take different forms within Western societies and across cultures, many emphasise a collectivist approach, such as in South and Central America, Asia, and the Middle East. In these cultures, communal

22

responsibility for raising a child is shared amongst family members, which provides a variety of complementary aspects to the infant and supports balanced development (Lohoar et al., 2014). This approach creates alternative ways of relating that the child can draw upon to meet a range of developmental needs and utilise in future relationships. A collective commitment to childcare also alleviates the pressure on mothers as primary caregivers solely responsible for consistently meeting their infant's needs.

In addition, research suggests that highly sensitive mothers are more capable of tuning into their infant's emotional state and perceiving and interpreting their child's signals accurately (Aron et al., 2019). However, under the high expectations and pressures of parenting, highly sensitive mothers are more likely to feel overwhelmed, guilty, and less able to meet their infant's needs, as per Boyce and Ellis' (2005) Biological Sensitivity to Context theory. Therefore, it is important to consider the collective responsibility of caregiving and alternative approaches to parenting, particularly in light of cross-cultural variations and individual differences in sensitivity.

1.2.4 Postnatal Support

Whilst the previous sections demonstrate the importance of postnatal support for new mothers and their families to aid a smooth transition to parenthood, and facilitate a secure caregiver-infant attachment, this section presents information around current and planned options for support in England. The NHS Long Term Plan (NHS, 2019) recognises the importance of postnatal support for new mothers and their families. The plan aims to provide better and more accessible services for mothers and their infants, including more high-quality, person-centered care that meets their specific needs and supports their physical and emotional wellbeing. One of the key components of the plan is the expansion of perinatal mental health services, which will provide specialist support for women experiencing mental

health difficulties during pregnancy and the postnatal period (NHS, 2019). The plan includes a commitment to providing increased funding for perinatal mental health services, with a target of reaching at least 100,000 women by 2023/24 (NHS, 2019). This funding will be used to expand existing services, such as community mental health teams, and to develop new services, such as specialist perinatal mental health teams.

While the expansion of perinatal mental health services is encouraging, the current approach may not adequately address the needs of highly sensitive mothers during the postnatal period. There are several reasons for this. Firstly, highly sensitive mothers may not meet the specific diagnostic criteria for a mental health condition, even though they are facing emotional difficulties. For instance, they might experience symptoms of anxiety or depression, but not at a level that meets the threshold for a formal diagnosis. Secondly, due to feelings of shame or stigma surrounding mental health challenges, highly sensitive mothers might be hesitant to seek formal support services. They may also perceive their emotional struggles as not severe enough to warrant a formal diagnosis, leading them to refrain from seeking help.

Health visitors may therefore be best placed to identify highly sensitive mothers in order to promote early identification, and support a reduction in vulnerability to development of mental health difficulties through helping them to access low level support and strategies to encourage mothers to prioritise and enhance their own wellbeing during the postnatal period. Health visitors may provide this themselves or facilitate mothers' access to appropriate practical support, advice or community-based therapeutic support for women with mild to moderate conditions. When additional services are unavailable or there are long waits for treatment, health visitors provide support and emotional containment. These early interventions may be enough to prevent the development of mental health disorders for highly sensitive mothers.

Despite this, many healthcare professionals lack confidence in supporting women with mental health issues and their infants, and evidence indicates that clinicians may hesitate to inquire about women's mental health due to concerns about uncovering difficulties they cannot support with, or lack access to, specialised services for referrals (Ross-Davie et al., 2006). Although specialist health visitors receive additional training to offer this kind of support, the organisation and resources of services also play a significant role in determining how effectively specialist health visitors can respond to women's mental health needs. Recruitment and retention challenges (Oldman, 2022), along with an increased vulnerability to mental health difficulties for women during the COVID-19 pandemic (e.g., Filippetti et al., 2022), have placed substantial demands on services.

For these reasons, health visitors are currently handling substantial caseloads that often involve families facing highly complex challenges. Moreover, amidst ongoing cuts in other public and third-sector services, the workload on health visitors increases. The thresholds for referring families to other services, such as adult mental health, child and adolescent mental health, and social care, have become higher (Appleton et al., 2020). Consequently, it becomes more challenging to direct families to services with specialised expertise when necessary. As a result, health visitors spend more time and resources supporting these families rather than training up other health visitors or providing early intervention support. This would ultimately affect input with mothers who have higher risk of developing mental health difficulties without adequate support, such as mothers with SPS.

1.2.5 High Sensitivity in Motherhood

As discussed, it is clear that the transition to the postnatal period can be a particularly challenging time for mothers and their families without adequate support. However, this may be heightened for mothers who are highly sensitive, as in addition to the usual stressors

associated with parenting, highly sensitive mothers are likely to struggle to find the necessary downtime that is crucial for their wellbeing. The demands of caring for a newborn, coupled with the reduced ability to invest in their own needs and the increased sensory input that accompanies parenthood, can create an overwhelming environment for sensitive individuals. Furthermore, the marked variability in their own and others' emotions, including those of the infant, can exacerbate feelings of stress and anxiety as research shows that highly sensitive individuals are strongly affected by others' moods (Acevedo et al., 2014).

Adding to this challenge is the societal pressure for new mothers to immediately bond with their infants and attend to their needs promptly, all while maintaining a positive and resilient attitude towards parenthood. This expectation can further contribute to feelings of inadequacy and low self-esteem for highly sensitive parents, putting them at increased risk for negative impacts on their mental and physical health.

Despite the growing recognition of high sensitivity in the literature, there is still a lack of research exploring the specific experiences of highly sensitive mothers during the postnatal period. This knowledge gap highlights the need for further investigation and support for this vulnerable population during this critical time. By understanding the unique challenges that highly sensitive mothers face and developing tailored interventions, we can better support their emotional wellbeing and promote positive parenting outcomes.

To explore current understanding of the experience of the postnatal period for mothers high in sensitivity, a review of the available literature was conducted and is presented in the next section.

1.3 Systematic Literature Review: Research on Highly Sensitive Mothers' Experience of Parenting

This section presents a literature review aimed to explore and synthesise existing research on highly sensitive mothers' experiences of parenting. The review examines the different ways in which highly sensitive mothers' experiences of parenting have been explored in existing research, including qualitative and quantitative studies, and the various methods used to collect and analyse data. Finally, the review summarises the key findings of the literature and identifies areas where further research is needed to deepen our understanding of highly sensitive mothers' experiences of parenting.

The two main research questions addressed were:

1) What does existing research report about highly sensitive mothers' experiences of parenting?

2) How have highly sensitive mothers' experience of parenting been explored in existing research?

1.3.1 Methods

1.3.1.1 Inclusion and Exclusion Criteria

This review included studies where (a) the sample involved were mothers, (b) mothers identified with being highly sensitive, and (c) experience of parenting or parenting style was the key focus of the study. The review also included (d) studies that used quantitative or qualitative research designs and (e) were written in English. Exclusion criteria included (a) studies which were focused on developmental outcomes for children, and (b) parenting a highly sensitive child.

1.3.1.2 Search Strategy

The electronic databases CINAHL Ultimate, Medline Ultimate, PsychArticles and PsychInfo were identified as appropriate for the purpose of this review. An initial search was carried out on 14th July 2022, and revealed n = 857 articles, after duplicates were removed. This was informed by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist (Page et al., 2020) (Figure 1). Articles were screened through title and abstracts, and n = 824 were removed due to relevancy (outlined in figure 1), leaving n = 32 studies. Full texts were found and screened again using the inclusion and exclusion criteria. N = 5 studies were identified as suitable, and one additional study was identified from the reference lists of included studies. PROSPERO: International Prospective Register of Systematic Reviews was checked to ensure duplicate reviews were not underway. Searches included some grey literature, e.g. doctoral theses, which will have undergone quality checks through the academic and assessment process.

1.3.1.3 Search Terms

Both electronic databases and Google Scholar searches were conducted in July 2022 with the following search terms: "sensory processing sensitivity" OR "highly sensitive" AND "parent" OR "parenting" OR "mother" OR "postnatal".

1.3.1.4 Data Extraction

Data from studies were extracted, and characteristics of each study were entered into spreadsheets. This is outlined below.

1.3.1.5 Data Analysis

The findings of this review were discussed using a narrative synthesis framework (Popay et al., 2006) due to the heterogeneous nature of the studies, which included quantitative as well as qualitative studies. There was also high clinical diversity among the

PICO (Population, Intervention, Comparison, Outcome) aspects of studies. A narrative

synthesis framework (Popay et al., 2006) was identified as the best approach to managing

heterogeneity when synthesising evidence from various sources and determining

relationships between them. Study quality and limitations were taken into account and are

detailed below. Sample characteristics and sampling strategies, as well as methods used to

assess or understand participant experience were also considered as part of the review. In

cases where data were missing, authors were contacted and the data were recorded as Missing

Data (M.D.) where it could not be retrieved.

1.3.1.6 PRISMA diagram

Figure 1:

PRISMA diagram illustrating search strategy conducted in July 2022

```
┌─────────────────────────────────────┐
│ Records identified through electronic│
│ database searching                   │
│                                      │
│ (PsycInfo, PsycArticles, Medline,    │
│ CINAHL, OpenDissertations)           │
│                                      │
│ (n = 1,052)                          │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐        ┌─────────────────────────────────┐
│ Records screened after duplicates    │        │ Records excluded based on       │
│ removed                              │───────▶│ screening title and abstract    │
│                                      │        │                                 │
│ (n = 857)                            │        │ (n = 824)                       │
└─────────────────────────────────────┘        └─────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐        ┌─────────────────────────────────┐
│ Full-text articles assessed for      │        │ Full-text articles excluded with│
│ eligibility                          │        │ reasons (n = 27)                │
│                                      │───────▶│ Focus on HSP but not specific to│
│ (n = 32)                             │        │ parents                         │
└─────────────────────────────────────┘        │ (n = 1)                         │
                  │                              │ Focus on HSP children           │
                  ▼                              │ (n = 11)                        │
┌─────────────────────────────────────┐        │ Focus on outcomes for children  │
│ Full text articles included          │        │ with HSP parents                │
│                                      │        │ (n = 6)                         │
│ (n = 5)                              │        │ Unrelated to HSP                │
└─────────────────────────────────────┘        │ (n = 9)                         │
                  │                              └─────────────────────────────────┘
┌──────────────────────┐                        
│ Articles identified   │                        
│ from reference lists  │──────────▶            
│                       │          │            
│ (n = 1)               │          ▼            
└──────────────────────┘                        
                  ▼
┌─────────────────────────────────────┐
│ Full text articles included          │
│                                      │
│ (n = 6)                              │
└─────────────────────────────────────┘
```

1.3.2   Results

1.3.2.1   Study Characteristics

Study characteristics are presented in Table 1. Five studies had a cross-sectional, correlational

design (study 1 & 2 - Aron et al., 2019; Branjerdporn et al., 2019; Goldberg & Scharf, 2020;

Wachs, 2013;) and one study had an experimental design (Andeweg et al., 2021). Studies

varied in sample sizes, with the smallest study including 92 participants (study 1 – Aron et

al., 2019) and the largest, 867 participants (study 2 - Aron et al., 2019). The majority of

participants were female with mean ages ranging between mid-thirties to mid-forties. The

majority of participants had children with mean ages between three and thirteen.

Table 1:
Studies included in the systematic review

Comparison studies						Measures		Demographics		
Author	Title	Design	Sample size	Sampling strategy	SPS	Experience of parenting	Location	Age (years): Mean(SD), Range	Age of child (months): Mean(SD), Range
Andeweg et al. (2021)	Does Sensory-Processing Sensitivity Moderate the Effect of Household Chaos on Caregiver Sensitivity? An Experimental Design	Experimental	96	Volunteer – school digital learning platform, social media	ATQ-OS, NSS, HSPS, Observational coding system – noise responsivity	AMSS	Netherlands	M.D(M.D), 18-25	N/A – non-parents
Aron et al. (2019)	Sensory Processing Sensitivity and the Subjective Experience of Parenting: An Exploratory Study	1 Correlational	92	Volunteer – Craigslist, online parenting forums.	HSPS-SV	PSE	US	39.31(6.32), M.D	6.56(5.63), M.D
		2 Correlational	Mothers: 802 Fathers: 65	Volunteer & snowball – SPS-related website	HSPS-SV	PSE	US	Mothers: 44.96(9.61), M.D. Fathers: 46.35(10.5), M.D	11.99(8.56), M.D
Branjerdporn (2019)	Sensory sensitivity and its relationship with adult attachment and parenting styles	Correlational	155	Volunteer & snowball – social media	HSPS-SV	PSDQ	Australia	41.41(5.17), 28-55	7.28(5.17), 4-12
Goldberg & Scharf (2020)	How do highly sensitive persons parent their adolescent children? The role of sensory processing sensitivity in parenting practices	Correlational	121	Volunteer – social media	HSPS	WPI	Israel	44.2(6.75), M.D	13.69(2.63), M.D
Wachs (2013)	Relation of maternal personality to perceptions of environmental chaos in the home.	Correlational	94	Convenience – families approached from local infant databaase	HSPS, NSS	CHAOS, PHSI, HOME	US	34.43(M.D), 26-50	3.13(M.D), 2-5

ATQ-OS - The Orienting Sensitivity Scale of the Adult Temperament Questionnaire (Evans & Rothbart, 2007); NSS - The Noise Sensitivity Scale (Weinstein, 1978); HSPS - The Highly Sensitive Person Scale (Aron & Aron, 1997); HSPS-SV – The Highly Sensitive Person Scale Shortened Version (Aron & Aron, 1997); AMSS - The Ainsworth Maternal Sensitivity Scale (Ainsworth et al., 1974); PSE – Parental Subjective Experience Scale (Aron et al., 2019), PSDQ - Parenting Styles and Dimensions Questionnaire (Robinson et al., 1995); WPI - Weinberger Parenting Inventory (Weinberger et al., 1991); CHAOS - Confusion, Hubbub and Order Scale (Matheny et al., 1995); PHSI - Purdue Home Stimulation Inventory (Wachs et al., 1979); HOME - Home Observation for Measurement of the Environment Scale (Caldwell & Bradley, 1984).

1.3.2.2   Quality Appraisal

Critical appraisal of all aspects of study design, execution and reporting is crucial to understanding research quality and ability to contribute to the evidence base (Remington, 2020). The Standard Quality Assessment Criteria (SQAC) for Evaluating Primary Research Papers from a Variety of Fields (Kmet, Lee & Cook, 2004) was selected for the appraisal of studies included in the review. A significant strength of this tool is that it allows the assessment of quantitative studies with various methods. This allowed consistency to be maintained in the criteria that the correlational and experimental studies included in the review were assessed against.

The SQAC allowed the assessment of studies across fourteen domains which are detailed below. Studies were rated from 0-2 with lower scores suggesting that criteria had not been met (0) or only partially met (1), indicating poorer quality research design and reporting, and 2 indicating that the study fully met criteria. For a number of criteria, there was also a "N/A" rating option for the criteria that did not apply. Overall quality was also rated, and this ranged from 0-1, with scores closer to 1 indicating better quality research design. The author conducted an initial quality assessment, and an independent peer then scored the studies. Any discrepancies in scores were resolved through a discussion made with the assistance of a third independent peer. Justifications for scores are outlined below, with full ratings and overall quality outlined in table 3.

 Objective – all six studies fully met criteria (rated 2) for study objective, as aims were clearly reported in the introductory section.

Design – two of six studies scored 2, as study design was both evident and appropriate; four of six studies scored 1, as the design was not fully described, however, no inappropriateness of design was observed.

Sampling method: most studies scored 2 for sampling method as the method was fully described and appropriate, however, two studies scored 1, as the sampling method was not fully described, but no obvious inappropriateness was observed.

Subject characteristics – all six studies fully met criteria (rated 2) for subject characteristics due to clear and complete reporting, either presented within tables or in continuous prose.

Random allocation – five of six studies were assigned "N/A" on random allocation and they did not use a control group. One study scored 1, as although it stated participants were randomly allocated to each group, the method for random allocation was not described.

Blinding of investigators – all six studies were assigned "N/A" for blinding of investigators as it was either not possible due to the procedure (i.e. investigators being involved in coding) or not relevant due to a correlational design.

Blinding of subjects – five of six studies were assigned "N/A" for blinding of subjects as it was not relevant due to the studies' correlational design. One study scored 0, as it was felt that blinding of subjects would have been possible, but it was not described.

Outcome measures – all six studies were rated 2 for outcome measures as they included a clear description of the measures and were deemed suitable for the study objectives.

Sample size – all six studies fully met criteria (rated 2) for this domain, as sample sizes were deemed appropriate.

Analytic methods – all six studies were rated 2, as they were fully described and appropriate. Variance estimates – four of six studies fully met criteria, as appropriate variance estimates were provided. One study used a small sample size and likely to have had

inadequate statistical power. One study did not provide any information regarding uncertainty of the estimates, and was therefore rated 0.

Controlling for confounding – two studies were rated 2 as they indicated appropriate control at the design or analysis stage. Four studies were rated 1 as they reported control of confounding but did not completely describe this method, or they did not consider confounding but this was not likely to have significantly distorted the results.

Detailed results – all six studies fully met criteria in reporting all major and secondary outcomes in the results had made conclusions which were supported by the data, and most also acknowledged any limitations to the study.

Table 2:
Quality assessment of studies included in the review

Study		Objective	Design	Sampling method	Subject characteristics	Random allocation	Blinding of investigators	Blinding of subjects	Outcome measures	Sample size	Analytic methods	Variance estimates	Controlling for confounding	Detailed results	Supported conclusions	Overall quality rating
Andeweg et al. (2021)		Y (2)	Y (2)	P (1)	Y (2)	P (1)	N/A	N (0)	Y (2)	Y (2)	Y (2)	Y (2)	P (1)	Y (2)	Y (2)	0.8
Aron et al. (2019)	1	Y (2)	P (1)	Y (2)	Y (2)	N/A	N/A	N/A	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)	0.9
	2	Y (2)	P (1)	Y (2)	Y (2)	N/A	N/A	N/A	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)	Y (2)	0.9
Branjerdporn (2019)		Y (2)	Y (2)	Y (2)	Y (2)	N/A	N/A	N/A	Y (2)	Y (2)	Y (2)	Y (2)	P (1)	Y (2)	Y (2)	0.9
Goldberg & Scharf (2020)		Y (2)	P (1)	P (1)	Y (2)	N/A	N/A	N/A	Y (2)	Y (2)	Y (2)	Y (2)	P (1)	Y (2)	Y (2)	0.85
Wachs (2013)		Y (2)	P (1)	Y (2)	Y (2)	N/A	N/A	N/A	Y (2)	Y (2)	Y (2)	N (0)	P (1)	Y (2)	Y (2)	0.8

1.3.2.3 Synthesis of Studies

Parenting experience and approach: Four out of six studies included a measure of parenting experience or parenting style. All four of these studies were correlational in design. Two of these studies (study 1 and study 2, Aron et al., 2019) found that scores on the highly sensitive person scale (HSPS) (Aron & Aron, 1997) were positively correlated with factors on the parental subjective experience scale (PSE) (Aron et al., 2019) including parenting difficulties in study 1; $pr = .21$, and in study 2; $pr = .30$, $p <.001$), and attunement to child in study 1; $pr = .21$, $p <.05$; and in study 2; $pr = .25$, $p<.001$. No significant relationship was found between sensory processing sensitivity (SPS) and good co-parenting relationship in either of the studies. It is important to note that although study 1 used a small sample size which limited level of power, study 2 replicated study 1's method with a larger sample of mothers, which provided more statistical power. In addition to this, the design of both study 1 and 2 were not sufficiently described, however no inappropriateness in design was observed. One study (Branjerdporn et al., 2019) found that level of SPS in mothers was positively correlated with an authoritarian parenting style; $r = .35$, $p <.001$, and a permissive parenting style; $r = .43$, $p <.001$. No significant relationship was found between SPS and authoritative parenting. The study does however recognise its limitations in its lack of controlling for confounders such as demographic characteristics or parental mental health. The fourth study (Goldberg & Scharf, 2020) found that higher levels of SPS were positively correlated with factors on the Weinberger Parenting inventory (WPI) (Scharf et al., 2016) including inconsistency; $r = .24$, $p <.01$, psychological intrusiveness; $r = .38$, $p <.001$, and attachment anxiety; $r = .54$, $p <.001$. No significant relationship was found between SPS and child centeredness, permissiveness, harshness, or attachment avoidance. This was in contrast to Branjerdporn's (2019) study which found significant correlations between SPS and permissiveness, and SPS and a 'harsher' authoritarian style of parenting. Although no

obvious inappropriateness was observed in the study design and sampling method, and confounding was not deemed to have significantly impacted the results, these aspects of the study were not fully described which needs to be considered when drawing conclusions.

Perception of home chaos and caregiver sensitivity: Two out of six studies included a measure of perception of home chaos. One of these studies was correlational in design (Wachs, 2013), and the other was experimental (Andeweg et al., 2021). Wachs (2013) used the Confusion, Hubbub and Order Scale (CHAOS) (Matheny et al., 1995) to measure mothers' perception of perceived home chaos, and the Purdue Home Stimulation Inventory (PHSI) (Wachs et al., 1979) and Home Observation for Measurement of the Environment Scale (HOME) (Caldwell & Bradley, 1984) were used to code and measure researcher's direct observations of the home. Mothers who were higher in SPS perceived their home environments as more chaotic; $b = .28$, $t = 2.63$, $p < .05$. SPS explained a moderate proportion of variance in perceived CHAOS scores; $R2 = .09$, $F = 4.61$, $p < .05$. A positive correlation was found between higher home traffic pattern; $b = .36$, $t = 2.38$, $p < .05$, home disorganisation; $b = -.24$, $t = -1.67$, $p < .05$ and maternal perceptions of chaos in the home for mothers high in sensory sensitivity. This suggests that the same level of home traffic or disorganisation may be perceived as non-chaotic by mothers who score low in sensory sensitivity. Correlation between SPS and perceived chaos in higher noise and crowding were non-significant. Andeweg et al.'s (2021) study contributed to this understanding by considering the impact of home chaos on caregiver sensitivity, measured through the Ainsworth Maternal Sensitivity Scale (Ainsworth, 1974). Andeweg et al. (2021) found a positive correlation between SPS scores and caregiver sensitivity in a neutral simulated home environment. Higher rates of SPS were related to higher scores on caregiver sensitivity whilst also being asked to focus on filling out paperwork or playing a game; $r = .25$, $p < .05$. Despite this, participants with high sensory sensitivity had a stronger decrease

over time in the chaos condition than the neutral condition. For participants with low

sensory sensitivity, the decrease in caregiver sensitivity over time did not differ between

conditions; $t = -2.15$, $p < .05$.

1.3.3 Discussion

This review aimed to conduct a systematic narrative synthesis of correlational and experimental studies that explored the relationship between sensory processing sensitivity, and the experience of parenthood.

All studies which measured the relationship between SPS and parental experience and approach correlational studies reported significant positive relationships between SPS and various parenting limitations including parenting difficulties, authoritarian and permissive styles, inconsistency, intrusiveness and attachment avoidance. SPS was not largely found to be correlated with parenting strengths; however, two studies did find a positive correlation between SPS and attunement to child (study 1 and study 2, Aron et al., 2019). Studies did include other strength-based variables such good co-parenting (study 1 and study 2, Aron et al., 2019), and child centeredness (Goldberg & Scharf, 2020), however no significant relationships were found. Despite this, the studies came with various design limitations which have been detailed in the quality assessment and study synthesis sections of this report. Results should therefore be interpreted with these limitations in mind.

As well as this, due to the correlational design of these studies, cause and effect cannot be established. The findings from studies which found a relationship between SPS and parenting approach (Goldberg & Scharf, 2020; Brajerdporn et al., 2019) therefore may either convey that highly sensitive parents are more susceptible to use of negative parenting strategies due to increased vulnerability to overwhelm, or that parents who use negative parenting strategies feel more stressed, and this in turn causes increased sensitivity. The latter can be explained by the stress response. Even in those who do not typically have a high level of sensitivity, anxiety causes a heightening of senses and stimulation of the nervous system in order to enhance ability to defend against danger (McGirr et al., 2020).

This suggests that parents who are using negative styles due to stress levels or the impact of a stressful environment can experience increased environmental sensitivity.

The alternative explanation may be that highly sensitive individuals are more prone to overwhelm and hence more likely to resort to limited approaches. It is crucial to further investigate this possibility further, especially given the association that research has found between exposure to negative parenting styles (particularly permissive), and increased use of ruminative coping strategies and depression in children who are also highly sensitive (Lionetti et al., 2021).

Despite this, it is important to note that many of the studies reviewed relied on introspective ability of parents due to use of self-report measures. Highly sensitive individuals were found to be more conscientious and hence prone to experiencing guilt due to perceived failures (Aron, 2016). For highly sensitive parents, this may lead to increased focus on instances when feelings of overwhelm have pushed them to either extreme of parenting and hence over-identification with negative parenting approaches. The two studies which included exploration of SPS, perception of home chaos and caregiver sensitivity in the review helped with this understanding. Wachs (2013) found that high sensitive individuals perceived the same environment as more chaotic than their non-highly sensitive counterparts did, particularly when there was higher home traffic and levels of disorganisation. Despite this, the variance that SPS explained in perception of home chaos was noteworthy, but did not indicate a particularly large effect. This suggests that there are further existing factors that may contribute to perception of chaos, including existing level of stress, which would provide some evidence for the nervous system stimulation hypothesis stated above.

In Andeweg et al.'s (2021) study, it was found that individuals with higher levels of sensitivity possessed a stronger level of caregiver sensitivity than those who were not highly sensitive. However, when combined with a chaotic environment and a requirement of split attention, caregiver sensitivity decreased at a more rapid rate for highly sensitive individuals. This finding provides some evidence for the alternative explanation that overwhelm as a result of greater perceived and experienced chaos can limit the capacity of highly sensitive parents to access their natural strengths. The experimental design of this study strengthens its ability to establish cause and effect, however as chaos as well as infant expressions were simulatory, and participants were all non-parents, this limits conclusions that can be drawn and applied to real life circumstances.

While the available literature acknowledges that highly sensitive individuals may have a distinct experience of parenting, there is a lack of replicated research findings or exploration of additional variables in this area. Additionally, although the existing studies identified have largely considered the negative aspects or limitations of high sensitivity during parenthood, there is a lack of overall consideration of potential strengths, which is likely to impact on feelings of guilt and shame within this group, as well as on the existing stigma around the idea of sensitivity being a negative and unhelpful trait. Further to this, given the resources and communities that exist on digital as well as other platforms, it is surprising that no qualitative studies have explored the experience of parenting in highly sensitive individuals. The lack of qualitative research in this area has limited our ability to gain a true and rich understanding of the experience of highly sensitive parents.

1.4 The Current Study

1.4.1 Problem Statement

The current study takes an exploratory approach to obtain a rich and in-depth account of highly sensitive mothers' lived experiences of the postnatal period, recognising the significant benefit of allowing themes to emerge from real-life participant experience rather than pre-defined categories or variables. By adopting this approach, the study aims to identify the specific healthcare and social support needs of highly sensitive parents, as well as create validation and understanding for these parents within the research world. This is particularly important given the lack of research and understanding into the experience of the postnatal period for highly sensitive mothers, and the limited understanding provided by existing studies that focus on general trends and pre-established hypotheses. Therefore, an open and exploratory approach is necessary to gain a more person-centered understanding of high sensitivity during motherhood, which can inform tailored and individualised care for each parent based on their unique characteristics and experiences.

1.4.2 Aims and Objectives of the Current Study

The current study aims to conduct an exploratory piece of research which aims to:

1.   Explore the unique experiences of new mothers identifying with Sensory Processing Sensitivity (SPS) during the postnatal period.

2.   Discover the specific challenges and advantages mothers with SPS experience in their interactions with their infants, and the impact of this on their physical and emotional wellbeing.

3.   Examine the importance of social support and healthcare interventions of the experiences of new mothers with high SPS, and to identify areas where additional support may be needed.

2. METHOD

2.1 Philosophical Framework and Positioning

The personal philosophy of the researcher refers to a set of beliefs and practices that inform the exploration within a discipline by providing lenses, frames and processes through which a study is carried out (Steven & Edwards, 2008). Research philosophy influences the perspective from which the researcher formulates research questions, plans how concepts can be investigated, selects the research design as well as identifies what methods are used and how data are collected, analysed and interpreted (Steven & Edwards, 2008). It is therefore key for qualitative researchers is to identify and reflect on their own philosophical positioning in the initial stages of research. The fundamental components of philosophy include 'ontology' and 'epistemology'. The following sections will define these terms and provide details of the researcher's ontological and epistemological positions that were adopted into the study.

2.1.1 Ontology

Ontology is a philosophical study of being, and considers the assumptions people make about the nature of the world and reality and what exists. Ontology helps researchers recognise how certain they can be about the nature and existence of objects they are researching. Identification of ontology in the initial stages of the research process is therefore key. Ontological stances are understood to exist on a spectrum between realism and irrealism. Realism in ontology is the philosophical position that posits the existence of an objective reality independent of human perception and interpretation. Phillips (1987) defined realism as "the view that entities exist independently of being perceived, or independently of our theories about them" (p. 205). In other words, according to this perspective, the world exists as it is, regardless of whether humans perceive it or not. Realists also believe that there are

real, mind-independent entities that exist in the world, such as physical objects, numbers, and abstract concepts.

Realists argue that there is a fundamental difference between the way things appear to us and the way they actually are. They believe that we can gain knowledge about the world through empirical observation and scientific inquiry to provide the most accurate representation of reality. Realism in ontology is often contrasted with irrealism, which posits that the world is entirely dependent on human perception and interpretation. It assumes that there is no single shared reality, but instead multiple realities that exist through social constructed meanings.

2.1.1.1 Researcher Ontological Position - Realism

The researcher in the current study holds a realist ontological position. In contrast to irrealism, which posits that reality is solely created by our minds, the researcher believes that there is a world that (at least in some way) exists independently of their perceptions and thoughts.

2.1.2 Epistemology

The way we perceive the world affects how we investigate it. Epistemology refers to how reality can be examined and is understood to exist between two distinct positions of subjectivism and objectivism. Subjectivists argue that our knowledge and understanding of the world are shaped by our unique sensory experiences, emotions, cultural background, and personal biases. Subjectivism emphasises the role of individual subjectivity and personal experience in shaping our understanding of reality, and rejects the notion of an objective reality or truth. Subjectivists also contend that there is no objective basis for ethical or moral judgments, as these are also constructed through individual subjectivity and personal

preferences. Objectivists believe that we can examine the world through objective measurements and observations, based on the assumption that reality is consistent and independent of perception. Research based on objectivist positions assumes an unbiased and passive observer who collects facts but does not participate in creating them. It assumes the separation of facts from values and the existence of an external world separate from scientific observers and their methods.

2.1.2.1 Researcher Epistemological Position - Subjectivism

The researcher in the current study holds a subjectivist epistemological position as the subjectivist stance allows researchers to be considered as part of the research rather than just an objective observer. It recognises that their values and beliefs must be acknowledged as having an inevitable influence on the way in which the data is collected, interpreted and analysed (Ryan, 2018).

2.1.3 Philosophical Position

2.1.3.1 Critical Realism

Philosophical positions are often complex and multifaceted, involving a combination of ontology and epistemology. The researcher holds an ontological position of realism, and an epistemological position of subjectivism. Critical realism is a philosophical stance that aims to reconcile the strengths of both realism and subjectivism.

Critical realists argue that there is an objective reality that exists independently of human perception and interpretation, but that our understanding of this reality is always limited by our cognitive and sensory abilities, social context, and historical situation. They maintain that there are underlying causal mechanisms that produce observable events and patterns in the world, but these mechanisms are often hidden and can only be inferred through

careful observation and theoretical analysis. They also argue that reality is structured, but not deterministic, and that there are often multiple possible outcomes based on the interactions between different causal mechanisms.

Critical realist ontology acknowledges the importance of context, culture, and interpretation in shaping our understanding of reality, but it also maintains that there are objective features of the world that can be studied scientifically. It emphasises the importance of both empirical observation and theoretical analysis in building knowledge about the world, and it seeks to develop theories that can explain complex social phenomena.

In summary, critical realism proposes that there is an objective reality that exists independently of human perception and interpretation, but our understanding of this reality is limited and shaped by our social context and historical situation. It advocates for the use of both empirical observation and theoretical analysis to build knowledge about the world, and it recognises the importance of context and interpretation in shaping our understanding of reality.

2.1.3.2 Rationale for Critical Realist Position

The researcher holds a critical realist stance as it aims to uncover the underlying causal mechanisms that drive social phenomena, while also recognising the role of human agency and the complexity of social systems. A study that aims to explore parenting experiences in new mothers with Sensory Processing Sensitivity (SPS) could benefit from a critical realist stance for several reasons.

Firstly, critical realism acknowledges that the social phenomenon of parenting is embedded within broader social structures, cultural beliefs, and individual experiences. Therefore, by adopting a critical realist approach, the researcher was able to explore how

these broader structures and beliefs may influence the parenting experiences of new mothers with SPS.

Secondly, critical realism emphasises the importance of identifying and understanding the underlying mechanisms that drive social phenomena, going beyond surface-level observations, considering contextual factors, and mapping out specific mechanisms. Therefore, in the case of parenting experiences in new mothers with SPS, critical realism can help to facilitate a comprehensive understanding of the relationship SPS and parenting experiences, and how these experiences may differ from those of new mothers who do not have SPS.

Thirdly, critical realism recognises the role of human agency in shaping social systems. By acknowledging that new mothers with SPS have the ability to make choices and act on the world around them, critical realism can provide a more nuanced understanding of how these mothers navigate the challenges and opportunities of parenting.

2.2 Methodology

2.2.1 Selection of Quantitative or Qualitative Methodology

Research methodologies define how the researcher plans to investigate and obtain knowledge, and are based on the philosophical assumptions discussed of ontology and epistemology (Scotland, 2012). Research methodologies can be broadly differentiated into quantitative and qualitative research methods. Alignment between the belief system underpinning the research and the methodological approach is essential for rigorous and meticulous exploration. Quantitative methods for instance are based on realist ontological and objectivist epistemological positioning. They concentrate on obtaining concrete information, and producing research testing logically deduced hypotheses from an existing theory.

Qualitative research methods on the other hand, are usually based on more irrealist ontological and subjectivist epistemological perspectives, with an aim to examine how participants experience, perceive and interpret the world. It has been defined as "the study of the nature of phenomena" (Johnson et al., 2020, p.7120), including "their quality, different manifestations, the context in which they appear or the perspectives from which they can be perceived" (Philipsen & Vernooij-Dassen, 2007, p.14).

Based on the researcher's ontological and epistemological positioning, and the aim of the research to explore individual parenting experiences in new mothers who identify with having Sensory Processing Sensitivity (SPS), a qualitative methodology was selected for this study. A qualitative approach allowed the in-depth exploration of participants' inner worlds and the meaning that they attribute to their experiences. Qualitative methods are also useful to uncover less researched notions, which was relevant for the current study, given the limited literature on SPS and the experience of parenthood.

2.2.2 Selection of Qualitative Method

There are various qualitative methods, which are based on slightly varying philosophical positions. Many are regularly used in psychological research, and a number of these were considered as potential paradigms for the current study. These included grounded theory, discourse analysis, interpretive phenomenological analysis (IPA) and thematic analysis. Whilst each of these methods emphasise an aim to identify, analyse and interpret themes or patterns of meaning within qualitative data, after careful consideration, thematic analysis was selected as the methodology that was most suited to the research question.

Thematic analysis is a widely used qualitative research method that involves identifying, analysing, and interpreting patterns or themes within data (Braun & Clarke, 2019). One of the key advantages of thematic analysis is its flexibility, as it can be applied to

a wide range of research questions and data types (Braun & Clarke, 2006). While qualitative methods like grounded theory and phenomenology offer in-depth analyses, they are often resource and time-intensive due to their complex processes. As highlighted by Braun and Clarke (2019), thematic analysis is therefore a valuable methodology to apply when the researcher has limited time and resources.

It is important to note however that the method's accessibility does not compromise the richness of the insights it can generate. While some critics argue that thematic analysis may oversimplify data, Braun and Clarke (2019) contend that the depth and complexity of the analysis largely depend on the skill and reflexivity of the researcher. Therefore, researchers must engage actively and reflexively with the data, avoiding the risk of merely 'data dredging' or selecting data that fit preconceived ideas. As noted by Boyatzis (1998), thematic analysis allows researchers to identify patterns and themes that may be more implicit or subtle, which can provide valuable insights. This is particularly relevant in the context of exploratory research, where the aim is to gain a comprehensive understanding of a phenomenon or issue.

2.2.3 Reflexive Thematic Analysis

When it comes to choosing a specific type of thematic analysis, reflexive thematic analysis (RTA) has several unique advantages. RTA is a qualitative research approach that acknowledges the role of the researcher in shaping the analysis and interpretation of data (Braun & Clarke, 2019). This approach emphasises the importance of the researcher's reflexivity, which has been described as "a set of continuous, collaborative, and multifaceted practices through which researchers self-consciously critique, appraise, and evaluate how their subjectivity and context influence the research processes" (Olmos-Vega et al., 2022, p. 242). RTA therefore emphasises need for the researcher to actively engage with the data and

the analysis process, rather than simply applying a pre-determined set of codes or themes (Braun & Clarke, 2019).

One of the key advantages of RTA is its iterative and reflexive approach to analysis. RTA encourages researchers to be reflective and critical about their assumptions, biases, and interpretations throughout the analysis process, allowing for greater flexibility and the ability to refine codes and themes as new insights emerge from the data (Braun & Clarke, 2019). This approach allows for a more nuanced and complex understanding of the data, as it enables researchers to consider multiple levels of analysis and examine the relationships between themes (Braun & Clarke, 2019).

Furthermore, RTA provides a transparent and rigorous analysis process, which increases the credibility and trustworthiness of the findings. It requires researchers to document their analysis decisions and provide a clear rationale for their coding and thematic choices (Braun & Clarke, 2019). This approach also allows for peer review and validation, as researchers can provide a clear and transparent description of their analysis process (Braun & Clarke, 2019).

In summary, RTA was chosen for this study due to its close ontological and epistemological alignment with the beliefs of the researcher. It is a valuable qualitative research approach that provides rich, in-depth insights into the data. RTA, in particular, is a useful approach that promotes reflexivity, encourages a more nuanced understanding of the data, and provides a transparent and rigorous analysis process (Braun & Clarke, 2019). By using RTA, researchers can gain a deeper insight into the data, identify more subtle patterns and themes, and provide a transparent and rigorous analysis process that increases the credibility and trustworthiness of the findings.

2.3 Reflexive Statement

Reflexivity is a process of critical self-reflection that researchers engage in throughout the research process to become aware of and reflect on their own personal biases, assumptions, and values that could potentially influence the research. Reflexivity involves recognising and examining the social and cultural context in which the research is situated, and how this context may shape the research process and its findings. It also involves reflecting on the researcher's own positionality and how this may influence their interpretation of the data.

As a researcher conducting a study on parenting experiences in new mothers with Sensory Processing Sensitivity (SPS), I recognise that my personal background and sensitivity traits have played a significant role in shaping my research approach and interpretation of the findings. Having been brought up as an Asian British female within a middle-class family, I have personally observed the distinct difficulties the conflict between cultural expectations and mainstream social norms can impose upon women as they navigate the transition into motherhood. These challenges are especially pronounced for those whose experiences deviate significantly from the societal norm, but significantly differ from the cultural values and traditions that some may uphold. In such cases, mothers often feel isolated and unsupported, struggling to find a true sense of belonging within their communities.

This tension between traditional values and societal norms creates a challenging environment for mothers who don't conform entirely to either. They face judgment, criticism, and a lack of understanding from both sides, resulting in a lack of support and isolation. Additionally, the conflicting expectations make it difficult for these mothers to find a sense of belonging as they navigate their unique motherhood experiences without clear societal understanding and guidance. By examining the experiences of mothers with SPS, I hope to

contribute to a broader understanding of the many complex and diverse experiences of motherhood. I aim to highlight the need for greater sensitivity and inclusivity towards mothers who may have different needs and experiences, and to support efforts to create more inclusive and supportive communities for all mothers.

In addition to this, my personal interest in working with children and families has played a crucial role in guiding my research interests and my decision to focus on the experiences of mothers with Sensory Processing Sensitivity (SPS) during the transition to motherhood. My experience working in a parent-infant mental health team during my final year placement has given me valuable insights into the challenges faced by new parents as they navigate the complexities of parenting. By working with parents to build a strong bond with their child, I have gained experience in the crucial role that emotional support and empathy play in promoting positive outcomes for parents and children alike. My experience working with new parents has also highlighted the need for greater empathy and understanding towards mothers who may have different needs and experiences. In addition, I found working in the parent-infant mental health team particularly fulfilling due to the absence of a diagnostic requirement for parents to receive support. This inclusive approach promotes a more extensive reach of help, and I have witnessed first-hand how early intervention and support can positively impact parents' mental health and the relationship between them and their child. My time working in this team has increased my awareness of the significance of accessibility and the reduction of barriers for parents seeking support. During supervision, I have had the opportunity to reflect on the trajectory that these families' lives may have taken, had they not been able to access early intervention. I felt that this approach has important implications for individuals with Sensory Processing Sensitivity (SPS) who may not have a formal diagnosis, or even meet criteria for one, but are susceptible to developing stress-related disorders without sufficient support.

Whilst my professional experiences have influenced my interest in sensitivity as a temperamental trait which shapes how an individual experiences the world and is impacted by positive and negative contexts, I found that some aspects of high sensitivity resonated with my own personal experiences. I recall regularly being referred to as sensitive as a child, and in aspects of my adult life. Some of these traits have been extremely helpful in fuelling my passions, and the course in which my life has taken. Increased empathy and attunement towards others are attributes which have undoubtedly influenced my decision and journey to becoming a clinical psychologist. I can certainly also relate to the experience of feeling overwhelmed and overstimulated as the day goes on. Although I am not a parent myself, these traits have helped me to appreciate the unique challenges that new mothers with SPS may face when adjusting to parenthood. The demands of caring for a newborn can be overwhelming for any parent, but for those with heightened sensory input and potential for overwhelm, the experience can be even more daunting. The current study aimed to gain a more profound understanding of the impact of sensitivity traits on the parenting experiences of new mothers, and how this affects the attachment bond between parent and child. Ultimately, I hope that my findings can inform the development of tailored support programs that address the specific needs of new mothers, especially those with Sensory Processing Sensitivity.

Overall, as a researcher, I recognise the importance of reflexivity in the research process. I have sought to take a critical realist perspective, acknowledging the social and cultural context in which my personal background and sensitivity traits are situated, while also seeking to uncover the underlying mechanisms that contribute to the parenting experiences of new mothers with SPS.

2.4 Design

This section presents the design of current study which examined the postnatal experiences of mothers with Sensory Processing Sensitivity (SPS). This section describes the chosen design, data collection methods, and analysis approach, highlighting how they addressed the current study's research objectives.

2.4.1 Materials

Questionnaire: Highly Sensitive Person Scale (Aron & Aron, 1997)

The Highly Sensitive Person (HSP) scale (Aron & Aron, 1997) (see Appendix 1) is a standard 27-item self-report questionnaire, which identifies traits of sensitivity in the respondent. Items used in this study encompass statements related to easy startling, lower sensory thresholds, and depth of processing, with questions such as "Are you easily overwhelmed by strong sensory input?", "Do you seem to be aware of subtleties in your environment?", and "Do other people's moods affect you?". The Highly Sensitivity Person (HSP) scale demonstrated a high level of internal consistency, with a Cronbach's alpha of $\alpha =$ .918. Aron & Aron (1997) recommended that within research, sensitivity is treated as a continuum, as opposed to binary categories of highly sensitive and not highly sensitive. No clinical cut-offs were therefore assigned or utilised to categorise participants.

Interviews

Interviews were conducted with fourteen participants who were contactable and provided consented to the interview. Recruitment was carried out through a combination of purposive and snowball sampling, with participants selected based on their relevance and availability to the research topic. All interviews were facilitated by the key researcher and took place over Zoom. Interviews were also recorded with participants' consent. The study

adopted a semi-structured interview method to allow an open and exploratory conversation, whilst ensuring that focus on the research aim was maintained. The interviewer therefore directed the interview but listened, observed with sensitivity, and encouraged participants to talk with prompts including non-verbal cues to express interest, and non-judgemental summary statements in question form to elicit further details. Whilst the interviewer had a list of broad, open-ended questions related to the research question and topic (See Appendix 2 for interview schedule), flexibility and openness was also prioritised to allow for the emergence of unexpected themes and ideas from the data collected. The interviewer achieved this by following up on interesting points raised by participants through use of follow-up questions, probes and comments. This provided an opportunity to spontaneously explore topics relevant to that particular participant, whilst still ensuring that all key questions were covered.

The reflexive approach was also implemented during the interview process, which enabled the researcher to acknowledge their own biases and assumptions, as well as the impact of the interviewing process on the responses given by the participant. The interviewer aimed to establish rapport and trust with the participant, creating a safe and comfortable space for them to share their experiences and perspectives. Participants were not offered any incentive for their time and participation, however, many participants voiced feeling interested and validated after seeing the recruitment advert. The recorded interviews were transcribed verbatim, and thematic analysis was conducted using qualitative data analysis software, NVivo. The analysis process followed a rigorous method including coding, categorising, and interpreting the data. For further information on ethical considerations around the interview process, please see the "Ethical Issues" section later in the chapter.

2.4.2 Participants

<u>2.4.2.1 Inclusion and Exclusion Criteria</u>

Inclusion and exclusion criteria (see below) were written on the post advertising the research (see Appendix 4) and participants were asked to confirm this information before being invited to participate in the study. Information sheets (see Appendix 4) which provided further details on the purpose of the study, the study timeline and procedures were sent to selected participants at this stage. Participants were then asked to sign a consent form (see Appendix 5), and asked to provide their contact details (email address and contact number) so that the researcher was able to contact them to arrange an appropriate interview slot. Inclusion criteria were (a) women (b) above the age of 18 years old (c) in early postnatal stages (3-12 months) and (d) identify themselves as having SPS. Exclusion criteria were (a) those with a current diagnosis of a postnatal mental health difficulties (b) currently engaging in therapeutic intervention or treatment (including medication) within the perinatal mental health team or within another service.

Challenges with adjustment to the parenting role in the initial postnatal stages are normal and expected in non-clinical and low-risk clinical samples and it is estimated that most new parents will adjust and settle into their new role after the first 4 to 12 weeks of parenting (Don et al., 2014). To allow for the initial natural adjustment to parenting, whilst still capturing challenges specific to HSP parents in the postnatal stages, mothers with infants from 3-12 months old were included in the study. Mothers will therefore have had their baby who will be at least 3 months old at the time of the interview.

It should be noted that SPS has overlapping features with sensory processing abnormalities present in disorders such as ASD, schizophrenia and post-traumatic stress disorder (PTSD). Despite this, Acevedo et al. (2014) suggested that SPS can be studied

independently from clinical disorders, due to distinct patterns of neural activity in response to emotional and social stimuli. The rationale behind the exclusion of mothers who are diagnosed with a mental health or neurodevelopmental disorders or are currently receiving mental health treatment is an attempt to control for those who recognise sensory processing abnormalities in themselves due to other conditions.

2.4.2.2 Recruitment and Data Collection Procedure

A purposive sampling approach was used to ensure that the selection of participants was based on their suitability and relevance to the research question. Potential participants were recruited through posting in relevant online community groups including mothers and parenting Facebook communities (see Appendix 3 for recruitment poster). The researcher also developed an Instagram page, which shared information around sensory processing sensitivity (SPS) and parenting. The study was also advertised via a post on this platform.

Participants who met the inclusion criteria, self-identified as having SPS and expressed interest in participating were directed to a secure website where they had access to the study information sheet (see Appendix 4). The information sheet included information about the study, its aims, and the methodology to be used. The participants were also provided with information about the possible risks and benefits of the study, and about data confidentiality and anonymity. Participants were allowed to decline or withdraw from participating in the study at any time without prejudice. Those who agreed to participate were asked to provide informed consent, notified that the data would be kept securely, and that confidentiality and anonymity maintained at all times. Participants were also asked to provide contact details and relevant demographic information including their infant's age. They were provided with a link to complete the Highly Sensitive Person Scale (Aron & Aron, 1997).

Following completion, participants were contacted to establish a suitable date and time for the interview to take place, set up the appropriate software, and provide informed consent for audiotaping of the interview for coding purposes. Data was attained through semi-structured interviews, which enabled the collection of rich, nuanced and detailed data from each participant. The interviews were conducted via Zoom, and lasted approximately 60 to 90 minutes. The interviews were audio-recorded, and field notes were also recorded during the interviews. Interviews were transcribed verbatim, and assigned unique identifiers to ensure confidentiality. Following interviews, each participant was asked if they were happy with the information they provided throughout the interview. Participants were also provided with the principal investigator's contact details if anything arose from the interview that they would like to discuss. Debrief sheets were also provided which included contact details for relevant services and support. Where participants dropped out of the study before interviews took place, the next participant was contacted and asked whether they would be interested in taking part in the next stage of the research.

2.5 Analysis

In the current study, reflexive thematic analysis was utilised to analyse the data. This approach involves an iterative process of identifying and organising patterns of meaning in the data, which is conducted in a reflective and iterative manner using an inductive approach (Braun & Clarke, 2019). The six steps outlined by Braun and Clarke (2006) in conducting thematic analysis were followed and are described below:

Step 1: Familiarisation with the data. Following data collection, the first step of the reflexive thematic analysis was to read and reread the data set to become familiar with the data (Braun & Clarke, 2006). This step involved the researcher immersing themselves in the data set and making notes on the initial impressions, observations, and questions.

Step 2: Generation of initial codes. Once familiarised with the data, the next step was to generate initial codes (Braun & Clarke, 2017). This involved identifying and labeling concepts or ideas that were apparent within the data set. These codes were predominantly descriptive and captured the essence of the data.

Step 3: Search for patterns within the codes. After initial codes had been generated, patterns and connections across the data were identified. looked for similarities and differences between the participants' experiences.

Step 4: Refining of themes. Once patterns had been identified, codes were refined and organised into broader themes. The researcher then connected related codes and developed more nuanced sub-themes within each primary theme.

Step 5: Evaluation of themes. After the initial refining of themes, they were evaluated to determine the coherence and consistency of the analysis. This involved going through the data and ensuring that the themes accurately reflected the meaning within the data, and all data relevant to the research question had been considered. Themes were then presented in a coherent way in a thematic map.

Step 6: Interpretation and contextualisation of themes. For the final step, a concise, meaningful description of each theme was constructed. They were also named descriptively to reflect their content.

In addition to the six steps of thematic analysis in RTA, there were several other important considerations that the researcher made when using this method. RTA emphasises the importance of reflexivity and the researcher's positionality, which involves recognising and managing the researcher's biases, knowledge, and experiences. To facilitate reflexivity, the researcher maintained a reflective journal to be aware of any potential biases or

preconceptions. Feedback from colleagues was also obtained as required throughout the research process. Overall, while RTA does not provide a strict set of rules to follow, it offers a flexible yet rigorous framework for analysing qualitative data. It also promotes reflexivity and transparency, allowing researchers to conduct a robust and insightful analysis of their data while remaining responsive to the unique features of the participants' experiences.

2.6 Ethical Considerations

Ethical considerations are an essential aspect of any research study, and researchers need to be aware of the potential ethical issues when conducting research involving human participants. The current study aimed to explore the experience of the postnatal period in mothers with SPS. Data was collected through interviews, and there were several ethical issues that researchers considered to ensure the study was conducted ethically and safely.

Formal approval from the University of Essex Ethics Committee was gained before recruitment for the study took place (see Appendix 6 for a copy of approval). At each process of the study, the researcher ensured that all participants were treated with a high degree of consideration and respect. Clear explanations of the study's purpose and objectives, the risks and benefits of participation were provided. Upon considering the information they had been given about the study, mothers were free to decide whether they wished to participate or not. Participants were also made aware of their right to withdraw at any time. They were not asked to give any reasons for not wishing to participate at any stage of the research. Informed consent was obtained from the participants to participate in the study and it was confirmed that the participants understood the nature of the study fully. Furthermore, the researcher ensured that participants' confidentiality and anonymity were maintained by managing their personal information securely. Contact information of participants was kept on a password-secured spreadsheet. Only the investigator working on the study had access to the

participants' research data. At the point of research data being extracted participants were assigned a pseudonym to protect their identity, and any other identifiable information was removed from the transcribed data.

Another ethical concern in this study was the potential psychological impact on the participants. For instance, it was considered that the interviews may have brought up challenging and sensitive topics related to the postnatal period. The researcher aimed to create a respectful, compassionate, and comfortable environment during the interviews, in order to allow participants to feel safe to share their experiences. They also aimed to provide support and guidance to the participants throughout the study to minimise psychological distress, however, a plan for dealing with any harms that may have arisen during participation was also implemented. In these cases, participants would have been encouraged to contact the named health visitor to which they were open to ensure that risk can be monitored and they are able to obtain the appropriate practical or mental health support. If they were opted out of the health visitor scheme and there were concerns around their wellbeing, parents were be advised to book an appointment with their GP, and in urgent cases, numbers for appropriate crisis support were provided. In addition to this, a comprehensive list of resources and sources of support was provided within debrief information sheets. The debrief sheets also re-iterated that confidentiality will only be broken in the case of serious concern, i.e. if there is evidence that the participant or child's safety is at risk.

3. RESULTS

Chapter Overview

This chapter starts with a description of the demographic data for the fourteen mothers who participated in the study, and then moves on to discuss the results from the current study. These include a presentation of the themes and sub-themes identified, and verbatim quotes extracted from the interviews.

3.1 Demographic Information

Fourteen mothers based in the United Kingdom who were experiencing traits which were indicative of SPS participated in the research study. Mothers self-reported their SPS-related traits and experiences, which varied in severity, frequency and impact. Ten mothers were aware of SPS, and had previously self-identified with being highly sensitive. Four mothers had not previously heard of SPS but the description of common characteristics included in the recruitment post resonated with their own experiences. Seven participants were recruited from community motherhood and parenting groups on Facebook, and seven were recruited from the Instagram page set up by the study's researcher. The majority of those already familiar with SPS were recruited from the Instagram page. This was likely due to the specific SPS focus of the page which attracted followers who had some prior understanding of it. All of the participants reported their traits to be lifelong and impactful in various contexts.

The ages of the mothers recruited into the study ranged from 22 to 47 years old, and the mean age was 34. Youngest infant ages ranged from 3 months to 12 months, and the mean age was 8 months. Five of the mothers had more than one child, mostly two, with one mother having four children. One mother had identical twins, and so the interview focused on her experience of the postnatal period with two infants under 12 months. Thirteen out of

fourteen of the mothers interviewed were White, and one was South Asian. This information

is presented below in table 3.

Table 3:
Demographic data of study participants

Participant number	Pseudonym	Age	Ethnicity	Infant's age (months)	No. of children	Known HSP?	Recruited from:
1	Dawn	35	White	10.5	2	No	Facebook
2	Nina	22	White	5	1	No	Facebook
3	Kate	34	White	10	2	No	Facebook
4	Abbie	34	White	12	1	Yes	Facebook
5	Megan	24	White	12	2 (twins)	Yes	Facebook
6	Lucy	40	White	3.5	1	Yes	Facebook
7	Selina	35	South Asian	10	1	No	Facebook
8	Bella	35	White	10.5	4	Yes	Instagram
9	Natalia	37	White	3	2	Yes	Instagram
10	Jade	29	White	4	1	Yes	Instagram
11	Carla	33	White	9	1	Yes	Instagram
12	Hazel	34	White	7	1	Yes	Instagram
13	Malin	47	White	9	1	Yes	Instagram
14	Joanna	37	White	12	1	Yes	Instagram

3.2 Overview of Findings

Table 4 summarises participants' total scores on the Highly Sensitive Person Scale (HSPS; Aron & Aron, 1997). All 27 items were rated on a 1–7 Likert scale (1 = "not at all" to 7 = "extremely"), giving a total possible score between 27 – 189. Although there is no clinical cut off scores, as recommended by Aron et al. (1997) previous research has assigned the highest scoring 20% of participants within a general sample in 'high SPS' groups. In a study by Botterberg and Warreyn (2016), participants placed in the 'high-SPS' group had scores ranging from 98 – 114.

Interestingly, the vast majority of mothers in the current study had total scores significantly higher than the greater end of that range, as scores on the HSPS ranged from 110 – 158, with a mean score of 144.

Table 4:
Identified themes and subthemes

Participant Number	Overall HSPS Score
1	149
2	138
3	148
4	151
5	152
6	144
7	158
8	144
9	125
10	153
11	110
12	151
13	151
14	138

Table 5 summarises the main themes and subthemes identified by the thematic analysis (Braun & Clarke, 2012). Overall, six main themes and twenty-two sub-themes were constructed. Table 5 displays which participant identified with which themes.

Table 5:
Identified themes and subthemes

Main themes	Subthemes
1. Overwhelm	1.1 The Nature and Experience of Overwhelm
	1.2 Constant Demands
	1.3 Sensory Sensitivity
	1.4 Emotional Reactivity
2. Increased Empathy - the Good and the Bad	2.1 Increased Attunement and Responsiveness to My Baby
	2.2 Absorbing Other's Emotions – "My Cup is Empty!"
	2.3 Recognising Distress and Helping Others
3. A Sensitive Mother is a Good Mother	3.1 Wanting to Be the Best for my Baby
	3.2 Benefits for My Baby and Our Bond
	3.3 Appreciating the Positive Moments – "If I Wasn't as Sensitive as I Am, Maybe I'd Just Take It for Granted"
4. Basic Needs	4.1 Looking After Myself So I Can Look After My Baby
	4.2 Coping Strategies
5. Need for Connection and Support	5.1 "I Like Seeing My Friends, But I Love Coming Home"
	5.2 Understanding and Awareness From Family and Friends
	5.3 "Let Me Parent In My Own Way!"
	5.4 Support From Professionals

Interestingly, all mothers interviewed shared experiences that were in some way aligned with all five of the themes identified. In the table below (table 6), the subthemes which were relevant to each of the mothers' narratives are illustrated.

Table 6:
Participant alignment with themes and subthemes

Participant Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Theme 1: Overwhelm	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1.1 The Nature and Experience of Overwhelm	•	•	•	•		•			•		•	•		•
1.2 Constant Demands		•			•	•	•	•	•	•	•	•	•	•
1.3 Sensory Sensitivity	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1.4 Emotional Reactivity						•	•		•	•			•	•
Theme 2: Increased Empathy – The Good and the Bad	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2.1 Increased Attunement and Responsiveness to My Baby	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2.2 Absorbing Other's Emotions – "My Cup is Empty!"			•	•	•	•	•	•	•		•		•	
2.3 Recognising Distress and Helping Others - "I Want to Help Them, but My Cup is Really Really Empty"				•	•	•	•	•		•	•		•	•
Theme 3: A Sensitive Mother is a Good Mother	•	•	•	•	•	•	•	•	•	•	•	•	•	•
3.1 Wanting to Be the Best for My Baby	•		•	•	•	•	•	•	•	•	•	•	•	•
3.2 Benefits for My Baby and Our Bond		•		•		•	•		•	•		•		•

3.3 Appreciating the Positive Moments – "If I Wasn't as Sensitive as I Am, Maybe I'd Just Take It for Granted"		•		•		•	•		•	•	•			
Theme 4: Basic Needs	•	•	•	•	•	•	•	•	•	•	•	•	•	•
4.1 Looking After Myself So I Can Look After My Baby			•	•		•	•	•	•	•	•		•	•
4.2 Coping strategies	•	•	•	•	•	•		•	•	•	•	•	•	•
Theme 5: A Need for Connection and Support	•	•	•	•	•	•	•	•	•	•	•	•	•	•
5.1 "I Like Seeing My Friends, But I Love Coming Home"	•	•	•	•		•				•	•			•
5.2 Understanding And Awareness From Family And Friends		•	•	•	•	•	•	•		•	•	•	•	•
5.3 "Let Me Parent In My Own Way!"		•				•		•		•	•			•
5.4 Support From Professionals	•	•			•	•	•			•	•	•	•	

The following section of this chapter will focus on describing each of the themes and subthemes, with key quotes from the mothers in these areas.

3.3 Theme One: Overwhelm

Highly sensitive new mothers may be particularly susceptible to experiencing overwhelm due to their heightened emotional sensitivity and the added demands of caring for a newborn. The theme of 'Overwhelm' emerged prominently in this study, and captured the mothers' shared experiences of heightened vulnerability to various triggers such as noise, clutter, and incessant demands for their attention. This vulnerability was compounded by the often unmet need for self-care, which included basic needs such as acquiring sufficient sleep. Consequently, many mothers noted an increased emotional reactivity, which further exacerbated the sensation of being overwhelmed. Under the overarching theme of 'Overwhelm', several sub-themes were identified, including 'The Nature of Overwhelm,' 'Constant Demands,' 'Sensory Sensitivity,' and 'Emotional Reactivity.' These subthemes offered a deeper insight into the various facets of 'Overwhelm' as experienced by mothers interviewed.

3.3.1 The Nature and Experience of Overwhelm

The 'Nature of Overwhelm' subtheme delves into the mothers' personal accounts of this state, exploring how they articulate and perceive their experiences. This detailed exploration aids in understanding the multi-faceted aspects of overwhelm reported in interviews.

Several mothers reported that their overwhelm tends to accumulate gradually over the course of the day:

"Yeah, yeah, it's definitely accumulative during the day. Like the more sort of noise and emotion and things that there's been all day. It definitely builds, and if I've not had any, like, if it's been a busy night in terms of being up with the baby a lot and you know..." **(Kate)**

"Yeah. I do think I feel distressed, and it builds up. So it builds up so that by the time he goes to bed, I'm so glad now can be alone". **(Lucy)**

In contrast, some mothers reported experiencing a more abrupt onset of overwhelm, which would occur as early as the beginning of the day:

"I don't think it's a long day thing, it can be first thing in the morning. I'm just like, 'no, no! Just go, just leave!' Because it can immediately be overwhelming. I mean, it's not even so much as the like... built up through the day. It's just like, it just suddenly hits at the wrong time". **(Dawn)**

Dawn's description of overwhelm as a sudden and ill-timed experience implied a certain level of chaos and unpredictability. However, even for Joanna (below), who typically experienced a gradual onset of overwhelm, there was still an element of suddenness and intensity to her experience, which paralleled Dawn's experience. Joanna recognised that this was often due to her overlooking the initial signs of overwhelm because of her focus on other demands, which often led to a sudden realisation that she was in a heightened state:

"It's something that I'm kind of trying to tune into better, because I think often at the moment, I notice it almost when it's too late. Um, and then I have to sort of spend longer getting out of it or I'm so depleted, but yeah, I need quite a lot to kind of get back on top of things, as it were. Um, but yeah I think that's one of the challenging things with a baby, because you're so focused on them, um, you can sort of suddenly realise that you're

feeling really depleted, um that you haven't quite clocked the moment when you were tipped over the edge." (***Joanna***)

However, the mothers did not solely report a rapid onset of overwhelm during motherhood; instead, they acknowledged that being susceptible to overwhelm has always been a characteristic of their personality:

"I feel like it is a part of who I am, rather than a period of time or something that's impacted by what's going on. I just feel very easily overwhelmed, and I have done for as far back as I can remember." (***Nina***)

Many mothers interviewed also expressed a common belief that they were more prone to experiencing overwhelm than other individuals:

"But I just sort of feel like I have like a roof, a ceiling, a limit, and then, which is probably too low compared to others, but *laughs*, it just, it makes me feel very stressed, very tense, very like just overwhelmed". (***Kate***)

"...like, when there's a lot going on, I worry that I can be, um, I might become overwhelmed quicker than somebody else might." (***Hazel***)

3.3.2 Constant Demands

The 'Constant Demands' subtheme recognises the increased demand during the postnatal period as a significant contributing factor to overwhelm. The unrelenting nature of being constantly needed was a distinct and often challenging experience shared by a significant number of participants. Although some mothers recognised their susceptibility to overwhelm as a longstanding trait which was present prior to them becoming parents, they

noted that the increased demand in the postnatal period led to an intensification of overwhelm.

Carla shared that she had expected and even welcomed the experience of being needed by her infant as a mother, but the level of intensity that she experienced was not something that she had not anticipated:

*"It was one of the things I was really looking forward to in an odd way about having a child was being able to support them. But the intensity of it was something I wasn't expecting. So it's the, um, being needed all the time, 24/7 without a break, unless you're asleep, but you're only then asleep for a little bit because then she... for example, she rarely sleeps for more than about three or four hours at a time… Um, but it's, yeah, it's the intensity of being the only person, the only option, the only person that can meet those needs sometimes". **(Carla)***

In addition to the constant feeling of being needed by their children, Abbie and Nina also highlighted the impact of other demands and responsibilities in their household:

*"It's being needed all the time by somebody. So whether it's the baby, the toddler, by my husband or the house, or, you know, everyone and everything needs something." **(Kate)***

*"I think in terms of in our household, it's like there's things going on all the time - there's always something to do, or things to be done, it's very overwhelming in that aspect." **(Nina)***

Lucy added further insight to this subtheme by describing high level of pressure and demand she felt from her environment, including from inanimate objects. Lucy wondered whether the way in which she experiences these demands may be "not normal" but highlighted

her heightened sensitivity to these demands which perhaps contributed to her more intense experience of them:

> *"I feel like, yeah, the highly sensitive thing means I constantly have things or people that make demands on me that I think other people don't see. Not in a crazy way, but I hear like the stuff in the fridge saying, 'oh, you wasted money at Waitrose on me, and now you're not even cooking'. It's the pressure! Like, everything is demanding. I see objects that say 'please tidy me'. Not in a Disney kind of way - like I don't hear voices or anything like that. There is no cooking wear talking to me, right? *laughs*. Although it's like, if it was, it wouldn't be singing a song, it would be like, 'wash me! I've been in the sink for a long time!'. But no, I walk around and I feel like a stress coming from objects as well. So, yeah I don't know, I think that is not normal maybe?"* **(Lucy)**

3.3.3   Sensory Sensitivity:

The majority of the interviewed mothers shared the difficult of increased sensory stimuli during motherhood, particularly with regards to noise, touch and visual stimuli. While other sensory experiences like being in crowded areas, exposure to bright lighting, and strong smells were also discussed as sources of overwhelm, the quotes reported below specifically focus on sensory challenges directly related to parenting.

<u>Noise</u>

Many mothers described feeling overstimulated as a result of the level and frequency of noise, often due to their infants' cries. Megan and Carla both recognised that the function of an infant's cries is to elicit a response in the infant's mother, however both felt that their struggle went beyond what they considered the norm. Carla went on to explain that her

infant's cry sometimes left her so immobilised, that the noise overwhelmed her natural response and ability to soothe her infant's distress:

> *"Yeah it really is the noise. I know it's normal. Like as a woman, you have that biological response, but for me, it just feels like I have struggled more than normal. You would think after a year, I would be a bit more calm about it. But it still does really overwhelm me to be honest." (Megan)*

> *"And obviously, nobody is happy when their child is crying. Um, but it's really, I really feel like it… I feel like it interrupts my brain. Like it just stops me. Obviously, I know that baby cries are designed to catch your attention so that you tend to their needs, but I feel like it stops me being able to make a decision about what I should be doing for her. I just get like… stuck almost and can't." (Carla)*

Carla added that her reaction to her infant's vocalisations goes beyond their cries of distress. She said that she has experienced comparable levels of overstimulation in response to their noises of joy, indicating that the sound itself triggers her reaction rather than her infant's emotional state:

> *"And I think the other thing that I find really difficult at the moment is, um, and I think this links back to the sound thing… is when she's like screeching or, you know, it can be that she's squealing with excitement. It's so, so piercing and I'm like, ooooh! *shivers". I really want her to stop, but I know that she's not doing anything wrong. She's just expressing she's excited and she's allowed to do that. Um, but once or twice, I can handle it, and then there comes a point where I'm just like *covers ears" oh, this is horrible. I need you to stop doing it now!" (Carla)*

These experiences demonstrate that an infant's cries or vocalisations may go beyond simply being irritating or unpleasant for some mothers, but can have a considerable physiological impact.

Several other mothers spoke about the disabling impact of simultaneous noises from different sources, which they felt had increased since becoming parents. They described this as all-encompassing at times and impeding on their ability to think clearly:

"Um, and like, I can't sort of, necessarily plan very simple things. Like, you know, even just thinking about getting dinner ready or what to do for dinner, I just don't sort of have the brain space to do it because I... there's... I don't really know why *laughs*. I think there's a lot of noise, and I can't think when there's so much noise going on. I can't think of things and plan." **(Kate)**

Carla described the first instance when her sensitivity to noise and other sensory experiences became apparent to her. She recounted attending a baby sensory group and noticing that other parents seemed unaffected by the sensory stimuli, whilst she struggled with sensory overload from the environment. Despite this, interestingly, Carla reported that she chose to endure these sensory challenges for the benefit of her baby:

"I was basically like sitting in a baby sensory group and it's like loads of, uh, obviously like different sensory activities, like things with sound, things with lights, whatever. There was this one activity that was like, um, loads of shakers and bells and stuff, and it sounded so chaotic. I was just like, this is awful. I just, I just wanted to like, get up and leave. I didn't of course, because that would have been unfair to my baby who was really enjoying the class. But I sort of looked around and everybody else just seemed to be like, absolutely fine. And I was like, oh, I think have something about sound then! *laughs*" **(Carla)**

77

This was also evident in Nina's response, as she described "accepting the uncomfortableness" of noise and bright lights in her bedroom in the interest of her infant's preferences:

*"He likes particular things, like videos on Youtube which are loud, he likes the light on in the bedroom, and I would never sit with the light on in the bedroom, but he loves it so, I accept the uncomfortableness so he can enjoy the light in the bedroom. Things like that, it is a big change" (**Nina**)*

Nina, Carla, and other mothers' interviews demonstrated understanding and prioritising of their children's need and interest in certain sensory experiences such as noise, despite this feeling very challenging for them to endure.

Touch

Another sensory experience which mothers described as overwhelming is touch. Many mothers spoke about feeling 'touched out' as a common experience during motherhood. This was often due to accumulative effect of close interaction with their infant, during either breastfeeding or when the infant initiates a close form of contact:

*"Erm, lack of space, specifically my little boy. He likes to be on us all the time. It's the physical feeling of somebody on you, and like feet in your belly and stuff like that. There's always a little hand touching you somewhere. He's very… it's like, it's a lot to take in sometimes." (**Nina**)*

"The first four months, he didn't sleep anywhere but on a person. I had to wear a sling with him all the time, you know, sleeping with him. It was just awful, and you hear it a lot don't you? That feeling of being touched out, like too much. No, that was

definite within the early days. Even now, I'm not brilliant at like being cuddled, I'm not that sort of person." (Bella)

Kate quote provided a vivid description of the intense physical discomfort and aversion that she feels towards physical touch:

"You just want to run away and not be near anybody, and when someone then does touch you, you just kind of almost recoil, you just pull away from it and you just don't want it. You just don't want it. It's just the last thing I want. Um, and it sort of, I wouldn't say it makes me feel sick. That's probably a bit too far, but it's like a physical response to that touch. Yeah, it just makes you want to like push everyone away and run away." (Kate)

Kate also expressed how the constant and unavoidable physical touch she experiences throughout the day with her baby can also have a detrimental effect on her relationships with others, as it drains her of her emotional energy, leaving her with "nothing left to give":

"So like, my baby absolutely needs it cause she's breastfed and there's no way of avoiding that. My toddler craves it, and he does need it for his development as well. And so that's fine. And then when it then comes to like my husband I've really, I've just got nothing left to give. And that's kind of that's the way that he likes to show sort of love and things, say being tactile, whereas I don't want that by the time they're both in bed, I don't want to be touched or touch. And uh, that puts stresses then on the relationship as well." (Kate)

Visual Stimuli

Many mothers described feeling overstimulated by visual stimuli in their environment, most commonly clutter and chaos in their home.

Ceri and Megan described how levels of clutter and chaos in their homes has inevitably increased since having a baby. Whilst both mothers reported finding this challenging, they recognised that there was an element of acceptance and flexibility required around coping with it as opposed to constantly being on top of it:

"And in terms of like visual stimuli, like downstairs, I have toys that I take down for him to play with. I can't have too much around me either. I find it really, really stressful. Um, having too much around me that I can see or that I can hear. Like, I almost need a minimalist home, which you just can't have with a baby" **(Jade)**

"Yeah. I mean, even things like with my phone, I have to delete it, a lot of apps and like things that I can visibly see just overwhelmed me. I've tried to get rid of mess in the house that… cause again, I got overwhelmed with how much stuff is here. I try as well, lot to clean when it's more like darker because when it's light in the house, I feel like I just see too watch almost, and you're never going to be able to fix everything and get the house exactly how you want it, especially with children. And it's just things like that really." **(Megan)**

On the other hand, Lucy revealed that when she could not cope with clutter in her home, she managed her feeling of overwhelm by leaving instead. She believed that by doing so, she could distract herself from the overwhelming sensory stimulation she experienced in her home:

"And then recently the clutter just, it gets to me so much. I cried over how messy everything was *laughs*. Like, I cannot. And my house is a complete mess. So if you came here and you saw things, then you wouldn't know that I'm not the kind of person who likes to be like that. Like some people feel kinda comfortable with clutter, but I really don't… I do make the time to clean, but it's just cluttered and I don't have time to go through the books and take some to Oxfam, or go through my clothes and put some

*more on Vinted and sell them, or take them to Oxfam as well. But, um, yeah. Anyway, so, um, coping mechanism is to meet the women in the park because when I meet the women in the park, I don't see any of it." (**Lucy**)*

3.3.4 Emotional Reactivity

This subtheme focuses on mothers' experiences of emotional reactivity as a result of overwhelm throughout motherhood. Due to increased susceptibility to overwhelm, highly sensitive mothers may experience heightened emotional reactivity in response to certain triggers, which may impact their tolerance, and hence their ability to respond in a measured way.

The 'Emotional Reactivity' subtheme is exemplified in Malin's quote, where she recognised a direct correlation between her level of overwhelm and tolerance of external triggers, including sensory experiences like noise and smell, and difficult social interactions. This quote underscores the idea that emotional reactivity is heightened under conditions of overwhelm.

*"So with the baby, it's just when he does poo and stuff. Sometimes, not always, I think it might be to do with how tired and overwhelmed I am, because you know, I think that the more overwhelmed I am, the less sort of resistance I have to certain things… to noise, to smells.. or even to someone bothering me, you know?" (**Malin**)*

Jade also acknowledged her ability to manage reactions to sensory stimuli in situations when she is not already feeling overwhelmed and sleep deprived. She added further understanding around how she can find it difficult to be rational and utilise coping mechanisms learnt in therapy when in a high state of overwhelm. This has left her more vulnerable to responding in an emotionally reactive manner:

81

"So in situations where I have been less sleep deprived and overwhelmed, I could have managed the sensory stuff a little better, but because you're not getting the rest and the immediate time out that you used to be able to take, I would say I'm less able to be… I don't want to say rational, but it probably is irrationality. Whilst I've had CBT for like two years to manage the over-sensitivity to others in situations, I'm probably less able to use the tools that I've acquired to just be like, no, I know this is just me feeling too much right now." (**Jade**)

Similar to Jade, Eleanor and Abbie have noticed a shift in their ability to think clearly and/or positively when they have felt overwhelmed. Both of these mothers described an increase in negative self-talk caused by the accumulation of stress and anxiety throughout the day. However, for Eleanor, she observed that this negative self-talk subsided once she was able to manage her overwhelm through rest:

"Like there's been feelings of, you know, if you've had a really, really tough night, the next day you've had a lot of overwhelming thoughts of, 'I can't cope. I'm not made for this. Like maybe I'm not supposed to do this'. Um, and I mean, I'm sure every new mum has had those moments, but, very much that that's always been a thing when I've felt overwhelmed as a parent" (**Abbie**)

"Yeah, I guess just feeling like I'm never quite doing well enough, seeing things through a negative lens rather than a positive lens. I've sort of noticed that there's often a switch in the day where I go from feeling positive and energised, and like I can deal with the challenges, to 'wow, no I just can't do this', 'I'm rubbish, I'm useless', and all of that negative self-talk creeps in. but then I can wake up the next morning and feel sort of re-energised enough that I'm back to a positive place." (**Joanna**)

Several mothers elaborated on the particular emotions that they are prone to when feeling overwhelmed. In addition, they demonstrated an awareness of how these emotional states and patterns of thinking can impact their interactions and responses towards their infants. Anna's description of the aftermath of a very stressful night effectively illustrates this:

"And the next day after that night, my anxiety levels were through the roof, and I was really tearful. I just ended up worrying about every little thing to the extreme, and I guess everything was happening with my baby through that kind of lens of worry and anxiety. It feels very sort of related to emotional reactions, and yeah, I guess difficulty staying really sort of grounded, and positive, and calm as a parent." **(Joanna)**

Kate and Carla described similar difficulties staying grounded, positive and calm as parents and they felt that this has ultimately affected their view of themselves as the parent they wanted to be or thought they would be. Carla added insight into her identity as an individual outside of the moments of overwhelm that she has felt as a parent, as she placed emphasis on the "normal" version of her being significantly less reactive:

"I don't manage always to respond in sort of a calm or level-headed or truly empathetic way that I would want to. I can just feel like very tense and kind of stressed. And I just wanna, like, sort of shout and tell everyone just to be quiet and leave me alone." **(Kate)**

"So yeah, that's when I tend to get like angry, and you know, I'm a much more shouty parent than I thought I'd be… and she's only tiny. But I suppose that kind of links back to what I said about feeling a bit burnt out and exhausted by it. I'm a much more irritable and snappy than I would like to be, but also than I normally am in my normal life". **(Carla)**

Interestingly, although Lucy described a similar experience of overwhelm as a precursor to increased emotional reactivity, she described consistently maintaining a level of warmth and patience for her baby that is not present for others:

> *"Somehow I have this big wealth of patience for the baby that I don't have for other people. When my baby is crying for some reason… and I don't know what it is… hormones? I hope it doesn't change, but I cannot get angry with him for making a lot of noise, but I will with the neighbour or my husband, or you know, other people."* ***(Lucy)***

Selina described a similar experience, and wondered whether there was a biological explanation for this. However, in contrast to Lucy and other participants who expressed increased reactivity due to heightened levels of overwhelm during motherhood, Selina felt that becoming a mother had actually contributed to her becoming a more calm and patient person overall:

> *"So I would say after having my baby, I'm more calm than I used to be. So I used to be more anxious, and I could get angry quite quickly, but since I had my baby, it's just *flies over head action*. Maybe it's hormones? I don't know but I definitely think I'm calmer than I used to be."* ***(Selina)***

3.4 Theme Two: Increased Empathy – The Good and the Bad

Amplified empathy is a prominent theme that emerged from the interviews, reflecting the heightened sense of empathy experienced by mothers. The participants reported experiencing a deep and intense level of empathy not only towards their own baby but also towards others in their social circles. This amplified empathy extended to family members, friends, fellow mothers, and even animals, and created a sense of vulnerability and an increased emotional responsiveness towards the needs and wellbeing of those around them. This underscored the significance of heightened empathy in their caregiving role, but also led to emotional burnout due to the level of absorption and intense awareness of others' emotions. Under the overarching theme of 'Increased Empathy – the Good and the Bad'', several subthemes were identified, including 'Increased Attunement and Responsiveness to my Baby', 'Absorbing Others' Emotions', and 'Recognising Distress and Helping Others'.

3.4.1 Increased Attunement and Responsiveness to my Baby

This subtheme focuses on the heightened attunement and responsiveness of mothers with heightened sensitivity towards their infants, which they considered a significant advantage in motherhood.

Many mothers emphasised that they experienced a strong sense of intuition, which enabled them to promptly and accurately attend to their baby's needs. This unique strength is emphasised in Nina and Malin's accounts:

"I think, I feel like I can respond to my child not better, but quicker. You know, I feel more attuned to him, with the crying and stuff. Because it's painful for me to listen to it, it helps me help him, you know. It helps me be empathetic, it helps me understand his distress as well." ***(Nina)***

"I think that my baby feels more protected maybe or safer or something because I'm always there and I empathise and, you know, his faces, it's very easy for me to interpret that, you know? Also with my dog, like, I'll look at my dog and I'll, I know what what's happening. And, um, so I feel that that makes me, I wouldn't say a better mother, but more attuned. I feel that I'm more attuned, that I'm more aware of what's happening with them. And like, for example, if (baby name) is not himself in the slightest, slightest, maybe somebody else will not pick it up. I will, I would be like, 'he's not himself' or my dog, same thing, 'he's not himself'. Um, so yes, I think that I'm more, um, I'm more attuned, I think. That's how I would define it." **(Malin)**

Jade thought that this ability was related to her high sensitivity rather than attributable to a universal experience among all mothers:

"And I think my sensitivity was good to start off with because I really bonded with him very quickly and I was able to learn his cues very quickly. I had no issues knowing when he was hungry, knowing when he was tired, knowing the differences, I think some parents, it takes them a very long time to understand their baby, but I really understood him very quickly, which was super helpful." **(Jade)**

Carla shared a similar understanding of her ability to read her baby's emotions and needs. She felt that her sensitivity has allowed her to make informed guesses about what her infant's emotional states, and how to address them, whereas her husband may be more prone to misinterpreting certain indicators. Carla believed that having this level of sensitivity has made it easier to empathise with her infant compared to her husband who is not highly sensitive:

"I think the, um, the sort of aspect about being quite attuned to people's emotional states or what people need is really useful for being able to meet her needs because well, I can only really compare with my husband but, um, I think quite often I can have

a decent guess at what she's feeling or needing and how I might try to meet that and make it better. So, um, I dunno, just things like I might know better when she's hungry rather than tired or vice versa. He might be like... oh, I think he looks for specific things like her eyebrows go really red when she's tired… But then sometimes they'll go red when she's like quite upset about something. So if she's screaming or crying, her eyebrows will go red and he'll be like, oh, she's tired. And I'm like, oh, I don't think she's tired. I think there's something else; she's hungry, she's too cold, she's too hot…she needs to move her body more or something like that. Um, so I think the trait of being able to read people, uh, or being quite attuned to that makes that a bit easier, cause I know, or I can have a decent guess at least what the problem is and what might help. Um, whereas if, if you don't have that level of, uh, attunement… you know what I mean?" (Carla)

Abbie also identified differences between her and her husband's attunement and understanding of their infant's needs, but also provided insight into how this has affected their respective parenting approaches. The following extract from Abbie's interview illustrates her effort to comprehend and respond to the underlying cause of her baby's behaviour as a way of shaping her response:

"Erm, so if she's struggling with something or she's having you know, big emotions about something that is seemingly quite small. I'd be able to look at and go, 'well, okay she didn't sleep for as long today, she didn't have as much lunch as usual, and she's trying to do this because she wants to go over there'. Whereas my husband would just say 'she's cranky, she's having a bit of a tantrum. I'm just going to separate her or take her out of the situation'. Whereas I went, 'well, no, there's a reason why she's doing this'. So let's look what I can do to kind of not give in to every whim she has, but also

pick my battles. Is it a big deal if I let her do this thing? It will keep her happy for five minutes. Whereas he will go, 'she doesn't need to do that. Let's just not let her do it'. Um, I think my approach makes me more understanding parent and hopefully it'll make me a more approachable one as she grows as well." (**Abbie**)

Some mothers provided an interesting insight into what may drive a heightened level of empathy and responsiveness to their children. Due to their own personal experiences of overwhelm as a result of overstimulation in their environment, Nina and Jade described feeling more aware of how their infant may feel in similar situations. They acknowledged that these experiences may be less familiar and hence even more intensified for a baby. Both mothers therefore felt motivated to understand their child's emotional state and provide a more comfortable and nurturing environment for them:

"I think I can also imagine that the world for a baby is so overwhelming, and all of these new things, I think because everything's just overwhelming to me, it helps me understand how it could be overwhelming to a baby who's never felt like outside of my womb before, I guess. I think it obviously helps with empathy, but it helps with like frustration too, I think it's natural to feel frustrated as a parent, not everything goes your own way anymore, you know, like not having time and stuff like that. But it helps me to sort of understand him and feel more grounded and stuff to him." (**Nina**)

"Um, I guess because I have feelings in certain environments, I kind of check if my child is feeling in a similar way. So kind taking notice in how they feel. And I try not to ask leading questions with my bigger kid. But yeah just sussing out whether they're entirely comfortable." (**Jade**)

Jade's quote demonstrates that her personal experience of overwhelm has not affected her ability to show openness and curiosity towards her child's unique experiences. She described avoiding asking leading questions and recognition of her child's experiences as unique from her own.

Contrastingly, although Megan recognised certain experiences as normal for babies, she still described a tendency to exacerbate their experience of these in her mind based on her own or others' experiences:

"*Um, I suppose like things like when they've been, maybe when they've been sick or something and I've thought like, oh, because that's how I might experience being sick or somebody else might experience it. `Like they feel so ill and they're just... they're really in distress. Like but really, they just vomited, and that's quite normal for babies to vomit.*" (**Megan**)

Bella also described a tendency to overthink her infants' emotions and experiences. She linked this back to her own childhood experiences of not having had the experience of being understood or listened to:

"*Um, but as a parent, I feel like there's probably some negative things as... You know, I do think I'm probably a bit too sensitive with them maybe. Um, my other half would certainly say that I almost... I dunno, like probably again, I think it's the way that I didn't have people to talk to and I wasn't understood that I'm like, 'what's wrong? What are you feeling?' when I know that something's wrong with them, like emotionally or, and they're not communicating it to me. I'm probably kind of highly tuned to them more than maybe I should be, whether it's beneficial for them. Sometimes you think, 'oh God, is that bad?'. I probably overthink everything more than lots of people do. And, you know, cause I'm yeah, sensitive with all of their feelings as well.*" (**Bella**)

89

Both Nina and Jade communicated the strong emotional impact that their infant's distress has had on them. Jade described experiencing a deep level of upset when she has had to give her child medication. Nina illustrated the extent of this upset as she said she has often felt her child's cries as a physical pain. Both mothers showed a strong emotional connection to their child's wellbeing, which has made it intolerable for them to ever overlook their child's distress:

"We struggled with him sleeping too, erm so, there's a lot of nights where he does cry and specifically for me, and I've been told by family members "just leave him to cry for five minutes", but I physically can't, because a cry to me is in response to like pain. Like it feels painful for me to carry that and hear him in distress. So yeah, it's not like it bothers me so much because it's irritating or because it's loud, it's just I can feel his pain, you know?" **(Nina)**

"Oh. And also things like jabs and any giving him medication, it really takes it out of me emotionally to do that. And I know like even giving him Calpol, it genuinely upsets me, but I pretend it doesn't for him. Because I just know that it's so horrible for him, but I think I also feel that more so than other parents I've talked to, you know, a lot are just like 'yeah, just whack it in, and they cry. You just give them a cuddle!'. And I'm like, oh, like, that would be great if I could do that. But I can't. Cause I feel his distress so much." **(Jade)**

Many mothers described that as a result, they often felt a drive to 'fix' their child's distress, or a drive to meet their child's needs as soon as possible:

"And that then extends into being a parent as well. I feel like I need to fix... and I know again, I know children cry. That's them expressing things. They need to be able to do that. It's okay, I don't need to fix it. But there's this like, like you said, responsibility of

like, I need to make it better. I need to make it stop and I need to make it better."
(Carla)

"I think it's more, yeah it's being close enough I think to react. I hate the thought of her crying for too long. Even though you know it's not detrimental to them on occasions, but yeah, I just hate the thought of their needs not being met as quickly as possible I suppose." **(Natalia)**

"I was just saying to my husband yesterday that um, that if our baby is feeling really upset, um, it kind of almost sends me into a panic mode, I need to act as quickly as possible because I'm instantly sort of absorbing his energy and his discomfort."
(Joanna)

Other mothers highlighted that there were situations where they were able to identify the source of their infant's distress, i.e. pain, but were unable to alleviate it. They described significant levels of emotional distress in these instances:

"If she's expressing a need that I don't feel like I can meet immediately at that point, then that's really, really highly stressful. Um, neither of us were very well when she was born. Um, and she had to have, um, a cannula and things. And so very quickly, too quickly for my liking, I got to know her cry associated with pain, and that's "bleurgh!", just like really, really horrible. I'm not good with anybody in any kind of pain anyway, I never have been. Even acting, like films and stuff, people in pain, the sounds associated with it, again, really physical reaction goes right through me. So when it's your own child, like it's just, it's just on another level." **(Nina)**

3.4.2 Absorbing Others' Emotions

This subtheme focuses on the high level of empathy and attunement felt by mothers which not only applied to their infants, but extended to others as well. This subtheme examined how empathy for others' emotional states often led to mothers absorbing others' distress. Consequently, this affected mothers' experience of parenting and response to their infants due to impacted levels of emotional energy and burnout.

Several mothers interviewed shared how absorbing the emotions of those around them impacted their own emotional state:

*"I live with my husband and we also live with my mum as well. And I would say my mum's quite an emotional person as well. So like, if she's in a mood where you know, she's very down or very stressed out, I kind of feel like I soak that up, a bit like sponge. So whatever's in the room I tend to absorb a little bit and that can really affect how I then feel for a good few hours." (**Abbie**)*

*"The mood of others, that always has a massive impact on me. If I'm around someone that's quite erm.. quite negative and low or moaning, or whatever it might be.. that rubs off on me quite a lot. Like, if I'm around someone that's like that, it does bring me down. But yeah, I think that one example of that is my mother-in-law.. I mean, don't get me wrong, I love her to bits but she's very pessimistic, quite a negative person and I can always feel it, if I've had the day with her, I always feel it at the end of the day, that I need something to sort of lift me back up again." (**Natalia**)*

"There was just a period of time where one friend, um, she just lost her mum. Um, and then another friend who just had a baby that was in intensive care and then another friend, there was something else, and I remember getting to the end of the week and

92

*thinking, why am I so tired? Nothing has changed in my life at all, but just you know, seeing them and trying to be there for them and, um, support other people going through rough times. It does sort of, it probably drained me more than recharged me. So it depends what they've got going on as well, I think." (**Kate**)*

Kate highlighted how the impact of others' emotions on her own emotional state affected how she was then able to respond to her children:

*"When you've talked about sort of being sensitive to like the emotions of others, I think that I do, uh, like how my husband is feeling. Often, I will, I feel like I sort of take on that emotion, which again, then impacts my sort of tolerance, and patience and ability to manage my children well. I know how his mood is definitely affects what my mood is, and I know that if he's happy and relaxed than I know I'm way more relaxed with my two children." (**Kate**)*

Lucy's account revealed an intriguing feature where she expressed that the emotions of others had a greater effect on her than her own emotions. This highlights the significant impact of emotional absorption on highly sensitive mothers, emphasising the magnitude of its influence:

*"Maybe it's the highly sensitive thing, but I'd rather it's me who's exhausted because I can mostly deal with myself well. Whereas if I have other exhausted people around me, it's worse for me than being tired." (**Lucy**)*

3.4.3 Recognising Distress and Helping Others

This subtheme focuses on the mothers' experience of heightened empathy, which often drove them to offer support to others. These mothers valued their empathetic nature and ability to recognise the need for care in others. Despite this, some mothers also acknowledged their

own struggles with stress and competing demands such as their infant's needs. They recognised that their capacity to help others was limited by their emotional energy and resources, impacting their own feelings of overwhelm and ability to parent effectively.

Despite this, many mothers recognised their empathetic disposition and drive to support other's needs as a significant strength. They also appeared to value the connections this brought them, and perhaps even enjoyed the label of the 'helper' role which others had positioned them in:

"There's something to do with how I've sort of reached out to and connected with other mums… I feel this real sense of kind of solidarity with other mums, and care for other mums, um, and so I sort of volunteered to run a walk with other mums and babies, and set up a little group of people who wanted to meet up with others whilst on maternity leave. And I think that understanding and that empathy for how other people are doing, and kind of knowing and stopping when someone might be struggling a bit, and reaching out and just saying you know, 'I see, hear and feel the amazing work you're doing as a mum', and kind of extending that empathy and that support." **(Joanna)**

"It helps me connect with people, definitely. So especially with my, I've got a mums group, like a WhatsApp chat kind of thing. And it's with a group of women that I've never met in real life. So we all met on like an online group, and they call me their resident Dr Kate, because I essentially counsel everyone. So I think it makes me very in tune with what people are feeling, why they might be feeling that and where it's coming from, and I think that's beneficial. And I think as well, empathy is what I thought was kind of a normal thing. I don't think it is. I don't think everyone is naturally empathetic to others. Like my husband is complete opposite to me. So he struggles with empathy,

*whereas I kind of give it out, wherever I can. I like that though. I think that it does make you... I don't know what the word is. It's like a connection, isn't it, with people." (**Kate**)*

Despite this, mothers also described finding it difficult to disconnect from other's discomfort and distress, and experienced this as an additional source of burnout:

*"I'm extremely empathetic. Like extremely. If someone has a problem and comes and shares it with me, I, you know, like I feel that urge to help and I can't, for me, it's not, I can't just go, 'oh, well, you know, tough life', I feel for them. I really... you know, a friend of mine recently lost her husband. And for a while, I could not get her out of my thoughts, and it's, you know, I empathise. Like I'm sad, you know, I was sad all day. If I get news like this, I'm not well, you know, things really affect me and I'm a deep thinker". (**Malin**)*

Lucy acknowledged that level of energy was too low to provide the level of support she desired for others:

*"A lot of the other mothers in my group are also struggling with different things. There's a couple who have postnatal depression, a few others. I don't really know. They didn't share their diagnosis, but they seemed like maybe they are struggling. So now I've organised this group for those mothers, because again, I feel them. I wanna help them, but my cup is really, really empty." (**Lucy**)*

Many mothers also expressed the challenge of managing their infant's needs whilst also tuning into and responding to the needs of those around them. Although these mothers described trying to prioritise their infant's needs, it felt difficult to "turn off" their awareness of others' needs:

"Um, and actually that's something that I've found particularly challenging with a baby, that I'm still sort of trying to juggle everyone's emotions, if that makes sense. Like

absorbing others' emotions, thinking about what they need in that moment, and almost trying to support all of their needs, when actually baby's needs are the kind of priority. Sometimes that can feel very overwhelming." **(Joanna)**

"Well, I feel like I definitely pick up on other people's feelings a lot and like just over people's energies. And that's really hard when you're with the babies, because I'm trying to tune into their needs, but that I can't turn off being aware of other people's needs. It's like, I can't help but be aware. So I'm sensing someone wants to go home or I'm sensing someone's cold, let's say, even like little silly things like that. I just can't tune them out". **(Megan)**

Carla spoke about an element of guilt as a result of being unable to find the emotional energy to be there for others and their needs since having a baby:

"I can be boundaried like professionally, but then I find it's much harder to be boundaried personally, and that then takes up a lot of like emotional energy and time. I think it's even more difficult in a way now. I feel more guilty now that got a daughter because I don't have the space and time and energy for everybody else that I used to. And that's perfectly reasonable. But I still feel bad about it." **(Carla)**

3.5 Theme Three: A Sensitive Mother is a Good Mother

This theme explores the ways in which mothers perceived their high sensitivity as a positive attribute that enhanced their experience of motherhood. The mothers reflected on various aspects of their heightened sensitivity that they found beneficial and valuable in their role as mothers. They highlighted their heightened intuition and attunement to their baby's needs, enabling a strong bond and tailored care. They also expressed a profound emotional connection and empathy, fostering a secure and loving relationship. Within this theme, three subthemes emerge: 'Wanting the Best for my Baby," 'Benefits for my Baby and our Bond,' and 'If I Wasn't as Sensitive as I am, Maybe I'd just Take it for Granted'.

3.5.1 Wanting to Be the Best for My Baby

In this subtheme, many of the mothers expressed a strong desire to be the best version of themselves and provide emotional safety for their children. Some mothers reported that they did not have that experience in their own childhood which perhaps strengthened the drive to provide a different experience for their children. Many mothers articulated a desire to parent in a way that encouraged and allowed their infant to develop emotional expression and literacy:

> *"I think one thing that I would like for her is, uh, for her to be able to express what she's feeling, whether that's good or bad and, um, that's quite a complex thing to be able to do. And there's lots of us, lots of grownups who can't do it very well or lots who you know, who struggle with it. Um, so hopefully that's something that I can help her to do. Like recognising what it is that she needs or is feeling or whatever, and being able to kind of express that and maybe meet that need." (Carla)*

"Um, and I also hope because even though she's too young to like understand words that I'm saying, obviously she'll pick up on tone and things, but hopefully we can get into good practice now of like talking through things, like labelling what emotion or what feeling she might be having. If we can like label it, and validate it, if we get into that habit now just within our parenting, hopefully that will be a strength for her in terms of her emotional literacy and things as she grows and gets older." (Nina)

Many mothers had the hope that this approach to parenting would result in their child developing a well-rounded perspective and approach towards the world, which would ultimately benefit not just themselves but also others around them:

"I always want her to be kind, I always want her to be sensitive to people's needs and not to her own detriment, just to kind of see the world for you know, the weird, colourful place it is. Not just expecting everything to be the worst, if you know what I mean. Just to be a positive, nice force in the world, really. I think being sensitive will make you more aware of that. So I hope that's what it helps me instill in her anyway." **(Abbie)**

Nina's interview suggested that she too felt a strong desire to do the very best for her infant and this motivated her to advocate for her infant in ways which she would not for herself:

"Um, I think in certain ways, being her mum... I don't know whether it's to do with being highly sensitive or not, but in certain ways like being her mum has made me more confident in certain ways. Like, in terms of... I will advocate for her in ways that I wouldn't advocate for myself. So if something makes me uncomfortable, I usually put that down to being highly sensitive, and it probably not affecting other people, so I would just try and find a way for myself to deal with it." (Nina)

However, some mothers also described a strong sense of guilt when they felt their own actions had not aligned with their parenting values. Nina shared an instance when she was out at a restaurant with her distressed infant and became highly aware of other people's experiences. This led to her acting in a way that she considered inexcusable:

"So like I don't want there to be like a dismissive... if she's feeling something, like that's fine, that's okay. It's really interesting that I'm saying this now cause it's like well if she's crying, and she's upset about something, it's okay to like cry about it, and we'll calm together, but we don't have to just like shut her up and stop her. Whereas, that example that we talked about earlier in the restaurant, that's probably exactly what I was trying to do; I was trying to shut the poor child up, I was like 'no, no! Shhh! Don't cry, don't cry! Don't make a scene, I don't want other people to be affected by us!'. You know, and I guess that's why I probably feel so badly about those instances, because it's not ever what I want for her." **(Nina)**

This feeling of guilt also applied more generally to mothers fearing that they have not provided 'enough' of something for their children. Natalia and Lucy both discussed worries that frequently surface by the end of the day, where they both question whether they have been able to provide enough stimulation for their children:

"My husband often says to me... sometimes when they're in bed, I'll even feel guilty that we've not had enough fun; stupid things, it's like I have to always punish myself for not doing as much as I possibly could. And he often says to me "look, you know, they're happy, they're fed, they're clothed. Some days, you've just got to get through and that's it". But yeah, I'm always thinking of stuff we can do together, and different ways I can engage both of them." ***(Natalia)***

> *"So then I feel at the end of the day, I'm like, oh my God, did I stimulate his brain development? You know, did I sing enough? Did I, did I put him under his hanging toys and all these things? And, um, I didn't, then I feel guilt. Yeah, I still don't know if we're doing enough."* **(Lucy)**

Aligned with the theme of feeling inadequate as a parent, Abbie raised her concerns around the potential impact of her physical disability on her ability to meet her child's needs. Abbie uses a wheelchair, and despite her strong motivation and desire to adapt and provide valuable experiences, Abbie still worried if she was capable of providing the best for her child:

> *"Yeah, I mean, I guess my default is guilt. I feel a lot, you know, because of my disability as well. So I feel like sometimes cause I can't always pick her up if she's at a certain angle or, if she wants to.. I can push her on the swing, but I can't, help her down the slide, that kind of thing. So I do feel like I can't fulfill all of the needs that a mum should. We have our own way of doing things, but that still comes with guilt, like I'm always worrying that she's missing out on something. Even though she doesn't know any different, obviously. I think it's just built in, isn't it?"* **(Abbie)**

As Jade explained, for some parents, the drive to provide the best possible parenting could be traced back to their own upbringing and a determination to break free from negative patterns. However, this inclination might exacerbate feelings of guilt when confronted with obstacles:

> *"Um, but I don't know, it's a tricky one as a parent, you want to sort of correct all the things that you felt went wrong with your upbringing, and so you try and do stuff and then it doesn't work, and then you get really annoyed and upset and guilty and feel like it's all lost. And you know, it's a hard one to balance."* **(Jade)**

100

3.5.2 Benefits for My Baby and Our Bond

This subtheme explores the ways in which highly sensitive mothers perceived their heightened sensitivity as advantageous for both their baby and the bond they share. These mothers recognised and valued the positive impact that their sensitivity has had on their ability to understand and meet their baby's needs, as well as the profound emotional connection it has fostered between them.

Some mothers expressed that prior to becoming parents, they worried about their ability to be maternal or have a natural motherly instinct. They described worries about being able to form a bond with their baby. However, as they became more attuned to their baby's needs, their sensitivity was viewed as a valuable trait which enhanced their capacity to connect, foster and nurture their child, ultimately leading to a strong parent-child bond:

> *"Yes. I think, um, in some ways it's been a really positive thing. Um, I think I was always, uh, I didn't necessarily feel like I was gonna be a natural mum. Um, and actually I've been sort of really pleasantly surprised that, um, it has come more naturally, I think, largely because of who I am as an HSP, and my ability to use my intuition, and really hone my intuition as a mum. Um, and have that kind of, that empathy, and that emotional sensitivity to my baby and that extensive care and nurturing."* (**Joanna**)

Abbie had similar concerns regarding her ability to form a bond with her daughter and whether she would feel like she was hers, as her daughter was born through surrogacy. Abbie revealed that despite these worries, she developed strong feelings towards her daughter that she described as "full colour everything". Much like Eleanor, Abbie attributed the growth of these feelings and her ability to understand her daughter to her sensitivity:

"And I feel like, not to add more complication to my backstory, but, my daughter was born through surrogacy as well because my disability. So in the beginning I was very worried that I wouldn't bond with her. And I had a lot of concerns on what kind of mother I would be, whether I was even maternal, whether I would love her, whether she would feel like mine. And I feel like being highly sensitive means that none of that's been a problem, because every aspect of her life, or her entire existence, my feelings for her, I feel so kind of like, you know when you're like full colour everything? That to me, is a beautiful thing and it's probably made our bond what it is. And wasn't one of those - the moment she was born, it hit me in the face. Boom. We were in love. It wasn't like that. It was like an organic kind of growing to know each other and learning who each of us were, and how to be her mum, and I've loved it all. And I think being highly sensitive, that has to have had some kind of impact, I think. It must have. It must have benefited it." **(Abbie)**

Nina believed that her sensitivity contributed to a distinct and special connection between herself and her baby, which allowed her to provide a sense of comfort and security for her baby. As a result, Nina reported that her baby appeared to be most comforted by her:

"Yeah, she must associate... well hopefully *laughs*, she must associate me with security and safety because she does settle, like I can settle her best, and I can't think of a time where there's been nothing that I could do for an extended period of time. I definitely think my sensitivity helps her feel secure around me." **(Nina)**

Whilst the majority of mothers acknowledged the benefits of their sensitivity in fostering a strong bond with their baby and being able to provide them with comfort, others were more aware of the negative impact this trait had on their own wellbeing:

"Sometimes being highly sensitive is not so much for yourself. Sometimes it's mostly for other people including your baby." **(Lucy)**

However, despite Jade's recognition of the added pressure that comes with being a highly sensitive mother, she maintained that she would not change or give up her sensitivity because of its value to her baby:

"I think a lot of things as a responsive parent, which you're probably more likely to be if you are highly sensitive yourself benefit the baby, but maybe don't benefit the adult as much in terms of their own time. But yeah, I'm not sure. I don't know if I would like to keep it or give it away. No, it's good for (child's name), I'll keep it." **(Jade)**

3.5.3 "If I Wasn't as Sensitive as I am, Maybe I'd Just Take It for Granted"

This subtheme delves into the unique perspective of highly sensitive mothers who expressed appreciating and cherishing the small, daily interactions with their baby. These mothers recognised the significance of these moments and found a deep sense of fulfillment and purpose in them, despite the challenges that have come with motherhood.

Throughout the interviews, they shared experiences of immense joy and profound emotions that has arisen from these special moments with their baby:

"Like my heart, actually... oh my god, that's so cheesy, I'm such a melt. Like my heart... I've never known joy like it. It is the most purest form of happiness I think I've ever felt through him. And maybe that's 'cause he's so innocent or... I don't know, it's just... it brings... it would literally... I feel like I'm crying talking about it now! I'm terrible! See even that, saying it's terrible for being emotional... it's just the best, I wish you could bottle it and give it to people. It makes it all worth it." **(Jade)**

"Everything, it's just holding him, looking at him, just his smile. Just that you feel that you want to be the best version of yourself for him. It's just a light in your life" *laughs*. (Selina)

Nina believed that her heightened sensitivity has made her more present during interactions with her baby. She speculated that if she were not so sensitive, she may not appreciate positive moments as much as she does:

"Yeah, I think I can appreciate them more, because without them, it definitely would feel a lot worse, you know. Whereas, if I wasn't as sensitive as I am, I'd maybe just take them for granted, or I wouldn't be in the moment, I would be erm watching something something on TV, or putting him down to go and do something else. Whereas for me, I'll sit with him, and I'll take that time out of my day because I can, and it helps me, and it helps him too because he sleeps the longest when he sleeps on me, he's the most comfortable when he's on me, that sort of thing. So it does make me appreciate the time, it really does." (Nina)

3.6 Theme Four: Basic Needs

This theme explores the capacity of highly sensitive mothers to attend to their own needs and the impact it has had on their parenting experience. Throughout the interviews, mothers shared insights into how their heightened sensitivity influenced their self-awareness and self-care practices, and how they recognised the importance of prioritising their own wellbeing. This theme sheds light on the challenges some mothers described in prioritising their needs but emphasises the significant benefits that self-care brings to their role as mothers, and their ability to effectively care for their child. This theme also focuses on the various strategies employed by highly sensitive mothers to navigate the challenges they have encountered in their mothering journey. Under the overarching theme of 'Basic Needs'', several subthemes were identified, including 'Looking After Myself so I Can Look After my Baby', and 'Coping Strategies'.

3.6.1 Looking After Myself So I Can Look After My Baby

This subtheme highlights the understanding amongst highly sensitivity mothers that taking care of their own wellbeing is a component of being a nurturing and responsive parent.

Mothers acknowledged that after becoming parents, they have had less time to take care of their own needs. They recognised that this is a common experience among all mothers, whether they are highly sensitive or not. However, highly sensitive mothers perceived that the impact of this lack of time on their wellbeing was more intense:

> *"But also, not being able to eat regularly. Like I'm very, very sensitive to body changes, hunger, low blood sugar. I can't have any caffeine whatsoever because smallest amount of caffeine and I am thinking the world is ending. I am very, very sensitive to that. Even things like chocolate, I can only have a very limited amount. And weirdly vinegary*

things, I seem to be sensitive to acidic things as well. So yeah, that can kind of set up me emotionally as well. Um, especially in terms of anxiety panic." **(Abbie)**

"I can't lose it. And some days I really feel like it. I've always been one of these people who needs to sleep a lot. So for me, one of the worst things that could happen was to have a baby who at 10 months old wakes up almost every two hours." **(Malin)**

Some mothers demonstrated a heightened level of commitment towards attending to their own needs in order to respond to their baby's needs with sensitivity and care, following their increased awareness of the impact of self-care on their ability to parent effectively:

"Yeah, it's kind of finding a new balance with that, and also I suppose when I've looked after my needs and have had time to look after myself, have had better sleep, I might have done a bit of exercise, all of the factors that have contributed to me feeling okay, I'm so much better equipped to deal with it. I then feel able to be a bit more responsive and clear-minded in how I'm responding to the situation where maybe um, people aren't doing so well." **(Dawn)**

"Knowing what I need to do to be the best version of me really helps, and I feel like I'm quite selfish and quite... my other half says I'm very stubborn because I put myself first. Cause I know what I have to do. Cause if I don't do those things, I won't be in a good place, and I won't be a good mother. I won't be a good homemaker, you know, I need to do all those things to be able to... Cause you know, I'm very busy all the time. So I have to tick these boxes, like have to have, uh, you know, read on my own for half an hour at night or whatever, I go for a walk on my own, and these things, it's not much, but it's just they keep making sure that I'm gonna be the best that I possibly can for them." **(Bella)**

Jade and Joanna described how even a short amount of time focused on their own needs made a noticeable difference in their ability to parent in the way they would like to:

"Um, I think I feel more grounded. I feel more able to like be a better parent. Not that I'm not a good parent, but I feel like I can give more. Does that make sense?" **(Jade)**

"Mm, yeah, so I easily, it doesn't even necessarily take very long. Maybe even after just half an hour. Um, I just feel more energised, kind of rebooted, just able to be the mum that I enjoy being, and want to be for my baby. But yeah, I guess it's just a refresh." **(Joanna)**

Despite this, some mothers described experiencing guilt when they have tended to their own needs. Abbie described countering this initial reaction by reminding herself of the benefits it had on her ability to respond sensitively to their baby. Abbie referred to the oxygen mask principle as a reminder of the importance of taking care of her own needs first:

"I have to be quite regulated. So, I feel a lot of guilt about it, but I have to remind myself of the.. what do you call it? The oxygen mask principle. Like I have to look after myself so I can look after my kid. So I do have to regulate to make sure that I eat regularly and I stay hydrated so that I can cope with her needs properly." **(Abbie)**

3.6.2 Coping Strategies

This subtheme focuses on the various strategies and techniques that the highly sensitive mothers have developed and employed to care for their own needs throughout the day. The strategies discussed encompass various aspects of their lives, including physical, emotional, and mental wellbeing.

Many mothers interviewed highlighted the effectiveness of having access to their own space, both in moments of dysregulation and for longer periods of time. Carla described how she has utilised space to gain some distance during moments of frustration and respond in a more helpful way:

"If I'm trying to put to bed and it's taking forever and I'm getting really cross about it, um, then I will just kind of say to my husband, like, I'm just, can I just have like 20 minutes? I just need to go and be in a different room, and, you know, even if she's... like usually she's fine, she's just rolling around happy as Larry. But even if she gets upset, I just need a bit of space from this. Cause I'm just getting annoyed and it's... the more annoyed I am, the less likely she is to just go calmly to sleep, you know?" **(Carla)**

Other mothers fulfilled their need for personal time and space by engaging in activities that allowed them to focus on other aspects of their identity outside of motherhood. Work was one such activity that some mothers found helpful in providing a much-needed break:

"So I do... it's funny because going to the office, I call it my mental health day because I need that. I need to go to the office and actually no one in my team was going to the office and I want to go at least once a week minimum. If not more, because I call it my mental health day because it's, for me, it's like, wow, I'm out of the house. No baby. No, nothing. I have an amazing nanny, but it's like, I don't even hear him cry. I don't hear anything. I'm just, it's just me, the old me again in the corporate world, you know? Uh, and it makes me really happy." **(Malin)**

"I need a bit of time on my own. Like I absolutely love work because it's like, 'see you later kids'. This is me being me, you know, in control and know what I'm doing. Um, I'm a marketing director, like I've got a very busy, very fast paced job, big team. And I love that. And I, it's almost like I have these two different Bellas. This really in control, she

knows what she's doing at work, she's good, you know, respected, whatever. When I didn't have that, I sort of feel like I lose some of me. I think not having work, you're just not able to do anything because you are a hundred percent, you know, my whole life was dictated to by the baby and by what they need." **(Bella)**

Many mothers relied on access to fresh air and nature during their day as a beneficial strategy to regulate their emotional state:

"I know if I don't have that, I get really, really stressed. Um, and sometimes it took me a while actually to figure out the reason. So I didn't always know, oh, why am I feeling so bad today? Oh, it's because you haven't been outside recently. It took me a long time to... it's such an obvious thing. Then when I was a child, all the parents, grandparents used to say, 'oh, it's a nice weather, let's go for a walk'. And I thought it was the most boring thing ever. I wanted to stay inside and read a book or play a game or something. Like, I didn't like being outside when I was a kid. And like now I say, oh yeah, that's why adults go outside." **(Lucy)**

"Fresh air, like weirdly I really like fresh air. And if I, I get a bit kind of claustrophobic if I'm somewhere where there's not a window that's open or I can't open the window or be outside or like, and again, it's the heat." **(Bella)**

"Yeah, I have found that going outside and stuff helps as well, cause of the quiet. And when I'm inside, I do realise I feel sticky almost. When I go outside, I do feel a lot better". **(Megan)**

To manage overstimulation, Dawn described taking a mindful approach whilst outside getting fresh air. By focusing her attention on simple walking movements, Dawn felt able to manage and reduce the usual intensity of her thoughts:

*"I go outside a lot just to have space from… it's almost like artificial things that get too much for me. Like the tele and the radio or whatever... or our phones. Even walking, it sounds weird but literally just feeling my feet walking. That's what I'm doing, that is what I'm thinking of as opposed other things. Because you just don't have the energy to think about things." (**Dawn**)*

Other mothers recognised that a significant advantage of implementing walks as a way to unwind was that they could involve their baby. This seemed to relieve some pressure of having to find moments in the day where they can be separate from their baby in order to engage in self-care:

*"Um, being out in nature a lot, so just walking. And that's one of the things that I know I can do with my baby, um, so I don't need to have time to myself. Walking, the kind of physical movement, but also as much as possible being in nature; by the sea, in the woods, whatever it might be. (**Joanna**)*

*"That's a big thing for me, I don't like being in a lot, if I'm in all day, I just go insane, especially if I've got both of them. The same with just on the days I've got her, I'll still get out on a long walk." (**Natalia**)*

Another method that Nina and Abbie used to feel calm whilst also involving their baby was grounding using their baby's weight. The firmness of the hold as well as the comfort from being physically close to their baby was experienced as settling:

*"Um, I find like the weight of her on me really grounding, and being close to her is yeah, really grounding and really comforting and settling." (**Nina**)*

"I do one thing that I didn't really realise until after she was born, was, um, just holding her quite firmly against me. It's very calming to me. So I love a firm hug with my

*husband. That's also really nice, but like with my kid, I I mean, she's 12 months old, she's not big on cuddling at the minute, but if she will let me, I'm just like, 'oh yes, I love it so much'. Especially when she was, you know, first born and she was less wriggly. You just held her quite firmly in your arms, it was just such a calming thing that I hadn't expected." (**Abbie**)*

Some mothers identified using water as a way to relax. This seemed to be related to their focus on the calming sensation of water on their body:

*"Yeah, so I always, always have a shower in the morning, even if I don't need a shower, I'll have to have a shower. And that's interesting, I guess, cause that is a sensory thing, but always, water is the thing that calms me down as well. I used to be a swimmer, so that would be where I could just get away and just feel the water as opposed to everything else. So the shower is important to me. Um, and my partner and I have a gym membership where we can take (child's name) and take turns to go in, like the pool or the jacuzzi, which is really nice as well. Where you can just close your eyes with the water." (**Jade**)*

*"Sometimes I've found water, the feeling of being kind of submerged in water, having a bath, that makes a big difference." (**Hazel**)*

*"I think the shower yeah. It's a big, um, relaxing thing beyond just keeping clean." (**Lucy**)*

Some mothers had previously accessed or were currently accessing therapy, and this was recognised as a method of self-care and to maintain good mental health as opposed to addressing a problem. Having a regular opportunity for personal reflection outside the demands of daily life was seen as extremely beneficial to overall wellbeing:

*"Um, regular therapy is always helpful. It helps cause it's something I can work on, and it's a focus that's not anything to do with me being a mum, or my job or my marriage. It's just for me. So it's like a self-care kind of thing." (**Abbie**)*

*"I love therapy. I think that, um, therapy is, it's just good for everyone. I just, I miss it. I miss talking, you know, my own space. I would always have therapy ongoing, I don't need to have a problem to have therapy." (**Malin**)*

Finally, some mothers found using cognitive strategies to consider a wider perspective helpful in managing feelings of frustration and overwhelm:

*"Like, another kind of coping strategy I have myself is saying, she's not doing it on purpose. Like she's not waking up to make you annoyed or to be difficult. She's just waking up. She's a baby. Or I dunno if I tried putting her to bed and she's not tired enough, and she's rolling around and giggling and doing whatever and like, you know, causing chaos. I'm like, well, she's not... if I can say to myself, she's not doing this to be annoying. She's just not tired. It's not her fault. Then that does help a little bit." (**Carla**)*

*"But again, just like trying to bring in that self-talk and if it's about feeling like overwhelmed, just bringing it back to 'this isn't forever, this is just in this moment. This is just how it is now and we're not gonna stay up there'. Just reminding myself like 'if it's not forever, then of course we can cope'." (**Nina**)*

3.7 Theme Five: A Need for Connection and Support

This theme emphasises the crucial role of connection and support in enabling highly sensitive mothers to thrive in their motherhood journey. These subthemes highlight the importance of seeking empathy and support from loved ones, finding solace and rejuvenation in one's own space after social interactions, desiring autonomy in their parenting choices, and seeking understanding of the unique challenges that highly sensitive mothers experience from healthcare professionals. Under the overarching theme of 'A Need for Connection and Support', several sub-themes were identified, including 'I Like Seeing My Friends, But I Love Coming Home', 'Understanding and Awareness from Family and Friends', 'Let me Parent in My Own Way!' and 'Support from Professionals'.

3.7.1 "I Like Seeing My Friends, but I Love Coming Home"

This subtheme focuses on the conflicted experiences of highly sensitive mothers when it comes to social interactions. Mothers acknowledged the benefits of connecting with others but also recognised their tendency to become overwhelmed in such moments.

Jade's account further illustrates this conflict within social environments:

"It's like, um, I think I probably previously would just assumed it was social anxiety, but then I'd get really confused, cause I am quite, I'm like an extroverted introvert, so I can really handle myself in a room, and I can make the jokes and do things, but deep down, like I just feel so suffocated. It's almost like the physical people make me feel trapped, even when I'm navigating conversation. Like, it's just too much. It's too much. Then I will always leave early. I always have to like sleep to recharge, even though I do enjoy people, big groups of people I find really overwhelming. Walking into it as well, like walking into a house or a room and taking it all in is hard." (Jade)

113

Similar to Jade, many others mothers who participated in the study stressed the importance of returning home to recharge after being in a social environment:

*"I'm kind of like a learned extrovert. I can talk to people. I like talking to you. But you know, this is one on one, but, um, yeah. Even, even presentations, I can do them, but then I quite like to be on my own for quite a long time after to decompress, you know? So I can go and I can be the life of the party, but I don't wanna go to another party for the rest of the month." (**Lucy)**

*"I was thinking, uh, you know, in recent years about the whole idea of like introverts and extroverts and how we try and put ourselves into these extreme boxes don't we? Well society does. Um, and actually I'm very much somewhere in the middle in that. I love seeing people and spending time with people, and then I love leaving and coming back to my own space, spending some time on my own. And again, I've always been like that I think since as long as I can remember. I like seeing my friends but I love coming home." (**Carla)**

Nina's experience of feeling overwhelmed after social interactions is an important aspect of this theme. She described her efforts to socialise and form connections with others, typically on a one-to-one basis. However, she found that these interactions drained her energy and left her feeling depleted, making it challenging for her to connect with her baby or partner:

*"But then erm, when I do try and have friends and stuff; if I socialise. Like I caught up with somebody I used to work with, and we went out for food and stuff, and I just burn out, so by the time she'd gone, I just like sit and cry because I feel so exhausted, or tired. I then can't engage with my baby, I can't talk to my partner when he's home. Because it's like a burn out from socialising" (**Nina)**

114

Jade's experience further contributes to this theme, as she shared her efforts to strengthen her support system by being more connected with others. However, she also described an inner conflict between her need for solitude and her desire for social interaction:

"Um, just because it's quite a lonely thing, and when you feel like you need space and you do hide away from people, you kind of get that thing of like, I just want to be around people, but then you just don't, so you feel quite torn between what you're experiencing... and you know, you want to feel like someone's there.. But maybe you don't necessarily want to have to entertain them or something. I guess it's that support thing isn't it?" **(Jade)**

3.7.2 Understanding and Awareness from Family and Friends

This subtheme highlights mothers' expectations regarding the support they desired from family and friends. Interestingly, practical forms of assistance were not the primary focus. Instead, mothers emphasised the significance of receiving recognition and understanding for their unique experience as highly sensitive mothers.

The following quotes highlight the significance of empathy and understanding from the support networks of mothers interviewed:

"I think it's helpful if people know that sometimes it can be... certain elements can be more overwhelming for someone who's highly sensitive than for someone who isn't. So not, it's not necessarily about, um, them even doing anything differently. It's just knowing that I think." **(Carla)**

"And I think like feeling to enough of an extent understood... like part of me thinks like if anybody knew the extent to which everything is processed and thought through, they

might think 'oh gosh, she's a bit mad!'. But like understanding enough is... yeah that's

huge I think." ***(Nina)***

Abbie emphasised the importance of others not only recognising the presence of high

sensitivity but also valuing its potential advantages, such as heightened awareness of one's

surroundings:

"Um, I'd like people to know about HSP. Yeah just to kind of note that it exists, and it

doesn't mean that you are a whingey drama queen. It just means that you're in tune and

that's naturally a good thing." ***(Abbie)***

Abbie also shared her desire for people to acknowledge and not dismiss her experience,

as she felt that highly sensitive individuals are frequently misunderstood and labelled as "whiny

drama queens"; an unfair and inaccurate portrayal of their sensitivity. Nina echoed similar

views, emphasising the importance of having her experiences validated by those in her inner

circle. She stressed the need for others to comprehend the severity of her distress and not

assume that she is describing an ordinary or typical experience:

"Yeah, and I think a massive part of that is just choosing who you are around when it's

that time, you know when you can let that feeling pass through sort of thing. Because

I've definitely been in a close circle where people just don't understand, and they're like

'oh well, I get tired after I've worked all day, and sometimes when I'm tired I'm upset

too', but it's not like that, it's not a response because I'm tired, it's a response because

I'm exhausted, do you know what I mean?" ***(Nina)***

Jade highlighted the importance of establishing an inclusive environment for highly

sensitive mothers. She proposed various ways in which family and friends could offer support

by making minor adjustments to accommodate their needs. Jade believed that such

accommodations could significantly improve her level of comfort and sense of belonging in social situations:

> *"Just to handle with care, because anything that they feel about a situation, you're probably feeling 100 times that. And that just be mindful of the environment, but the physical environment when if a mother with sensory processing sensitivity is entering your environment, how you can be inclusive around that as much as possible or letting others know, you know, like saying, 'Jade gets overwhelmed with a lot of people or a lot of noises and... or dogs barking' and so on. So you know, just be mindful of that. Even putting a chair out ready, like in the corner, as opposed to like... I don't know, just like little things that could help. So you've got your own space in someone's house, for example, is helpful."* **(Jade)**

3.7.3 Let Me Parent in My Own Way!

This subtheme focuses on mothers' shared experiences of those around them providing practical advice in an attempt to support their parenting. Whilst it was acknowledged that this would often come from a good place, mothers emphasised their desire for autonomy and respect in their parenting choices, aligned with their sensitivities and intuition.

Megan expressed often feeling confused, frustrated and overwhelmed by conflicting advice from others:

> *"Just about what you should be doing and like how you should be doing it. I felt like at the start, I just took everyone's opinions on board, but then they were conflicting and I've just found myself stuck and like confused and looking for the right way to parent. Or it's almost like, there is no complete right way, it's just loads of different opinions.*

And for people that are sensitive, like that's a lot to take on, and it's hard to process it

all." (Megan)

Some mothers were left feeling criticised, or worried that others thought they were
incapable in their role as a mother:

"And I know in myself that it comes from a place of giving advice, trying to help but it is

just so, it's just too much to comprehend sometimes because I'm trying to like socialise,

which I find difficult anyway, and you know, I have fun with my baby, but then I feel like

there's just somebody contributing all the time when I haven't asked, and I was just like

"oh okay!" and then actually it just upsets me, it makes me feel like they're doubting

what I'm doing, or like I haven't you know, been with this child for six months and

carried him for a lot longer you know?" (Nina)

Nina and Malin both believed that their sensitivity played a role in how they perceived
and responded to others' comments. Nina noted that while others might easily shrug off
unsolicited advice, she tended to carry the impact of those interactions with her throughout her
day and found it challenging to shake them off:

"Yeah, erm maybe just the input from people from the outside of my circle as well. Like

baby group people can comment on things, and it can be quite, not triggering, but you

know, like upsetting to me, erm so yeah like unwanted advice, and things like that can

really really upset me to where I can think about it for days on end sort of thing. And to

other people obviously they'd just brush it off and just get on with their day and stuff

like that, but for somebody like me, I carry that with me, and then even when I'm in my

own space with my child, I'm ruminating on that and what they've said, and it's followed

me round for the rest of the day, you know? When I'm interacting with him, I'm like

*"'am I doing the right thing? Is this what he wants?" where usually, without any contribution like that, it's not as much of an issue, you know?" (**Nina**)*

Liz described a very similar experience, and felt that her tendency to carry comments with her throughout the day was further amplified if her basic needs had not been met:

*"Like I'm very sensitive to like, um, if somebody replies in a bad way or, or makes a comment or something, I'll be like, I won't be able to get it out of my head and I'll be like, *mimics wheels turning in head*, you know, like going over and over and over that. Um, but the more tired I am, the more all of that affects me." (**Malin**)*

Jade and Bella shared their experiences of varying advice and both mothers emphasised their commitment to meeting their children's needs in a manner that may deviate from societal expectations. Despite facing criticism, Jade remained committed to nurturing her baby according to her own approach, prioritising her child's wellbeing over others' opinions. Likewise, Bella acknowledged the importance of adapting her parenting methods to suit her unique circumstances, even if it involved financial investments to overcome the parenting challenges she encountered:

*"Um, but I feel like a lot of people see that being that sensitive is spoiling. I've been told by a family member, you know, 'you're wrapping him and cotton wool. You're spoiling him'. I'm like, no, I'm just meeting his needs because I can sense that this is what he needs right now so I'm going to meet that need, regardless... like he's a baby. You can't spoil a baby." (**Jade**)*

"I think people sometimes need to just let people just do it their way, which maybe isn't the right way, or isn't the way you would do it. But it's the only way that I needed to be able to do it, to get me through the days or whatever it was. And I spent ridiculous

amounts of money on people helping me and, you know, equipment, whatever. And it was just, everyone would be like, 'it's not gonna make any difference'. It's like, but I need to do that to get me to tick these boxes so that I can feel that I've done everything I possibly can, um, you know, to help me get through the days and the, the weeks."

(Bella)

3.7.4 Support from Professionals

This subtheme emphasised the importance of healthcare professionals being aware of high sensitivity and its implications for motherhood. The mothers expressed the need for sensitivity and empathy from healthcare providers, as well as a collaborative approach that respects their individual preferences and promotes a sense of empowerment. Through their experiences, these mothers shed light on the significant role that supportive and understanding healthcare professionals can play in the wellbeing and positive birth experiences of highly sensitive mothers.

Jade shared how the emotions and subtle cues of maternity care providers had a profound effect on her. She recalled a specific incident where she picked up on her health visitor's demeanor and intuitively sensed that the health visitor would not remain in her job, which later proved to be true:

"I'd say just to be aware that you're taking in so much about them... even I knew the health visitor we have, I'd only seen her once... I knew I wouldn't see her again, based on just how she was that day. I said, she's not going to be staying in this job. I bet she's going to retire. I think something so tiny that I picked up on and I was like, well, there's no point because she's going to leave. And she did. And like, I just thought oh, there we are. So I think it's... I don't know, because you can't ask health visitors to be neutral, but

just take care with people and make the environment as clean... I don't know, as

*minimalist as possible." (**Jade**)*

Additionally, Jade described an experience of unease during her childbirth experience

due to the midwives' body language. She attributed this to the demanding nature of their job,

but described feeling panicked as a result and expressed how this incident eroded her trust in

the midwives:

"Um, I think that makes them human in a way, but I think some people just have to be

careful of what they say. But even for example, the midwives, when I was giving birth, I

could tell some of them weren't happy with shift changes or other people, which

panicked me because I could sense that in them. Yeah, just by like body language. And I

think a lot of people just let stuff like that go, but I think if you are highly sensitive, it

makes you probably less able to trust people or more able to trust people. Like, I guess

it works both ways. But you can figure people out so much quicker. And then a lot of

healthcare professionals are unhappy, not all, but I just think that maternity services

aren't fantastic anyway, but obviously the people are lovely but the services themselves

*are probably hard to work in..." (**Jade**)*

Nina also acknowledged the challenges that healthcare professionals face, particularly

with time and pressure constraints. Being a highly sensitive individual, mothers may be more

attuned to subtle cues indicating that the professional is under stress. Nina described that this

has previously impeded her ability to obtain the necessary information during follow-up

appointments, and feel assured about moving forward:

"I think one of the challenges is that healthcare professionals are under such pressure

all of the time. They're under such a time pressure, and sometimes like trying to clarify

is difficult. Trying to get across, to get the information you need back can be quite

challenging. And if I'm fielding lots of other things at the same time, I'm probably just at risk of being like 'I'll just shut up, and tick the boxes', rather than get what I need from it to be able to come away and feel like 'yes, I know everything that I need to know from that appointment, and I feel confident with the information that I need to move forward' sort of thing. So yeah, like having the time to be able to go through things I need to sometimes would be helpful." **(Nina)**

Megan's statement underscored the significance of establishing effective communication between new mothers and healthcare professionals, particularly in acknowledging the diverse experiences in the journey of motherhood. Megan emphasised the importance of healthcare providers recognising that each mother's experience is unique and may present distinct challenges. Specifically, Megan shared her experience of feeling overwhelmed by the noise and crying from her newborn, which can be particularly difficult for highly sensitive individuals. However, she felt that some healthcare professionals did not fully validate or understand the distinctiveness of her experience:

"I don't feel like I got enough information about what to expect or like how to prepare yourself for anything. And like, especially for like all the noise and the crying and like, I feel like they didn't say to you when the crying should stop really. I suppose it'd just be like to understand that not everyone is the same. Not everyone finds it that easy. And I'm not saying people all find it easy, absolutely not. Everyone finds motherhood hard, but I mean sometimes like health visitors and stuff might speak to you like everyone feels like the same and it's just kind of, cause it's everyday work to them, and they see so many mums, I feel like some of them don't have much sympathy for that kind of thing. Or they might say like 'well, babies cry, it's normal'. And it's just a bit like, well, it doesn't feel like that to me." **(Megan)**

In line with Megan's point, Nina also emphasised the need for healthcare professionals to approach their interactions with new mothers with empathy and understanding, taking into account the unique challenges and experiences of each individual. She explained that for individuals who are highly sensitive, the way medical professionals communicate can have a lasting impact, and may even prevent them from seeking help in the future:

> *"But yeah, just for medical professionals who don't have a mental health background, or knowledge of different personality types or things like that, just to have a little bit of awareness, because god, for somebody like me who's really sensitive, that some of the stuff sticks with me for ages, and can prevent me from wanting to ask for help again, you know? I think it could be quite damaging when it isn't handled in the right way."*
> *(Nina)*

Eleanor contributed to this discussion by sharing her personal experiences of the varying levels of care that she received from healthcare professionals. She discussed a noticeable difference between empathetic and caring doctors and nurses compared to those who were more brief and solely focused on completing tasks:

> *"Um, and yeah, they can feel like very anxiety inducing places, um, or sort of yeah... Lacking in understanding about the environmental factors that might contribute to how someone is feeling at an appointment, for example, or the way you're spoken to and how much of a difference that that can make…I could really tell huge differences between the, like the doctors and the nurses who were really caring and spoke to you in a kind of, in a gentle and empathetic way, and the ones who were quite short with you or, um, were just very much kind of... they just wanted to, um, kind of get their job done rather than actually, um, extending that sense of care. It just made such a huge difference."*
> *(Joanna)*

123

Lucy and Jade provided suggestions on how to improve individualised maternity care for highly sensitive individuals. Lucy emphasised the importance of acknowledging and addressing mothers' sensitivity as a preparation for childbirth and postpartum recovery. Jade shared her positive experience of tailored postpartum care, highlighting the significance of having a private and serene space for recovery which catered to her specific needs:

"Well, this is just specific to highly sensitive... that they, um, that they help you identify the ways in which you are highly sensitive before you give birth. So for me, I've now figured out it's noise and that I need more alone time than others." (**Lucy**)

"And so I requested that I didn't go onto the ward, that I recovered in the birth centre after my induction… so I just got to recover after my birth in a quiet little , dark room. Um, and it was so nice…. Luckily they just wheeled me into this lovely little quiet space that was really healing, I felt. Whereas if I just been moved onto a ward, I think I just would've, it would've just been too much. It would have tipped me over the balance, you know, over the edge. So I think in terms of, if we're talking about care for new mothers who were sensitive, things like that are probably quite important." (**Jade**)

Jade's quote highlights that by prioritising such considerations, healthcare providers can create a supportive environment that minimises overwhelming factors and promotes the wellbeing of highly sensitive mothers during this critical period.

4. DISCUSSION

Chapter Overview

This chapter begins by summarising the main objectives and findings of the study, followed by a detailed discussion of the results and their interpretation in the context of the existing literature. The researcher will focus on the significance of the findings and on the contribution to the existent body of knowledge in the field. Additionally, the implications of the findings will be considered in terms of their impact on the field of study and potential applications.

In the subsequent section of this chapter, the researcher reflect on the research design and data collection techniques. The researcher will also provide suggestions for future research to build on this study's strengths and address its limitations. Furthermore, the researcher will consider reflexivity around their position and approach to conducting the research. This will involve reflecting on the researcher's assumptions, biases, and values that may have influenced the research process.

4.1 Study Objectives

The study aimed to explore the nuanced ways in which the presence of Sensory Processing Sensitivity (SPS) may shape the postnatal experience for mothers, with a particular focus on the emotional, social, and practical challenges that they face. The researcher also approached this study with an aim to contribute to the understanding of how perinatal care and postnatal support can become more individualised, and accessible for those who face increased vulnerability to developing stress-related disorders in challenging contexts. Through in-depth interviews with a group of mothers with varying degrees of SPS,

the study was able to uncover a range of themes and insights that shed light on this under-explored topic.

4.2 Summary of Findings

The current study involved a thematic analysis of qualitative data from interviews with fourteen mothers with SPS who shared their personal parenting experiences. The study focused specifically on understanding the postnatal period for mothers with SPS using a qualitative approach. By utilising qualitative methodology, the researcher was able to gain a rich and detailed understanding of the experiences and perspectives of these mothers during a critical and often challenging period in their lives. The thematic analysis revealed five main themes, and sixteen sub-themes which sat within the main themes. The main themes identified were:

4.2.1 Overwhelm. This feeling of overwhelm often described as all-encompassing and exhausting. Mothers who identified with SPS felt that they experienced this feeling more acutely during the postnatal period due to the volume of demands and increased sensory stimuli. Mothers mentioned that they were particularly affected by stimuli associated with caring for a baby, such as the sound of a crying baby or the sensation of a baby nursing. Other mothers spoke about other triggers such as clutter in their home and constant demands for their attention. The nature and experience of overwhelm varied amongst the mothers in the study, as some mothers experienced the onset of overwhelm as gradual and building throughout the day, whereas for others, it felt more sudden. Regardless of the onset, the intensity of the overwhelm often left mothers feeling depleted and more susceptible to emotionally reactive responses. This vulnerability was further intensified by the lack of time and opportunity to attend to their own basic needs.

4.2.2 Increased Empathy: The Good and the Bad. Mothers highlighted increased attunement and responsiveness to their baby as a significant benefit of heightened sensitivity. They described a strong sense of intuition that helped them to quickly and accurately meet their baby's needs, which promoted a strong parent-infant bond. Some mothers expressed feeling their child's distress as their own which led to a drive to "fix" their child's distress as soon as possible, and significant emotional distress when they could not alleviate their infant's pain or distress. Mothers reported feeling a heightened level of empathy towards others such as family, friends, fellow mothers, and animals. They described feeling drained and affected by the moods of others. This difficulty disconnecting from others' distress also affected their ability to be attuned and responsive to their children. The mothers expressed a strong desire to help and support others but also recognised that their own emotional energy and resources were limited. Guilt was therefore commonly expressed for not being able to fulfil others' needs as they did before having a baby.

4.2.3 A Sensitive Mother is a Good Mother. This theme highlighted the positive aspects of high sensitivity in mothers, including their motivation to be the best version of themselves for their infants. Some mothers who did not experience a nurturing environment in their own childhood were determined to provide a different experience for their children. Many described a desire to encourage emotional expression and literacy in their children, however, mothers also described feeling guilty and inadequate when their actions had not aligned with their parenting values. Despite this, mothers who were highly sensitive described finding it easy to connect with and nurture their child, leading to a strong parent-child bond and a sense of comfort and security for their infant. Mothers also believed that their heightened sensitivity has allowed them to appreciate and be more present during the small, joyful daily interactions with their baby. Some mothers felt that this made the challenges of parenthood worth it, and speculated that if they were not as sensitive, they

might have taken certain moments for granted. Overall, despite recognising the negative impact that their sensitivity had on their own wellbeing, they found value in it because of the positive impact they believed it had on their baby.

4.2.4 Basic Needs. This theme focused on the importance of highly sensitive mothers attending to their own needs in order to better meet their child's needs and foster a secure mother-infant attachment. Mothers acknowledged that after becoming parents, they have had to adapt to limited time to take care of their own needs. Highly sensitive mothers perceived that the impact of this lack of time on their wellbeing was more intense than for non-highly sensitive mothers. Some mothers described heightened sensitivity to changes in their bodies, including hunger, low blood sugar and caffeine. These changes often triggered emotional distress, anxiety and panic. Despite this, some mothers experienced guilt when focusing on their own needs, but recognised the benefits it had on their ability to respond sensitively to their baby. Coping strategies included having access to their own space, both in moments of dysregulation and for longer periods of time, mindfulness, exercise and being outdoors, soothing sensory experiences including emerging self in water and various cognitive strategies.

4.2.5 A Need for Connection and Support. This theme emphasised the importance of connection and support for mothers whilst navigating the demands of motherhood. Many of the mothers interviewed conveyed the need for empathy, understanding and validation from support networks, and for others to acknowledge the existence of high sensitivity and its potential influence on their experience and approach to parenting. Despite this, mothers also reported that they often feel overwhelmed in social environments, which highlighted the significance of them having the time and space to recharge from such environments. Additionally, mothers emphasised the need for healthcare providers to take into account the

unique challenges and experiences associated with increased sensitivity and to approach interactions with empathy and understanding. However, mothers also acknowledged the difficulties that healthcare providers face, particularly with time and pressure constraints. It was felt that this can impede mothers' ability to obtain and retain necessary information during follow-up appointments and to feel assured about moving forward.

4.3 Relevance to Existing Literature and Psychological Theory

4.3.1 Overwhelm. Research on SPS has found that individuals high in SPS experience larger increases in negative affect, and lower levels of emotional wellbeing in general (such as life-satisfaction, positive affect, and self-esteem) compared to those with low SPS (De Reyn et al., 2022). Negative outcomes associated with SPS are understood to be related to two constructs associated with SPS; low sensory threshold (LST; to unpleasant sensory arousal in response to external stimuli) and ease of excitation (EOE; being easily overwhelmed by internal or external stimuli) (Liss et al., 2008; Smolewska et al., 2006). These studies suggest supports that there is likely to be a difference in the experience of many aspects of life for sensitive versus non-highly sensitive individuals (Black & Kern, 2020), including parenting. This is supported by the findings of the current study as mothers showed an awareness of the difference in their susceptibility to feeling overwhelmed compared to their non-highly sensitive peers. For example, Kate felt that she has a "roof, a ceiling a limit, which is probably too low", whilst Hazel worried that she can become "overwhelmed quicker than somebody else might". This suggests that whilst overwhelm is likely a universal experience for many mothers in the postnatal period, these findings which align with previous literature suggest that it is likely intensified for highly sensitive mothers due to their increased sensitivity to the amplified emotional and sensory stimuli associated with caring for an infant.

In a study conducted by Newby et al. (2021), 20% of mothers who had had their baby in the past 12 months, reported heightened emotions and feelings of overwhelm. These mothers reported feeling "trapped" as a result of feeling needed constantly, which was in line with the present study's findings relating to the subtheme, 'Constant Demands' within the 'Overwhelm' theme, where Carla expressed struggling with the intensity of "being needed all the time, 24/7 without a break", and Kate described that this was often by "everyone and everything". Although Newby et al.'s (2021) study was not specific to mothers who are highly sensitive, participants would have comprised of mothers with varied levels of sensitivity, reflective of the general population. Whilst the study could not conclude that the 20% of participants who voiced feelings of overwhelm had higher levels of sensitivity, it would be helpful for further research which uses a diverse sample to determine whether there is a correlation between mothers who score highly on a HSP measure, and those who report heightened levels of overwhelm.

Although this has not yet been conducted in relation to highly sensitive parents, Redfearn (2019) conducted research in care-based working environments, and found that out of a sample of nurses, those who were highly sensitive were more prone to feeling overwhelmed, stress and burnout than nurses who were not highly sensitive. Redfearn (2019) concluded that for individuals who are highly sensitive, a deep processing of internal and environmental surroundings does not subside as demands of workload increase. Instead, cognitive demand will continue to increase and this will intensify feelings of overwhelm. Additional triggers to stress and overwhelm in highly sensitive nurses were considered by Redfearn (2019), and these included inability to provide sufficient emotional care for patients due to depletion of emotional resources, as well as increased sensitivity to internal experience of emotions such as guilt (Aron & Aron, 1997). According to Cooper (2015), nurses who are highly sensitive are also more likely to pick up on subtle cues of others, especially when they

are negative, i.e. if they perceive the patient thinks of them as not being effective in dealing with their problems and concerns.

Based on Redfearn's (2019) research, we can make some tentative applications on how their findings may apply to highly sensitive parents. The impact of increase in workload for nurses in the study could be applied to highly sensitive individuals who become parents, and have to adjust to their new responsibility of caring for their new baby, alongside the practicalities of tending to their homes, supporting others, and for some, perhaps even managing work and parenting other children. Whilst the level of demand and exposure to emotional and sensory stimuli increase as a result of the transition, their sensitivity to these factors remains the same, and this is likely to lead to overwhelm of increased frequency and intensity. Within the present study, similar to the nurses, highly sensitive mothers also found it difficult that they were unable to provide emotional support to others due to their own emotional depletion and increased demands. This was related to increased levels of empathy as a mother who is highly sensitive, and will be discussed in further detail in the next section (Relevance to existing literature and psychological theory: Increased Empathy – The Good and the Bad). Finally, findings from the present study also suggest that sensitivity to cues of others including maternity staff can lead to highly sensitive mothers believing that they are inconveniencing healthcare staff due to time pressures, or being judged as a 'not good enough' parent. These experiences which emerged in the "Support from Professionals" subtheme which will also be discussed in further detail later in a later section of the discussion (Relevance to existing literature and psychological theory: A Need for Connection and Support).

The present study's findings also provide some insight into how the onset of overwhelm is experienced for highly sensitive mothers. Broader research on overwhelm has

found that although many individuals describe similar experiences, the onset of overwhelm can vary between a more sudden or gradual onset (Ehrlich, 1997). Ehrlich (1997) suggested that a sudden onset of overwhelm may exist as a result of an unexpected external event such as a physical injury, whereas a more gradual onset may be the result of building psychological stress. In the current study, a participant (Dawn) described a more sudden onset of overwhelm where she will often wake up feeling overwhelmed, or that it suddenly "hit at the wrong time". Dawn's experience suggests that despite there being no prior unexpected factor or event, she still experienced the onset as sudden and unpredictable. A sudden onset experience of overwhelm was also described by Joanna. It was interesting however that this was based on her noticing her heightened state "almost when it is too late", due to being focused on her infant's needs which left her without the space to recognise the moment she had been "tipped over the edge". Joanna expressed a desire to be able to tune into her early signs of overwhelm more effectively, so that she can take steps to manage it at this stage. This highlights the potential value of recognising triggers and imminent signs of overwhelm for vulnerable new mothers.

One trigger that was recognised across interviews as a precursor to overwhelm was exposure to various sensory stimuli. Sensory overload as a result of noise and chaos in the home were two of the most commonly referred to triggers for highly sensitive mothers. Although research which has explored the experience of sensory overload in highly sensitive parents is lacking, interestingly, the two studies identified in the systematic review within the present study's introduction (Andeweg et al., 2021; Wachs, 2013) focused on associations between highly sensitive parents and the experience and impact of noise and chaos. Wachs (2013) found that within the same levels of home traffic and disorganisation, mothers who had higher levels of sensitivity perceived their home environments as more chaotic than mothers with lower levels of sensitivity did. Surprisingly, levels of noise in the home did not

contribute to overall perception of chaos for mothers involved in Wachs' (2013) study, however, further research is required to confirm whether there is an existing effect. Despite this, it is important to acknowledge mothers' experiences of noise and chaos in the present study. Many described that the physiological impact of noise felt so uncomfortable that it led to them wanting to leave for a quieter space. In line with understanding by Aron and Aron (1997) and Aron (2020), other mothers described noise from their infant's vocalisations and other sources as immobilising and a barrier to them being able to think, plan or respond to their infant in the way they would like to.

Mothers also reported that feelings of overwhelm frequently heightened their emotional reactivity during interactions. According to Mettler et al. (2021), one of the factors that may influence an individual's ability to regulate emotions is emotional reactivity. This is defined as 'individual differences in the intensity and temporal nature of behavioural or physiological responses to emotional stimuli' (Chapman et al., 2006; Rothbart et al., 2011). According to Mettler et al. (2021), the three components of emotional reactivity include (a) the extent of emotional experiences in response to stimuli (emotion sensitivity), (b) the strength or intensity of emotional experiences (emotion intensity), and (c) the time needed to return to a baseline level of arousal.

In the present study, mothers reported increased sensitivity to stimuli, negative self-talk, and difficulties in staying grounded and calm during overwhelming moments are indicative of heightened emotional reactivity. In contrast, emotion regulation, defined as 'the management of emotional responses to situations' (Karrass et al., 2006), entails the conscious control and modulation of emotional reactions. The mothers in our study, however, describe challenges in effectively managing their emotional responses, particularly during states of high overwhelm, which aligns more with the concept of emotional reactivity. Their struggles

133

with rationality and the utilisation of coping mechanisms further underscore the presence of heightened emotional reactivity rather than a systematic and effective application of emotion regulation strategies. The mothers also consistently shared instances where feelings of overwhelm heightened their emotional reactivity during interactions, leading to challenges in maintaining a measured and attuned response to their infants.

These findings support Andeweg et al.'s (2021) research; a study included in the systematic literature review. Andeweg et al.'s (2021) study demonstrated a greater decrease in caregiver sensitivity over time for highly sensitive individuals when compared to non-highly sensitive individuals in chaotic conditions. Despite this alignment with the present study's findings, Andeweg et al.'s (2021) research was not conducted with parents, but instead non-parents within a simulatory environment. This creates questions around the study's ecological validity, and whether findings can relate to and accurately predict behaviours from highly sensitive mothers within real-world settings with their own infants.

Some mothers in the present study also described feeling 'touched out' from their infant and an intense physical aversion to further touch from their other children or their partner. This is in line with research conducted by Van Raalte et al. (2023) which found that over half of parents interviewed reported reduced affection with their partner after the birth of their child, due to a feeling of physical saturation and a need to regain body autonomy. Highly sensitive mothers in the present study demonstrated the intensity of this feeling; for example, Kate described that "it's like a physical response to that touch" and "just makes you want to like push everyone away and run away". Interestingly, in Van Raalte et al.'s (2023) study however, the other half of parents interviewed reported no difficulty with physical touch, and expressed that it is often something they enjoy as a parent and a partner. Although the notion of feeling 'touched out' has received more attention as a common parenting

experience in recent years, it would be an interesting consideration for future research to include a measure of sensitivity to determine whether this is a more common experience for highly sensitive parents.

4.3.2 Increased Empathy – The Good and the Bad. Research that has been conducted on high sensitivity consistently demonstrates that highly sensitive individuals possess a heightened level of empathy (Perez-Chacon et al., 2021; Roxburgh, 2022). In Roxburgh's (2022) study, highly sensitive individuals described a high level of attunement to others, and a greater ability than the average person to perceive and interpret facial expressions, body language, and emotional states. These observations are consistent with neuroimaging research conducted by Acevedo (2020), which has indicated increased neural activity for highly sensitive individuals in areas associated with empathy, awareness, and sensory integration when processing emotional stimuli from others. It would make sense that the strong impact of others' emotions on individuals who are highly sensitive may lead to a motivation to understand and lessen others' distress.

To better understand the link with emotional contagion for mothers in the present study, it is important to consider the various types of empathy. According to Kerr-Gaffney et al. (2019), the two main types of empathy are cognitive and affective empathy. Cognitive empathy involves understanding others' thoughts and feelings without necessarily reacting emotionally, whereas affective empathy involves experiencing emotions in response to others' emotional experiences. Walters and Espelage (2019) conducted research which indicated that affective empathy predicted bystander willingness to intervene on behalf of a bullied peer, whilst cognitive empathy did not predict willingness to intervene. This suggests that the shared emotional experience is likely to be a strong influence in an individuals' motivation to act or support others. Despite this, affective empathy has been found to be a

significant predictor of increase in compassion fatigue (Cho & Lee, 2023). This is in line with the reported experiences of the HSP mothers who took part in the study, as whilst affective empathy likely motivated them to act on helping others, they described that it has also led to significant burnout. The mothers' reported absorption of others' emotions, distress and deep compassion in response to others' suffering, and drive to support fellow parents and other individuals in their social networks suggests that they may be experiencing affective empathy. Whilst it is likely that mothers' sensitivity also increases cognitive empathy where their sensitivity allows them to understand another individual's perspective and experience, the data suggests that for many mothers part of the study, when experiencing empathy, they largely move from the cognitive perspective into a shared emotional experience.

It is interesting to consider how heightened levels of empathy might also apply to a highly sensitive mother's relationship and experience of her infant. Research has found a positive relationship between parental empathy and child attachment security (Stern & Borelli, 2014), and therefore, highly sensitive mothers' ability to perceive cues and empathise with others is likely to play a pivotal role in the development of a strong parent-child bond.

Some mothers in the present study reported a lack of validation and empathy in their own upbringing. however, parental empathy has also been found to mediate the relationship between parents' self-reported attachment style and their children's attachment security (Stern & Borelli, 2014). According to Stern & Borelli (2014), highly sensitive mothers who had an insecure attachment style from their own unsupportive childhood environment can use their heightened sensitivity to their advantage. Their increased empathy and motivation to create a more supportive environment for their own child can contribute to a secure relationship with their infant despite their own insecure attachment style. In line with Boyce and Ellis' (2005) theory, children who have sensitivity genes present but are brought up in a

highly supportive environments go on to have vantage sensitivity, and hence increased receptivity to social resources and support. This could be a favourable outcome for children of highly sensitive parents, should they have access to their own resources and support to manage their vulnerabilities.

Highly sensitive mothers' experience of heightened empathy also aligns with a theme identified in Roxburgh's (2022) study; of "empathy – a blessing and a curse." Participants reported that their regular provision of emotional support to others often came at the cost of their own wellbeing due to their tendency to absorb the pain and emotions of those around them. Highly sensitive mothers in the present study echoed a similar urge to support others, but this became a competing demand with the emotional energy to meet their child's needs. Mothers described that emotional depletion often surfaced as a result of their vulnerability to absorbing others' emotions, including their infants' distress. This aspect proved to be particularly challenging and overwhelming particularly when they felt unable to soothe or alleviate their infants' distress. This makes sense in the context of the evolutionary understanding of sensitivity, where being in tune with one's environment is beneficial in the detection of opportunities, but also leads to a more rapid depletion of energy and hence counteract their unique advantage.

4.3.3 A Sensitive Mother is a Good Mother. Whilst previous research has acknowledged the conscientiousness of highly sensitive individuals, the current research gives consideration as to how this quality can result in parents who are motivated to continue supportive parenting practices that they were exposed to, or to change the trajectory of their own negative experiences of being parented.

Circle of Security (Powell et al., 2009) is a useful model to highlight some of the strengths that a highly sensitive parent can bring to create security and improve the

developmental trajectory for their infants. Highly sensitive mothers in the present study reported an intrinsic capacity to attune to the subtle nuances of their child's emotions, needs, and signals. The unique sensitivity of highly sensitive parents aligns closely with the principles of the Circle of Security (Powell et al., 2009), creating a harmonious synergy between their innate caregiving qualities and the fundamental requirements for promoting a secure attachment bond. Their ability to attune deeply to their child's emotional landscape and respond sensitively and consistently can foster a sense of safety, trust, and emotional security for the child. This reciprocal relationship enhances the child's exploration of the world, knowing that their caregiver is consistently available to return to as a reliable source of comfort and support. Mothers involved in the current study provided useful illustrations of this, as many expressed a desire to instil abilities in their child to be able to express their feelings and needs in the world, whilst also remaining kind to others. By embracing their heightened sensitivity, with the right support, highly sensitive parents can effectively fulfil the vital role of providing a secure and nurturing environment for their child's emotional growth and development.

In addition to this valuable strength, mothers in the study felt that their sensitivity increased their ability to enjoy the warm and heartfelt moments with their infant. This is in line with the understanding that as well as being more affected by negative influences, highly sensitive people also experience vantage sensitivity; the ability to benefit from positive experiences more than other individuals (Pluess & Belsky, 2013). In the present study, one mother (Shannon) expressed feeling "the most purest form of happiness" she has ever felt through the loving interactions she has shared with her infant, and wished she could "bottle it up and give it to people". This deep appreciation was also described by others mothers, and some spoke about these moments making "it all worth it". Some mothers also voiced an ability to be in the moment during times of interaction with their infant. Highly sensitive

individuals are known for their ability to perceive and appreciate subtleties in their environment, and have a profound appreciation for beauty, art, nature, and the intricacies of life (Aron & Aron., 1997). This attentiveness to detail and inclination towards appreciating the depth and richness of experiences can encourage them to be fully present, as they seek to savour and immerse themselves in the beauty and significance of a moment. The benefits of taking a mindful approach to certain moments during parenting is supported by research which has examined the effects of a mindful parenting group training on mothers and their infants (Potharst et al., 2017). The intervention aimed to enhance mothers' ability to be present and attentive during interactions with their babies, and results showed improvements in maternal sensitivity, reduced parenting stress, and better infant emotional regulation.

4.3.4 Basic Needs. The importance of self-care for new mothers is widely recognised within literature (Lambermon et al., 2020). The postnatal period can be demanding and emotionally challenging, and prioritising self-care becomes crucial for maternal wellbeing. For highly sensitive mothers, the need for self-care can be even more significant and impactful. In the present study, mothers' expression of heightened sensitivity to basic physiological needs such as hunger, pain, and lack of sleep aligns with the findings highlighted by Aron and Aron (1997). Engaging in self-care practices therefore becomes a vital tool for highly sensitive mothers to maintain balance, manage their sensitivity, and prevent emotional reactivity. By practicing self-care, highly sensitive mothers can access and nurture their inherent strengths. Self-care activities that promote relaxation, such as mindfulness, meditation, or engaging in hobbies, can provide valuable opportunities for self-reflection, emotional regulation, and replenishing depleted energy levels. These practices enable highly sensitive mothers to recharge and restore their emotional wellbeing, enhancing their capacity to navigate the challenges of motherhood.

Self-care also plays a role in fostering self-compassion and self-acceptance (Neff & Dahm, 2015) which are essential for highly sensitive individuals. Engaging in self-care activities that promote self-compassion and self-nurturing can help counterbalance guilt, self-criticism and promote a positive self-image (Neff & Dahm, 2015) which is likely to contribute to higher levels of emotional resilience and wellbeing for highly sensitive mothers. Additionally, practicing self-care can help highly sensitive mothers establish healthy boundaries and manage their energy levels effectively to meet the demands of motherhood whilst avoiding emotional burnout. In the present study, mothers displayed a general awareness of the significance of self-care and acknowledged its positive influence on their overall wellbeing and ability to thrive as mothers. Several mothers shared their successful implementation of boundaries to ensure time and space for self-care. However, despite recognising its importance, other many expressed challenges in finding time for self-care or experiencing guilt when prioritising their own wellbeing.

Mothers discussed employing various coping strategies which help them to establish a solid foundation for navigating the joys and challenges of motherhood with increased resilience and balance. As discussed, creating personal space and boundaries was highlighted as an effective strategy in managing moments of dysregulation and frustration. Engaging in activities that allow mothers to focus on aspects of their identity and gain a sense of achievement outside of motherhood, such as through work or hobbies, provides a much-needed break and a sense of individuality (Williamson et al., 2023).

Access to fresh air and nature was another beneficial coping strategy identified by mothers which is in line with evidence around the protective effects of exposure to natural environments on many health outcomes, including mental health (Jimenez et al., 2021). In addition to this, research conducted by Setti et al. (2022) has identified an association

between high sensitivity and connectedness to nature. Spending time in nature offers highly sensitive individuals the opportunity for introspection and reflection, a characteristic commonly observed amongst high sensitive individuals (Acevedo et al., 2014). For highly sensitive mothers, being in nature is also likely to offer a gentler and more soothing form of stimulation, to provide a much-needed respite from a loud and overstimulating home environment. During interviews, one mother revealed that focusing on the sensation of her feet walking helped her to feel grounded, present and to detach from other thoughts. This has been supported by research which has demonstrated how engaging in mindful walking and directing attention to simple movements whilst outdoors can effectively manage overstimulation and alleviate cognitive overload (Gotink et al., 2016). Additionally, some mothers felt that involving their infant in walks and nature-related activities served a dual purpose of self-care whilst managing caring responsibilities for their infant. Other methods that mothers used to feel grounded and relaxed included holding their baby firmly and feeling their weight, however for mothers who indicated a proneness to feeling 'touched out', this method would perhaps cause further overstimulation. A few of the mothers benefitted from water-related activities, such as having showers and baths and highlighted the relaxing sensation of water on their skin.

Accessing professional therapy was also recognised as a helpful strategy to maintain good overall mental wellbeing for mothers interviewed. Research has consistently shown the positive effects of therapy in reducing stress, improving coping mechanisms, and fostering personal growth (Fordham et al., 2021). However, for highly sensitive mothers, to minimise overwhelm and decrease vulnerability to stress-related disorders, one could argue that therapy becomes even more important. Therapy would also provide a space for highly sensitive mothers to engage in personal reflection, receive emotional support, gain insights into their needs and to build skills necessary to enhance overall wellbeing (i.e. boundary setting). In

addition to this, some mothers interviewed reported using cognitive strategies, i.e., those used in CBT therapies, such as reframing thoughts and maintaining perspective to help manage feelings of frustration and overwhelm. These coping strategies, informed by mothers' personal experiences and existing literature (i.e. Black & Kern, 2020) contribute to the overall wellbeing and self-care practices of mothers with sensory processing sensitivity in the postnatal period.

4.3.5 A Need for Connection and Support. The need for connection and support emerged as a crucial factor for these mothers to thrive and maintain their mental health and wellbeing during the postnatal period. Research has demonstrated that social support during the postnatal period has been associated with a decreased likelihood of postnatal depression for mothers (Cho et al., 2022). In the present study, highly sensitive mothers voiced feeling a level of comfort from connection and support from others. Whilst it has been emphasised that highly sensitive individuals have social advantages due to their responsiveness to others' needs, which would put them in a good position for establishing cooperative relationships and trust in others (Lydon et al., 1997), mothers in the present study often experienced conflict in social situations due to their tendency to becoming overwhelmed in these contexts. Mothers expressed enjoying the company of others, but also felt suffocated and overwhelmed by the physical presence of people. This is in line with Aron and Aron (1997) who recognised the high levels of stimulation within social situations for highly sensitive individuals due to the high levels intensity, novelty, unpredictability or complexity involved. The stimulatory effect of social environment for highly sensitive individuals emphasises the need for these mothers to have opportunities to recharge and retreat to their own space after social interactions. Returning home to have time to themselves to decompress and recharge after socialising was mentioned as a vital aspect of self-care for highly sensitive mothers. Lucy's description that she "can be the life of the party, but won't want to go to another party for the rest of the

month" emphasises the importance of balancing social interactions with alone time. This is also in line with Aron and Aron's (1997) research which highlighted that although high sensitivity has been related to introversion (based on the basis that social introversion is a logical strategy for reducing stimulation), many highly sensitive individuals have extroverted qualities but still require solitude to restore their energy levels.

The significance of receiving understanding and empathy from family and friends emerged as a key aspect of support for highly sensitive mothers. These mothers expressed a desire for recognition and validation of their unique experiences as highly sensitive individuals. The acknowledgment that certain elements of the environment can be more overwhelming for them is crucial for establishing a supportive network. Highly sensitive mothers emphasised the importance of being seen and understood without being labelled as "whingey drama queens." They longed for an environment that acknowledges their sensitivity as a natural aspect of their being and appreciates its potential benefits, such as being more attuned to their surroundings.

Another noteworthy finding is the experiences mothers shared around feeling overwhelmed and inadequate when receiving unsolicited advice from well-meaning individuals. The pressure to conform to societal expectations of parenting was experienced as particularly distressing for highly sensitive mothers, due to their tendency to process information and emotions deeply. Research conducted by Finlayson et al. (2020) explored the needs and experiences of women during the postnatal period, and many highlighted feeling frustrated by the level of conflicting and inconsistent information available around caring for their infant. This matched experiences of highly sensitive mothers in the present study, as many described that the conflicting advice they had received has previously leave them feeling confused, frustrated, and doubtful of their abilities as a mother. They highlighted a

desire to parent in their own way, even if this deviates from conventional norms, and felt that their level of sensitivity and attunement put them in a position where they could trust their instincts rather than external advice to meet their baby's needs. This desire for autonomy and validation in their parenting choices reflects the need for society to recognise and respect the diverse approaches to motherhood, particularly for highly sensitive individuals.

In relation to this, participants also expressed the need for effective communication and recognition of individual differences in the journey of motherhood from healthcare professionals, as their communication style can have a lasting impact on highly sensitive individuals and may even discourage them from seeking help in the future. The participants emphasised their ability to pick up on nonverbal cues and sense the emotional state of healthcare professionals, which had a significant impact on their trust and overall experience. At the same time, challenges faced by healthcare professionals, such as time constraints and pressure, were also acknowledged by some of the mothers. Due to their high sensitivity, they were attuned to the subtle cues indicating stress and urgency in the professionals, which impacted their ability to gather necessary information and feel reassured during follow-up appointments. This is in line with research conducted by McLeish and Redshaw (2019) which found that mothers from disadvantaged backgrounds often brought feelings of powerless and low self-esteem to their interactions with maternity staff, which could be exacerbated by inadequate care. Similar to the mothers within the present study, McLeish and Redshaw (2019) also found that these mothers lacked the confidence to ask questions or challenge bad treatment, and also voiced a desire to have choice and to be able to trust and feel safe.

The suggestions provided by the mothers in this study offer valuable insights for enhancing individualised maternity care for highly sensitive individuals. Mothers' suggestions included recognising and addressing one's sensitivity before giving birth

highlighting the importance of proactive preparation and self-awareness. This suggests that healthcare providers can play an active role in supporting expectant mothers by helping them identify their sensitivity and develop personalised coping strategies. Jade's positive experience of postpartum recovery in a private and calm space underscores the significance of creating an environment that promotes the wellbeing and recovery of highly sensitive mothers. These perspectives highlight the need for healthcare professionals to go beyond a one-size-fits-all approach and instead develop a nuanced understanding of the needs and sensitivities of highly sensitive individuals. By doing so, healthcare providers can create an environment that contributes to a more positive and empowering postnatal experience.

4.4 Implications and Contributions

It is believed that the study has important implications for the development of targeted interventions and support services that are tailored to the unique needs of this population. The findings of this study have several implications for healthcare professionals, policymakers, and researchers in the field of maternity care. Firstly, the findings underscore the importance of professionals and services recognising and addressing individual differences in the journey of motherhood. Maternity care should be tailored to meet the specific needs of each mother, taking into account factors such as sensitivity, mental health, and personality types. By considering the diverse experiences of new mothers, staff can adapt their approach to create a supportive and empathetic environment that acknowledges the unique challenges faced by highly sensitive individuals. This validating approach would help to build trust, but also ensure that all mothers receive the support and care they require, ultimately leading to improved maternal wellbeing and outcomes. These interventions could include modifications to the physical environment of maternity wards such as reducing noise and bright lights, creating a calm and soothing atmosphere with quiet, private spaces where possible. Equally,

it could be pertinent to provide more accessible and understandable information about medical procedures and what to expect during childbirth, given that highly sensitive individuals may process information more deeply and may be more prone to anxiety about the unknown. Furthermore, professionals could incorporate more mindfulness-based strategies into their care, such as breathing exercises, meditation, and other stress-reducing techniques, specifically tailored for highly sensitive mothers. Staff could also be trained in recognising and understanding high sensitivity in individuals, enabling them to adopt a more empathetic and patient-centred approach.

Despite this, it is important that we consider the current climate of maternity services in the UK to understand barriers maternity staff face which impacts their capacity to provide individualised and optimal care to mothers. According to Sands report conducted in October 2022 (Sands, 2022), maternity services are facing significant pressures in the United Kingdom, and it is believed that maternity staff morale and wellbeing are now at their lowest point. Staff shortages within maternity services are leading to overwhelm and burnout for staff who face the impact of these shortages within services through a significant increase in workload. In addition to this, the report revealed that training opportunities for maternity staff to develop new skills, improve their knowledge or use latest evidence are limited due to being pulled back to cover shortages in clinical areas. The impact of staff shortages is likely to lead to compromised quality of care that staff are able to provide. Staff who provided feedback within the report also stressed the urgent need for a greater focus on the health, wellbeing and welfare of maternity staff, as current wellbeing policies to support affected staff as 'cosmetic' and 'inadequate'. Suggestions around improving wellbeing amongst staff were around facilitating more flexible working arrangements, so that staff could choose to work in areas they were skilled in and working hours that allowed them to achieve an improved work life balance. Staff also emphasised the importance of being able to take a break during their shift

and indicated that they were not always able to. Maternity staff commonly expressed frustration at the environment that did not enable them to provide the highest quality care for women and their babies. Women who had received or were receiving maternity care and discussed their experience for the findings of the report or for the current study commonly recognised the challenges of overworked professionals working who are struggling to provide optimum care due to understaffed units. However, for highly sensitive mothers, it is likely that they feel the stretched environment and overwhelm of maternity staff at a deeper level which as described by mothers in the current study, may lead to them potentially withholding communication of their needs.

The above highlights the current limitations in staff within maternity services being able to provide personalised care to mothers and their babies. It further reinforces the need for significant action to take place at a systemic level to create an environment in which maternity staff have protected time for their own wellbeing and further training in order to better support mothers and accommodate the unique needs of highly sensitive individuals during pregnancy, childbirth, and postpartum recovery.

In addition to this, it is often mothers who are struggling with a significant mental health difficulty that are identified, referred, and accepted into maternal mental health services for treatment. It is vital that mental health services prioritise families where there is an element of risk, either to self, or relational risk, however a preventative approach for mothers who are more vulnerable to developing mental health difficulties is likely to be an effective strategy and decrease service demand in the long term. According to Pluess (2015), amongst those receiving support for mental health problems, the number of people with greater sensitivity is disproportionately high. Therapy has also found to be most effective at reducing anxiety and depression in individuals with high sensitivity compared to those with

147

low sensitivity. In line with the current study's findings (i.e. in the 'a need for connection and support' theme), research has previously compared highly sensitive individuals to orchids (Lionetti et al., 2018) – flowers that can only thrive when they are nurtured.

This comparison underscores the delicate nature of highly sensitive mothers' well-being and the vital role of support systems in their ability to flourish. The metaphor also aligns with the inferences of the study's link to attachment theory, revealing how societal expectations and conventional notions of maternal roles can significantly impact highly sensitive mothers' capacity to provide consistent and sensitive caregiving during the postnatal period. By drawing parallels between the nurturing needs of highly sensitive individuals and orchids, the study sheds light on the essential role of societal support in fostering positive outcomes for these mothers.

Based on this, the current study recognises a need to consider alternative approaches to parenting to alleviate the burden on mothers as the sole primary caregivers, and offer complementary aspects to infant development. This opposes Ainsworth and Bowlby's (1991) monotropic interpretation of attachment theory, and promotes diverse cultural practices, especially in collectivist societies where childcare responsibilities are shared.

We can use this to explore the practical implications of the study's findings on support systems for highly sensitive mothers. By underscoring the importance of collective responsibility in caregiving, we can acknowledge that whilst highly sensitive mothers may possess unique abilities in tuning into their infants' emotional states, the societal pressures and high expectations associated with parenting can contribute to their feelings of overwhelm and guilt. This reinforces the significance of fostering alternative approaches and support systems to help highly sensitive mothers navigate the challenges of parenting.

Healthcare visitors and maternity staff play a crucial role in identifying and supporting mothers, particularly those who may be highly sensitive and potentially more vulnerable to developing significant mental difficulties. Beyond routine interactions, these professionals can adopt a nurturing, preventative approach by sharing strategies to help highly sensitive mothers manage overwhelm and prevent stress-related disorders. Additionally, healthcare visitors can identify mothers who may be experiencing feelings of isolation in their parenting journey. In such cases, they can provide valuable support by highlighting additional resources, including peer support, to create a comprehensive network of assistance for mothers in need. This collaborative and multi-faceted approach ensures that healthcare professionals are well-equipped to address the diverse needs of new mothers, fostering a supportive environment conducive to their well-being.

As part of recruitment for the current study, the researcher developed an Instagram page, and this platform was also used for sharing of information around high sensitivity in motherhood. The page has received over thirty thousand followers to date, and much of the feedback received from mothers has been around feeling understood the validation from reading the posts. Many followers communicated feeling less alone and able to recognise the positives of the trait. "I love that I can share the beauty of the little things with her, and help her to regulate and recognise emotions in a way I was never taught. Thank you for this page. I can't explain the relief (and sadness for not knowing sooner) that I am an HSP. The recognition and support here is everything I needed to hear this week". Another mother stated "I just want to thank you for creating and sharing this page. For the first time in my life, I feel like someone understands my heart. I'm not "too emotional" and worry over things that don't matter. There's nothing wrong with me, (which is what I've always known in my heart)". This is in line with key findings from research conducted by Roth et al. (2023) which found that highly sensitive individuals report a large element of relief following self-attribution of

the trait. This suggests that sourcing methods and developing resources to help educate and empower highly sensitive mothers is likely to be a valuable aid for highly sensitive mothers to feel heard and understood, learn about themselves, and ways in which they can manage overwhelm.

From a research perspective, the current study makes a unique contribution to the growing body of literature on highly sensitive individuals in the context of motherhood. It highlights the specific challenges faced by these mothers and provides valuable insights into their experiences and needs. Future research can further explore the impact of sensitivity on various aspects of maternity care, including prenatal education, labour and delivery, postpartum support, and the long-term wellbeing of highly sensitive mothers and their children. Further qualitative research is recommended to continue to build on the detailed and rich understanding of the experience of the postnatal period for mothers with sensory processing sensitivity. Firstly, in the valuable contribution to the literature base, as such research can contribute to informing the development of evidence-based interventions and guidelines that promote positive outcomes for highly sensitive individuals in the realm of maternity care. However, interview-based studies with highly sensitive parents are also valuable in providing a space for the voices of these parents to feel validated and understood.

4.5 Limitations

The lack of racial and ethnic diversity in the current study's sample, with the majority of recruited mothers being from a White ethnic background, raises important considerations for future research. The overrepresentation of White participants may have resulted from several factors. Firstly, recruitment strategies and methods may have inadvertently favoured or attracted more White participants, potentially due to biases in recruitment channels or the study's target population. The current study may have excluded certain mothers who do not

have access to these communities, for example, those who are from lower socioeconomic backgrounds, or face more stigma and judgement for a particularly difficult experience of the postnatal period. It is crucial to recognise the impact of historical biases, systemic factors, and cultural norms that can contribute to unequal representation in research studies (Roberts et al., 2020). Understanding and addressing these disparities is essential for promoting inclusivity and obtaining a more representative sample that encompasses the diversity of the population under study.

Mothers from racialised backgrounds may have different experiences of the postnatal period, for example, for mothers experiencing the postnatal period placed within a collectivist culture, support is likely to be available to a different level than mothers placed within and individualist culture who may have a more limited social network. This cultural variation of collectivist vs. individualist contexts may also impact mothers' beliefs around their responsibility to support others, i.e. those within a collectivist culture may prioritise supporting others in their community. As well as this, the majority of mothers were from middle class backgrounds. Due to these limitations, the transferability of findings to mothers from various backgrounds and families are limited.

The current study also received a large response and level of interest and participants from posting within a gentle parenting Facebook group. Gentle parenting is based on elements of empathy, respect and understanding, and it is likely that parents who are a part of this community are motivated to parent their children in line with these values. It is therefore important to consider the influence this may have had in the findings of the study, particularly in themes around empathy, responsiveness and mothers wanting the best for their infants. Conversely, as posting the advertisement in this group initiated a lot of interest from mothers who identified as being highly sensitive or felt every one of the HSP characteristics outlined

in the advert resonated with them, it is likely that the group and gentle parenting approach appeals to highly sensitive mothers whose sensitivity makes them naturally more conscientious and valuing empathy. Another potential limitation, is that whilst some mothers had prior knowledge and understanding of their high sensitivity, and were part of HSP communities, others were recruited based on their ability to relate to the HSP characteristics described in the advertisement. Mothers' varying knowledge around HSP traits may have impacted the experiences they believed to be relevant and offered during interview discussions.

In addition to this, another limitation of this study is the challenge in discerning which findings are specifically attributed to mothers with sensory processing sensitivity (SPS) and which are applicable to mothers who do not possess this trait. As the study focused on exploring the parenting experiences of highly sensitive mothers during the postnatal period, it is important to acknowledge that certain aspects of their experiences may overlap with those of non-highly sensitive mothers. It becomes intricate to disentangle whether certain findings are unique to SPS or if they reflect broader aspects of the postnatal period.

The final limitation is the lack of replicability of these findings. The experiences from mothers interviewed are their own, and the approach which was used when conducting interviews and to analyse data was independent to the researcher. This suggests that if the current study was repeated, with a different group of participants, or even just by a different researcher, different conclusions may have been reached. However, within qualitative research, replicability of findings is not the aim, but rather a space for participants to voice their individual experiences, whilst the researcher demonstrates a willingness to acknowledge how they may have contributed to conclusions drawn.

4.6 Future Research Recommendations

In light of the findings and limitations of this study, several recommendations for future research can be proposed. Future studies should aim to obtain a more representative sample to ensure more comprehensive findings that reflect a broader range of individuals. This could be achieved by employing proactive strategies like collaborating with community organisations and using culturally sensitive recruitment methods to enhance diversity. Additionally, future research could explore the impact of cultural factors and the influence of specific cultural contexts on the parenting experiences of mothers with sensory processing sensitivity. This would provide valuable insights into how cultural norms, values, and practices intersect with the unique characteristics of highly sensitive mothers. Such investigations could deepen our understanding of the complex dynamics between sensory processing sensitivity, culture, and parenting experiences.

In addition to this, in order to narrow the focus of the current study, and ensure that the experience of high sensitivity in mothers was explored in full, the current study excluded fathers who are highly sensitive and navigating the postnatal period. Fathers may in fact experience their high sensitivity in a different way, as they are likely to be influenced by various factors that differ from those impacting mothers. For instance, there is often a greater societal stigma surrounding the expression of sensitivity in males, which can impact how highly sensitive fathers navigate their emotions and parenting roles. Additionally, fathers may encounter even fewer available resources and support for their mental health and wellbeing during the postnatal period compared to mothers. High sensitivity could be experienced in a different way for fathers due to the greater stigma that exists over expression of sensitivity in males, and the even lesser availability for fathers' mental health and wellbeing in the postnatal period. By focusing on highly sensitive fathers, researchers can make a valuable

contribution to the existing literature, leading to a better understanding of their experiences and the development of targeted interventions and support services that cater to their distinct needs.

Future research that includes a comparison group of non-highly sensitive mothers would be valuable in providing a clearer understanding of the distinct contributions of SPS in shaping parenting experiences during this critical phase of motherhood. This comparative approach would enable researchers to identify whether certain parenting behaviours, emotional responses, or coping strategies observed in highly sensitive mothers are indeed unique to their sensitivity or if they are common across all mothers. It would allow for a more nuanced examination of how SPS influences maternal perceptions, interactions with their infants, and overall parenting experiences. This would enhance the validity and generalisability of research findings, enabling a more comprehensive understanding of the role of sensory processing sensitivity in shaping parenting experiences during this crucial phase of motherhood.

Finally, longitudinal studies could be conducted to examine the long-term effects of sensory processing sensitivity on maternal wellbeing and child development. This would enable researchers to track the trajectory of parenting experiences over time and shed light on the potential protective or risk factors associated with sensory processing sensitivity in the postnatal period. Furthermore, exploring the long-term effects of SPS on child development would provide crucial insights into the influence of maternal sensitivity and responsiveness on various domains, including emotional regulation, social competence, and cognitive development. Researchers could assess how SPS affects the child's behaviour, emotional wellbeing, and attachment patterns as they progress through different developmental stages. Longitudinal studies also allow for the examination of how other factors, such as social

support, family dynamics, or the child's temperament, may interact with SPS to shape parenting experiences and child development. This approach would provide valuable insights on the factors which contribute to positive outcomes for highly sensitive mothers and their children throughout the postnatal period and beyond.

4.7 Researcher Reflexivity

In qualitative research, the researcher is an active participant in the research process, not just an objective observer. Reflexivity acknowledges this active role and its implications for the research (Berger, 2015). By consciously examining how personal and professional backgrounds can shape the research process, we can better understand the complexities that underlie the study's findings. This reflexive discussion will focus on my role as a researcher, and how it influenced each stage of my research journey in exploring parenting experiences of new mothers with Sensory Processing Sensitivity (SPS) during the postnatal period.

In the process of conducting this research, my role as the researcher was multifaceted, as it encompassed the tasks of interviewing, analysing, as well as reporting. As anticipated in the methods section, my personal sensitivity traits, background and experiences played a pivotal role in these tasks, adding layers of complexity to my interactions with the data and participants.

4.7.1 Interviewing Stage. During the interview stage, I feel that my own personal experiences, as a sensitive individual from a minority background, proved instrumental in building connections with the participants. Although I did not disclose details around my personal experiences with the participants, this shared understanding allowed me to better empathise with them and paved the way for the development of a strong rapport. According to Prior (2017), rapport-building is essential in qualitative research, as it encourages participants to be more open, thereby significantly enriching dialogues, giving depth to the

quality of the data gathered. Despite this, maintaining self-awareness was crucial to avoid superimposing my personal experiences onto the participants during the interviews. Whilst I felt my non-parent status occasionally surfaced as a limitation to understanding the unique experiences of motherhood which I had not personally navigated, I relied on my professional understanding to fully grasp the nuances of the experiences of motherhood being shared. I believe that my non-parent status also helped avoiding to impose my own perspectives and parenting strategies on the participants.

A surprising influence that emerged during the interviewing phase was the influence of the transformed perception of sensitivity I have developed over time. In a paradigm shift, I started viewing sensitivity as a strength rather than a liability. However, journaling allowed me to reflect on my approach to interviews, and to remain aware if I was inadvertently guiding discussions within interviews or steering the mothers to share narratives that portrayed their sensitivity in a positive light.

4.7.2 Data Analysis Stage. The subsequent phase of data analysis amplified the influence of my personal experiences. Being a sensitive person myself, I found that I could resonate with many of the narratives shared by the mothers. This emotional resonance, while occasionally overwhelming, offered me a unique lens through which to view and understand the data I was collecting. Despite this, it also presented a unique challenge in preserving the integrity of data interpretation. Maintaining reflexivity was pivotal to strike a balance between empathetic understanding and objective interpretation, ensuring that my analysis remained true to the participants' narratives. I kept a reflexive journal throughout to reflect on personal experiences and avoid projecting my personal experiences and beliefs onto the mothers' narratives, as I did not want to overshadow the participants' voices. From an ethical standpoint, I was acutely aware of the responsibility I held as a researcher to present the

participants' experiences truly and respectfully. To my knowledge, there had not been avenues for highly sensitive parents to share their voices and experiences previously, and mothers discussed previously feeling that their needs were not heard or valued. I therefore felt I was in an exceptional position to ensure that their voices were accurately represented, whilst navigating my own personal experiences and interaction with the data.

I was also aware that my desire for others to recognise the merits of high sensitivity may have introduced an element of bias into the data analysis stage, favouring the emergence of certain themes and narratives over others. Throughout this process, it was essential to remain aware of my own perspective and consistently exercise reflexivity, thus understanding the role my personal viewpoint played in shaping the findings.

4.7.3 Reporting Findings. As highlighted by Finlay (2002), a researcher's personal characteristics and experiences can significantly shape the understanding and representation of the participants' experiences. According to Sparkes and Smith (2016), reporting findings is not merely a mechanical process of writing up results, but an exercise in storytelling. This storytelling was based on the voices of the mothers, and their unique experiences. It was essential to ensure that these voices remained at the forefront, capturing the unique intricacies, struggles, and triumphs of their journey into motherhood. This commitment to accurately reflect their voices while bringing in my own understanding helped shape the final narrative of this research, providing a comprehensive and nuanced insight into the postnatal experiences of mothers with Sensory Processing Sensitivity. As Langdridge (2007) explains, a researcher's personal attributes can greatly influence their understanding and representation of participant experiences, and in my case, I felt that my sensitivity traits deepened my connection with the narratives, helping me communicate the nuanced layers of the mothers' stories more accurately and empathetically.

Moreover, my current clinical experiences in the parent-infant mental health field was helpful during this stage. It provided me with a contextual understanding that helped me to situate the personal narratives of the mothers within a broader societal framework. Berger (2015) noted the importance of understanding the societal and cultural context in qualitative research to better interpret the participants' experiences. I feel that my professional background enriched my understanding of these broader aspects, including societal expectations, cultural norms, and the systemic issues that new mothers face. This experience, combined with the detailed narratives shared by the mothers, allowed me to report the findings with a more comprehensive understanding of the myriad factors influencing new mothers who are highly sensitive.

4.7.4 Concluding Thoughts. Reflecting upon the journey, it becomes clear that my personal and professional experiences were intricately woven into every stage of the research. This personal touch added depth and uniqueness to the research but also demanded continuous self-awareness and vigilance to keep potential biases in check. In this endeavour, my reflexive log served as an invaluable tool, reminding me to tread the fine line between personal connection and objective analysis. This journey underscored the role and importance of reflexivity in qualitative research, illustrating the dynamic interplay between a researcher's subjectivity and the research process.

4.8 Conclusions

The current study aimed to explore the unique parenting experiences of mothers who identify with sensory processing sensitivity (SPS) during the postnatal period. Specifically, the study sought to consider how these mothers perceive and engage in interactions with their infants, the influence of SPS on their emotional wellbeing, and their overall experience of support during this critical period. To achieve this, a reflexive thematic analysis approach

was employed to uncover meaningful themes and patterns that emerged from the participants narratives. The study offers a unique contribution to the understanding around the needs and lived experiences of mothers with sensory processing sensitivity. Central to the findings of the current study are the importance of self-care activities and presence of coping mechanisms, which prove vital for this group of mothers as they navigate their intensified sensitivities alongside the complexities of motherhood. Another recurring theme across mothers' narratives was the need for a balance between personal solitude and social connectedness, which was underpinned by a desire for empathy, validating and understanding from their support networks.

The implications drawn from the current study suggest that a more considered and individualised approach is necessary in the realms of healthcare services. This approach needs to take into account the distinct differences amongst these mothers including varied sensory needs within hospital settings. It is also important that healthcare professionals engage in further reflection in their teams to build awareness and consideration as to how service stressors and pressures may impact the way in which they are interacting with parents. This becomes even more important for highly sensitive parents, who may be more prone to picking up on emotional cues and subtle shifts in a professional's behaviour.

Whilst this study makes a unique qualitative contribution to the current knowledge on the topic, it is important to acknowledge its limitations. Further qualitative research is needed to gain a more comprehensive understanding of the unique experiences of mothers with sensory processing sensitivity. This additional research will inform the development of more effective support systems tailored specifically to meet the needs of these mothers as they navigate the challenges associated with sensory processing sensitivity.

5. REFERENCES

Acevedo, B. P., Aron, E. N., Aron, A., Sangster, M.-D., Collins, N., & Brown, L. L. (2014). The highly sensitive brain: an fMRI study of sensory processing sensitivity and response to others' emotions. *Brain and Behavior*, *4*(4), 580–594. https://doi.org/10.1002/brb3.242

Adams, M. K., Byrn, M., Penckofer, S., Bryant, F., & Almonte, A. (2021). Expectations of Motherhood and Quality of Life. *MCN: The American Journal of Maternal/Child Nursing*, *46*(2), 70–75. https://doi.org/10.1097/nmc.0000000000000690

Ainsworth, M. D. S., Bell, S. M., & Stayton, D. (1974). Infant-mother attachment and social development: Socialization as a product of reciprocal responsiveness to signals. In M. P. M. Richards (Ed.), The integration of a child into a social world (pp. 99-135). London, England: Cambridge University Press.

Ainsworth, M. S., & Bowlby, J. (1991). An ethological approach to personality development. *American Psychologist*, *46*(4), 333–341. https://doi.org/10.1037//0003-066x.46.4.333

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Andeweg, S. M., Bodrij, F. F., Prevoo, M. J. L., Rippe, R. C. A., & Alink, L. R. A. (2021). Does sensory-processing sensitivity moderate the effect of household chaos on caregiver sensitivity? An experimental design. *Journal of Family Psychology*, *35*(3), 356–365. https://doi.org/10.1037/fam0000766

Annalisa, S., Francesca, L., Rachel, K., Liam, M., & Michael, P. (2022). The temperament trait of environmental sensitivity is associated with connectedness to nature and affinity to animals. *Heliyon*, *8*(7), e09861. https://doi.org/10.1016/j.heliyon.2022.e09861

Appleton, R. (2020). *Understanding why young people fall through the gap between child and adult mental health services and the associated impact and costs for young people, society, and the health service* [PhD Thesis].

Aron, E. (2020). *HIGHLY SENSITIVE PARENT : be brilliant in your role, even when the world overwhelms you.* Citadel Pr.

Aron, E. N. (2016). The highly sensitive person in love: Understanding and managing relationships when the world overwhelms you. Random House

Aron, E. N., & Aron, A. (1997). Sensory-processing sensitivity and its relation to introversion and emotionality. *Journal of Personality and Social Psychology*, *73*(2), 345–368. https://doi.org/10.1037/0022-3514.73.2.345

Aron, E. N., Aron, A., Nardone, N., & Zhou, S. (2019). Sensory Processing Sensitivity and the Subjective Experience of Parenting: An Exploratory Study. *Family Relations*, *68*(4), 420–435. https://doi.org/10.1111/fare.12370

Assary, E., Zavos, H. M. S., Krapohl, E., Keers, R., & Pluess, M. (2020). Genetic architecture of Environmental Sensitivity reflects multiple heritable components: a twin study with adolescents. *Molecular Psychiatry*, 1–9. https://doi.org/10.1038/s41380-020-0783-8

Baby Loss and Maternity All Party Parliamentary Groups. (2022). Safe Staffing: The impact of staffing shortages in maternity and neonatal care. In *Sands*. https://www.sands.org.uk/sites/default/files/Staffing%20shortages%20-%20APPG%20report,%20Oct%2022%20(final).pdf

Bauer, N. M. (2018). Running Local: Gender Stereotyping and Female Candidates in Local Elections. *Urban Affairs Review*, *56*(1), 107808741877080. https://doi.org/10.1177/1078087418770807

Berger, R. (2015). Now I See It, Now I Don't: Researcher's Position and Reflexivity in

Qualitative Research. *Qualitative Research*, *15*(2), 219–234.

Bernier, A., Tarabulsy, G. M., Cyr, C., & Matte-Gagné, C. (2021). Further evidence for the

multidimensional nature of maternal sensitivity: differential links with child

socioemotional functioning at preschool age. *Infancy*, *26*(2), 238–247.

https://doi.org/10.1111/infa.12385

Black, B. A., & Kern, M. L. (2020). A qualitative exploration of individual differences in

wellbeing for highly sensitive individuals. *Palgrave Communications*, *6*(1).

https://doi.org/10.1057/s41599-020-0482-8

Boterberg, S., & Warreyn, P. (2016). Making sense of it all: The impact of sensory

processing sensitivity on daily functioning of children. *Personality and Individual

Differences*, *92*, 80–86. https://doi.org/10.1016/j.paid.2015.12.022

Boyce, W. T., Chesney, M., Alkon, A., Tschann, J. M., Adams, S., Chesterman, B., Cohen,

F., Kaiser, P., Folkman, S., & Wara, D. (1995). Psychobiologic Reactivity to Stress

and Childhood Respiratory Illnesses. *Psychosomatic Medicine*, *57*(5), 411–422.

https://doi.org/10.1097/00006842-199509000-00001

Boyce, W. T., & Ellis, B. J. (2005). Biological sensitivity to context: I. An evolutionary–

developmental theory of the origins and functions of stress reactivity. *Development

and Psychopathology*, *17*(02). https://doi.org/10.1017/s0954579405050145

Branjerdporn, G., Meredith, P., Strong, J., & Green, M. (2019). Sensory sensitivity and its

relationship with adult attachment and parenting styles. *PLOS ONE*, *14*(1), e0209555.

https://doi.org/10.1371/journal.pone.0209555

Caldwell B.M., Bradley R.H. University of Arkansas at Little Rock; Little Rock, AK: 1984. Home Observation for Measurement of the Environment: Administration Manual.

Chen, X., Rubin, K. H., & Sun, Y. (1992). Social Reputation and Peer Relationships in Chinese and Canadian Children: A Cross-Cultural Study. *Child Development*, *63*(6), 1336. https://doi.org/10.2307/1131559

Cho, H., Lee, K., Choi, E., Cho, H. N., Park, B., Suh, M., Rhee, Y., & Choi, K. S. (2022). Association between social support and postpartum depression. *Scientific Reports*, *12*(1), 3128. https://doi.org/10.1038/s41598-022-07248-7

Coombe, J., Loxton, D., Tooth, L., & Byles, J. (2019). "I can be a mum or a professional, but not both": What women say about their experiences of juggling paid employment with motherhood. *Australian Journal of Social Issues*, *54*(3), 305–322. https://doi.org/10.1002/ajs4.76

Cooper, T. (2015). *Thrive: The Highly Sensitive Person and Career*. Invictus Publishing.

Curtin, M., Richards, H. L., & Fortune, D. G. (2022). Resilience among health care workers while working during a pandemic: A systematic review and meta synthesis of qualitative studies. *Clinical Psychology Review*, 102173. https://doi.org/10.1016/j.cpr.2022.102173

DeGroot, J. M., & Vik, T. A. (2019). "Fake Smile. Everything is under Control.": The Flawless Performance of Motherhood. *Western Journal of Communication*, *85*(1), 42–60. https://doi.org/10.1080/10570314.2019.1678763

Department for Business. (2014). Shared parental leave and pay: Technical guidance for employers. UK Government. Retrieved from

https://www.gov.uk/government/publications/shared-parental-leave-and-pay-employer-guide

Duvall, E. M. (1988). Family development's first forty years. *Family Relations, 37*(1) 127-134.

Ehrlich, J. A. (1997). *The experience of feeling overwhelmed: A phenomenological investigation.* [Doctoral Dissertation].

Evans, D. E., & Rothbart, M. K. (2007). Developing a model for adult temperament. *Journal of Research in Personality*, *41*(4), 868–888. https://doi.org/10.1016/j.jrp.2006.11.002

Filippetti, M. L., Clarke, A. D. F., & Rigato, S. (2022). The mental health crisis of expectant women in the UK: effects of the COVID-19 pandemic on prenatal mental health, antenatal attachment and social support. *BMC Pregnancy and Childbirth*, *22*(1). https://doi.org/10.1186/s12884-022-04387-7

Finlay, L. (2002). "Outing" the Researcher: The Provenance, Process, and Practice of Reflexivity. *Qualitative Health Research*, *12*(4), 531–545. https://doi.org/10.1177/104973202129120052

Finlayson, K., Crossland, N., Bonet, M., & Downe, S. (2020). What matters to women in the postnatal period: A meta-synthesis of qualitative studies. *PLOS ONE*, *15*(4), e0231415. https://doi.org/10.1371/journal.pone.0231415

Fordham, B., Sugavanam, T., Edwards, K., Stallard, P., Howard, R., das Nair, R., Copsey, B., Lee, H., Howick, J., Hemming, K., & Lamb, S. E. (2021). The evidence for cognitive behavioural therapy in any condition, population or context: a meta-review of systematic reviews and panoramic meta-analysis. *Psychological Medicine*, *51*(1), 21–29. https://doi.org/10.1017/s0033291720005292

164

Ghanizadeh, A. (2011). Sensory Processing Problems in Children with ADHD, a Systematic Review. *Psychiatry Investigation*, *8*(2), 89. https://doi.org/10.4306/pi.2011.8.2.89

Goldberg, A., & Scharf, M. (2020). How do highly sensitive persons parent their adolescent children? The role of sensory processing sensitivity in parenting practices. *Journal of Social and Personal Relationships*, *37*(6), 1825–1842. https://doi.org/10.1177/0265407520911101

Gotink, R. A., Hermans, K. S. F. M., Geschwind, N., De Nooij, R., De Groot, W. T., & Speckens, A. E. M. (2016). Mindfulness and mood stimulate each other in an upward spiral: a mindful walking intervention using experience sampling. *Mindfulness*, *7*(5), 1114–1122. https://doi.org/10.1007/s12671-016-0550-8

Grasso, D. J., Ford, J. D., & Briggs-Gowan, M. J. (2012). Early Life Trauma Exposure and Stress Sensitivity in Young Children. *Journal of Pediatric Psychology*, *38*(1), 94–103. https://doi.org/10.1093/jpepsy/jss101

Greven, C. U., Lionetti, F., Booth, C., Aron, E. N., Fox, E., Schendan, H. E., Pluess, M., Bruining, H., Acevedo, B., Bijttebier, P., & Homberg, J. (2019). Sensory Processing Sensitivity in the context of Environmental Sensitivity: A critical review and development of research agenda. *Neuroscience & Biobehavioral Reviews*, *98*, 287–305. https://doi.org/10.1016/j.neubiorev.2019.01.009

Hackett, R. A., Ronaldson, A., Bhui, K., Steptoe, A., & Jackson, S. E. (2020). Racial Discrimination and health: a Prospective Study of Ethnic Minorities in the United Kingdom. *BMC Public Health*, *20*(1). https://doi.org/10.1186/s12889-020-09792-1

Homberg, J. R., Schubert, D., Asan, E., & Aron, E. N. (2016). Sensory processing sensitivity and serotonin gene variance: Insights into mechanisms shaping environmental

sensitivity. *Neuroscience & Biobehavioral Reviews*, *71*, 472–483.

https://doi.org/10.1016/j.neubiorev.2016.09.029

Hong, Y. R., & Park, J. S. (2012). Impact of attachment, temperament and parenting on

human development. *Korean Journal of Pediatrics*, *55*(12), 449–454.

https://doi.org/10.3345/kjp.2012.55.12.449

Jagiellowicz, J., Xu, X., Aron, A., Aron, E., Cao, G., Feng, T., & Weng, X. (2010). The trait

of sensory processing sensitivity and neural responses to changes in visual scenes.

Social Cognitive and Affective Neuroscience, *6*(1), 38–47.

https://doi.org/10.1093/scan/nsq001

Jimenez, M. P., DeVille, N. V., Elliott, E. G., Schiff, J. E., Wilt, G. E., Hart, J. E., & James,

P. (2021). Associations between Nature Exposure and Health: a Review of the

Evidence. *International Journal of Environmental Research and Public Health*, *18*(9),

4790. https://doi.org/10.3390/ijerph18094790

Karrass, J., Walden, T. A., Conture, E. G., Graham, C. G., Arnold, H. S., Hartfield, K. N.,

& Schwenk, K. A. (2006). Relation of emotional reactivity and regulation to

childhood stuttering. Journal of Communication Disorders, 39(6), 402–423.

https://doi.org/10.1016/j.jcomdis.2005.12.004

Keller, H. (2018). Universality claim of attachment theory: Children's socioemotional

development across cultures. *Proceedings of the National Academy of Sciences*,

115(45), 11414–11419. https://doi.org/10.1073/pnas.1720325115

Kmet, L. M., Lee, R. C., & Cook, L. S. (2004). Standard quality assessment criteria for

evaluating primary research papers from a variety of fields. Alberta Heritage

Foundation for Medical Research.

Lambermon, F., Vandenbussche, F., Dedding, C., & van Duijnhoven, N. (2020). Maternal self-care in the early postpartum period: An integrative review. *Midwifery*, *90*(102799), 102799. https://doi.org/10.1016/j.midw.2020.102799

Laney, E. K., Hall, M. E. L., Anderson, T. L., & Willingham, M. M. (2015). Becoming a Mother: The Influence of Motherhood on Women's Identity Development. *Identity*, *15*(2), 126–145. https://doi.org/10.1080/15283488.2015.1023440

Langdridge, D. (2007). *Phenomenological psychology : theory, research and method*. Pearson / Prentice Hall.

Lionetti, F., Aron, A., Aron, E. N., Burns, G. L., Jagiellowicz, J., & Pluess, M. (2018). Dandelions, tulips and orchids: evidence for the existence of low-sensitive, medium-sensitive and high-sensitive individuals. *Translational Psychiatry*, *8*(1). https://doi.org/10.1038/s41398-017-0090-6

Lionetti, F., Klein, D. N., Pastore, M., Aron, E. N., Aron, A., & Pluess, M. (2021). The role of environmental sensitivity in the development of rumination and depressive symptoms in childhood: a longitudinal study. *European Child & Adolescent Psychiatry*, *31*(11). https://doi.org/10.1007/s00787-021-01830-6

Liss, M., Mailloux, J., & Erchull, M. J. (2008). The relationships between sensory processing sensitivity, alexithymia, autism, depression, and anxiety. *Personality and Individual Differences*, *45*(3), 255–259. https://doi.org/10.1016/j.paid.2008.04.009

Lohoar, S., Butera, N., & Kennedy, E. (2014). Strengths of Australian Aboriginal Cultural Practices in Family Life and Child Rearing. CFCA Paper No. 25.https://aifs.gov.au/cfca/publications/strengths-australian-aboriginal-cultural-practices-fam

Lydon, J. E., Jamieson, D. W., & Holmes, J. G. (1997). The meaning of social interactions in the transition from acquaintanceship to friendship. *Journal of Personality and Social Psychology, 73*(3), 536–548. https://doi.org/10.1037/0022-3514.73.3.536

Schmückle, M., Lindert, J. M., Schmolz, G. (2015). Psychological Well-Being von hochsensiblen Personen im Übergang zur Elternschaft – eine Querschnittstudie. *Gesundheitswesen*, *79*(12). https://doi.org/10.1055/s-0035-1549984

Machin, P., & de C. Williams, A. C. (1998). Stiff Upper Lip: Coping Strategies of World War II Veterans with Phantom Limb Pain. *The Clinical Journal of Pain*, *14*(4), 290–294. https://doi.org/10.1097/00002508-199812000-00004

Matheny, A. P., Wachs, T. D., Ludwig, J. L., & Phillips, K. (1995). Bringing order out of chaos: Psychometric characteristics of the confusion, hubbub, and order scale. *Journal of Applied Developmental Psychology*, *16*(3), 429–444. https://doi.org/10.1016/0193-3973(95)90028-4

McGirr, A., LeDue, J. M., Chan, A. W., Boyd, J., Metzak, P. D., & Murphy, T. F. (2020). Stress impacts sensory variability through cortical sensory activity motifs. *Translational Psychiatry*, *10*(1). https://doi.org/10.1038/s41398-020-0713-1

McLeish, J., & Redshaw, M. (2019). Maternity experiences of mothers with multiple disadvantages in England: A qualitative study. *Women and Birth*, *32*(2), 178–184. https://doi.org/10.1016/j.wombi.2018.05.009

Mettler, J., Stern, M., Lewis, S. P., & Heath, N. L. (2021). Perceived vs. actual emotion reactivity and regulation in individuals with and without a history of NSSI. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.612792

Monroe, S. M., & Simons, A. D. (1991). Diathesis-stress theories in the context of life stress research: Implications for the depressive disorders. *Psychological Bulletin*, *110*(3), 406–425. https://doi.org/10.1037/0033-2909.110.3.406

Neff, K. D., & Dahm, K. A. (2015). Self-Compassion: What It Is, What It Does, and How It Relates to Mindfulness. *Handbook of Mindfulness and Self-Regulation*, 121–137. https://doi.org/10.1007/978-1-4939-2263-5_10

Newby, J. M., Werner-Seidler, A., Black, M. J., Hirsch, C. R., & Moulds, M. L. (2021). Content and Themes of Repetitive Thinking in Postnatal First-Time Mothers. *Frontiers in Psychology*, *12*(586538). https://doi.org/10.3389/fpsyg.2021.586538

NHS. (2019). The NHS long term plan. NHS England. Retrieved from https://www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf

Oldman, C. (2022). Improving recruitment and retention. *Journal of Health Visiting*, *10*(11), 482–482. https://doi.org/10.12968/johv.2022.10.11.482

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., & McGuinness, L. A. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *PLOS Medicine*, *18*(3), e1003583. https://doi.org/10.1371/journal.pmed.1003583

People Management. (2020). Shared parental leave take-up rate in UK remains low. Retrieved from https://www.peoplemanagement.co.uk/news/articles/shared-parental-leave-take-up-remains-low

Pérez-Chacón, M., Chacón, A., Borda-Mas, M., & Avargues-Navarro, M. (2021). Sensory Processing Sensitivity and Compassion Satisfaction as Risk/Protective Factors from Burnout and Compassion Fatigue in Healthcare and Education Professionals. *International Journal of Environmental Research and Public Health*, *18*(2), 611. https://doi.org/10.3390/ijerph18020611

Pluess, M. (2015). Individual Differences in Environmental Sensitivity. *Child Development Perspectives*, *9*(3), 138–143. https://doi.org/10.1111/cdep.12120

Pluess, M., & Belsky, J. (2013). Vantage sensitivity: Individual differences in response to positive experiences. *Psychological Bulletin*, *139*(4), 901–916. https://doi.org/10.1037/a0030196

Pluess, M., Lionetti, F., Aron, E. N., & Aron, A. (2023). People Differ in their Sensitivity to the Environment: An Integrated Theory and Empirical Evidence. *Journal of Research in Personality*, *104*(104377). https://doi.org/10.31234/osf.io/w53yc

Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., & Duffy, S. (2006). Guidance on the conduct of narrative synthesis in systematic reviews: A product from the ESRC methods programme (Version 1). Lancaster University.

Potharst, E. S., Aktar, E., Rexwinkel, M., Rigterink, M., & Bögels, S. M. (2017). Mindful with Your Baby: Feasibility, Acceptability, and Effects of a Mindful Parenting Group Training for Mothers and Their Babies in a Mental Health Context. *Mindfulness*, *8*(5), 1236–1250. https://doi.org/10.1007/s12671-017-0699-9

Powell, B., Cooper, G., Hoffman, K., & Marvin, R. S. (2009). The circle of security. In C. H. Zeanah, Jr. (Ed.), Handbook of infant mental health (pp. 450–467). The Guilford Press.

Prior, M. T. (2017). Accomplishing "rapport" in qualitative research interviews: Empathic moments in interaction. *Applied Linguistics Review*, *9*(4), 487–511. https://doi.org/10.1515/applirev-2017-0029

Redfearn, R. (2019). *Sensory Processing Sensitivity: Is Being Highly Sensitive Associated With Stress and Burnout in Nursing?*

Reveley, S. (2019). Becoming Mum: Exploring the Emergence and Formulation of a Mother's Identity During the Transition into Motherhood. *Childbearing and the Changing Nature of Parenthood: The Contexts, Actors, and Experiences of Having Children*, *14*, 23–51. https://doi.org/10.1108/s1530-353520190000014002

Roberts, S. O., Bareket-Shavit, C., Dollins, F. A., Goldie, P. D., & Mortenson, E. (2020). Racial Inequality in Psychological Research: Trends of the Past and Recommendations for the Future. *Perspectives on Psychological Science*, *15*(6), 174569162092770. https://doi.org/10.1177/1745691620927709

Robinson, C. C., Mandleco, B., Olsen, S. F., & Hart, C. H. (1995). Authoritative, Authoritarian, and Permissive Parenting Practices: Development of a New Measure. *Psychological Reports*, *77*(3), 819–830. https://doi.org/10.2466/pr0.1995.77.3.819

Ross-Davie, M., Elliott, S., Sarkar, A., & Green, L. (2006). A public health role in perinatal mental health: Are midwives ready? *British Journal of Midwifery*, *14*(6), 330–334. https://doi.org/10.12968/bjom.2006.14.6.21181

Roth, M., Gubler, D. A., Janelt, T., Banous Kolioutsis, & Troche, S. J. (2023). On the feeling of being different–an interview study with people who define themselves as highly sensitive. *Plos One*, *18*(3), e0283311–e0283311. https://doi.org/10.1371/journal.pone.0283311

Rothbart, M. K., Sheese, B. E., Rueda, M. R., & Posner, M. I. (2011). Developing

mechanisms of self-regulation in early life. Emotion Review, 3(2), 207–213.

https://doi.org/10.1177/1754073910387943

Roxburgh, E. C. (2022). "It's like feeling and experiencing everything in HD": An

interpretative phenomenological analysis of sensory processing sensitivity.. *The

Humanistic Psychologist*. https://doi.org/10.1037/hum0000297

Sand, I., & Svanholmer, E. (2016). *Highly sensitive people in an insensitive world : how to

create a happy life*. Jessica Kingsley Publishers.

Sartory, G., Cwik, J., Knuppertz, H., Schürholt, B., Lebens, M., Seitz, R. J., & Schulze, R.

(2013). In Search of the Trauma Memory: A Meta-Analysis of Functional

Neuroimaging Studies of Symptom Provocation in Posttraumatic Stress Disorder

(PTSD). *PLoS ONE*, *8*(3), e58150. https://doi.org/10.1371/journal.pone.0058150

Schauder, K. B., & Bennetto, L. (2016). Toward an Interdisciplinary Understanding of

Sensory Dysfunction in Autism Spectrum Disorder: An Integration of the Neural and

Symptom Literatures. *Frontiers in Neuroscience*, *10*(17).

https://doi.org/10.3389/fnins.2016.00268

Sharfman, A. (2022, January 27). *Childbearing for women born in different years, England

and Wales - Office for National Statistics*. Www.ons.gov.uk.

https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/co

nceptionandfertilityrates/bulletins/childbearingforwomenbornindifferentyearsengland

andwales/2020

Shiels, K., & Hawk, L. W. (2010). Self-regulation in ADHD: The role of error processing.

Clinical Psychology Review, *30*(8), 951–961.

https://doi.org/10.1016/j.cpr.2010.06.010

Smolewska, K. A., McCabe, S. B., & Woody, E. Z. (2006). A psychometric evaluation of the Highly Sensitive Person Scale: The components of sensory-processing sensitivity and their relation to the BIS/BAS and "Big Five." *Personality and Individual Differences*, *40*(6), 1269–1279. https://doi.org/10.1016/j.paid.2005.09.022

Sparkes, A. C., & Smith, B. (2014). *Qualitative research methods in sport, exercise and health : from process to product*. Routledge.

Stern, J. A., Borelli, J. L., & Smiley, P. A. (2014). Assessing parental empathy: a role for empathy in child attachment. *Attachment & Human Development*, *17*(1), 1–22. https://doi.org/10.1080/14616734.2014.969749

Sugranyes, G., Kyriakopoulos, M., Corrigall, R., Taylor, E., & Frangou, S. (2011). Autism Spectrum Disorders and Schizophrenia: Meta-Analysis of the Neural Correlates of Social Cognition. *PLoS ONE*, *6*(10), e25322. https://doi.org/10.1371/journal.pone.0025322

University of Birmingham. (2019). Maternity and paternity rights and women's return to work: A rapid evidence review. UK Government Equalities Office Research Report 120. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/813752/Maternity_and_paternity_rights_and_women_s_return_to_work.pdf

Ussher, J. M. (2017). Unraveling the mystery of "the specificity of women's sexual response and its relationship with sexual orientations": The social construction of sex and sexual identities. *Archives of Sexual Behavior, 46*(5), 1207–1211. https://doi.org/10.1007/s10508-017-0957-x

van Raalte, L. J., Burke, T. J., DeGroot, J. M., & Mellow, A. J. (2022). Examining Changes in Affection and "Feeling Touched Out" after the Birth of a Child. *Journal of Family Communication*, *23*(1), 1–11. https://doi.org/10.1080/15267431.2022.2142229

Van Reyn, C., Koval, P., & Bastian, B. (2022). Sensory Processing Sensitivity and Reactivity to Daily Events. *Social Psychological and Personality Science*, *14*(6), 194855062211193. https://doi.org/10.1177/19485506221119357

Wachs, T. D. (2013). Relation of maternal personality to perceptions of environmental chaos in the home. *Journal of Environmental Psychology*, *34*, 1–9. https://doi.org/10.1016/j.jenvp.2012.11.003

Wachs, T. D., Francis, J., & McQuiston, S. (1979). Psychological dimensions of the infant's physical environment. *Infant Behavior and Development*, *2*, 155–161. https://doi.org/10.1016/s0163-6383(79)80017-x

Weinstein, N. D. (1978). Individual differences in reactions to noise: A longitudinal study in a college dormitory. *Journal of Applied Psychology*, *63*(4), 458–466. https://doi.org/10.1037/0021-9010.63.4.458

Wentzel, K. R., Feldman, S. S., & Weinberger, D. A. (1991). Parental Child Rearing and Academic Achievement in Boys. *The Journal of Early Adolescence*, *11*(3), 321–339. https://doi.org/10.1177/0272431691113002

Williamson, T., Wagstaff, D. L., Goodwin, J., & Smith, N. (2022). Mothering Ideology: A Qualitative Exploration of Mothers' Perceptions of Navigating Motherhood Pressures and Partner Relationships. *Sex Roles*, *88*. https://doi.org/10.1007/s11199-022-01345-7

Wolf, M., van Doorn, G. S., & Weissing, F. J. (2008). Evolutionary emergence of responsive and unresponsive personalities. *Proceedings of the National Academy of Sciences*, *105*(41), 15825–15830. https://doi.org/10.1073/pnas.0805473105

Zimmermann, P., Mühling, L. E., Lichtenstein, L., & Iwanski, A. (2022). Still Mother after All These Years: Infants Still Prefer Mothers over Fathers (If They Have the Choice). *Social Sciences*, *11*(2), 51. https://doi.org/10.3390/socsci11020051

6. APPENDICES

6.1 Appendix 1 – HSP Questionnaire

UK Data Service

Are you easily overwhelmed by strong sensory input?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely

Do you seem to be aware of subtleties in your environment?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely

Do other people's moods affect you?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely

Do you tend to be more sensitive to pain?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely

Do you find yourself needing to withdraw during busy days, into bed or into a darkened room or any place where you can have some privacy and relief from stimulation?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely

Are you particularly sensitive to the effects of caffeine?

| 1 Not at All | 2 | 3 | 4 Moderately | 5 | 6 | 7 Extremely |

Are you easily overwhelmed by things like bright lights, strong smells, coarse fabrics, or sirens close by?

| 1 Not at All | 2 | 3 | 4 Moderately | 5 | 6 | 7 Extremely |

Do you have a rich, complex inner life?

| 1 Not at All | 2 | 3 | 4 Moderately | 5 | 6 | 7 Extremely |

Are you made uncomfortable by loud noises?

| 1 Not at All | 2 | 3 | 4 Moderately | 5 | 6 | 7 Extremely |

Are you deeply moved by the arts or music?

| 1 Not at All | 2 | 3 | 4 Moderately | 5 | 6 | 7 Extremely |

Does your nervous system sometimes feel so frazzled that you just have to go off by yourself?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely
				☑		

Are you conscientious?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely
				☑		

Do you startle easily?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely
				☑		

When people are uncomfortable in a physical environment do you tend to know what needs to be done to make it more comfortable (like changing the lighting or the seating)?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely
				☑		

Do you try hard to avoid making mistakes or forgetting things?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely
				☑		

Do you make a point to avoid violent movies and TV shows?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely
				■		

Do you become unpleasantly aroused when a lot is going on around you?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely
				■		

Does being very hungry create a strong reaction in you, disrupting your concentration or mood?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely
				■		

Do changes in your life shake you up?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely
				■		

Do you notice and enjoy delicate or fine scents, tastes, sounds, works of art?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely
				■		

Do you find it unpleasant to have a lot going on at once?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely

Do you make it a high priority to arrange your life to avoid upsetting or overwhelming situations?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely

Are you bothered by intense stimuli, like loud noises or chaotic scenes?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely

When you must compete or be observed while performing a task, do you become so nervous or shaky that you do much worse than you would otherwise?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely

When you were a child, did parents or teachers seem to see you as sensitive or shy?

1 Not at All	2	3	4 Moderately	5	6	7 Extremely

→

6.2 Appendix 2 – Interview Schedule

Introduction

"Thank you for your interest in this study and for agreeing to take part. I also wanted to reinforce that you can refuse to answer any questions during the interview, and it can be stopped at any time. We usually record interviews, so that they can be transcribed. After they have been transcribed and anonymously coded, they are destroyed to maintain confidentiality. Any questions?"

"The aim of the research is to explore the experience of the postnatal period for mothers' with sensory processing sensitivity. There are no correct answers, I am just interested in your views an experiences. The interview should last anywhere between 30 to 90 minutes."

"Are you happy to proceed?"

"I will now start the recording."

Questions

- *"Tell me a little bit about why you wanted to take part in this research?"*

- *"What is your life like as a highly sensitive person?"*

- *"How long have you known you were a highly sensitive person? How did you find out?"*

- *"Do you feel that being a highly sensitive person has affected your experience of motherhood? In what way?"* **<u>OR</u>** *"Can you provide some examples of particular times when you have felt that being a highly sensitive person has had an impact?"*

- *"How do you cope with these difficulties?"*

- *"Has being a highly sensitive person been helpful in motherhood? In what ways?"* **<u>OR</u>** *"Can you provide examples?"*

- *"What would you like other people, such as health and social care professionals, or perhaps friends and family to know about your life as a mother with sensory processing sensitivity?"*

- *"Finally, is there anything else you would like to add, ask or say?"*

Examples of positive reinforcement

- *"What you said was very interesting, thank you."*

- *"It is very helpful that you explained it in that way."*

- *"I really appreciate your candor and honesty, thank you."*

- *"I can see that was a very difficult story to tell me, so thank you for sharing it with me."*

Examples of probes

- *"And then what happened?"*

- *"When was that?"*

- *"When you said […] could you explain what you meant?"*

- *"You said […] why do you think that is?"*

- *"You spoke about […] could you tell me more about that?"*

- *"How did that make you feel?"*

- *"Could you help me understand why you felt that way?"*

- *"What did you mean?"*

- *"Can you give more detail?"*

- *"Do you have any examples?"*

- *"Could you say more about?"*

- *"Moving on to…"*

Ending

I am going to stop the recording.

How are you feeling now the interview is over?

If the interviewee found the process emotionally demanding, you may want to listen to their concerns, then signpost them to services that can offer support (pre-identified and listed in the participant information sheet used prior to consent). Explain what to expect next in the process, and then make sure the interviewee has your contact details before saying thank you and goodbye.

"I would like to say a sincere thank you for helping us with this study. We are enormously grateful to you. What happens next is that we will transcribe the audio recording and remove any personal details. Then we will then spend some time analysing your interview data and the data from other participants. In the meantime, if you have any questions or queries, feel free to email me. It was a pleasure to meet you, thank you again and enjoy the rest of your day."

6.4 Appendix 4 – Recruitment Poster

Advert

University of Essex

- Are you a new mother of a baby between 3 and 12 months living in the UK?

- Does the below sound familiar to you, and you think you may be a highly sensitive person (HSP)?

- Would you be interested in sharing your experience and contributing to HSP research?

If you answered 'yes' to all these questions, and would like to learn more about it, please contact me, Sarah Pirmohamed (lead researcher) via direct message or email me at sp20381@essex.ac.uk.

The study will involve an interview over Zoom with myself, lasting up to an hour to talk about your experience of navigating the early stages of parenthood as a highly sensitive person (HSP).

This research is being completed as part of the lead researcher's Doctorate in Clinical Psychology with the University of Essex.

Thank you

University of Essex

ERAMS ref number: ETH2122-0979

6.5 Appendix 5 – Study Information Sheet

University of Essex

The Experience of New Mothers with Sensory Processing Sensitivity

Invitation to the study

If you identify with having Sensory Processing Sensitivity and are a mother to a baby, aged 3-12 months, I would like to invite you to participate in this research project. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. If there is anything that is not clear or you would like more information, please contact me on the details below.

The study

This study aims to explore the experience of early parenthood for new mothers who identify with having Sensory Processing Sensitivity (SPS). If you choose to take part, you will be invited to participate in an interview over Zoom to talk about your experience of the postnatal period.

What are the possible benefits of taking part?

Individuals with SPS are at an increased risk of developing stress-related symptoms in response to negative environments. Your contribution to this study will help to develop understanding of the challenges as well as strengths of being a new parent who is also highly sensitive. We hope that the findings of this study will contribute to recognising the need for tailored postnatal care to these individuals.

What are the possible risks of taking part?

Some people with existing mental health difficulties may find some aspects of the research distressing. We therefore ask that if you are currently receiving support for a significant mental health disorder, that at this time, you do not participate. This will also help the research to separate overlapping symptoms that are due to a mental health difficulty as opposed to SPS.

Do I have to take part?

Taking part in the research is voluntary. It is up to you to decide whether you wish to take part in this research study. If you do decide to take part, you will be asked to provide online consent. You are free to withdraw from the study without giving a reason up until the stage that data has been anonymised and coded. You can contact the principal investigator (below) if you decide to withdraw, and thereafter, any information that you have given to this point will not be included in the study unless you give permission otherwise.

ERAMS: Ethics ETH2021-1293

Will my information be kept confidential?

Interviews will be audio recorded and transcribed by the principal investigator. Following this, interview recordings will be destroyed and transcribed interviews will be anonymised. Any identifiable data will be stored on a secure, University network.

Data protection regulation requires that we state the legal basis for processing information about you. The University of Essex is the sponsor and data controller for this study and therefore is responsible for looking after your information and using it properly. We will be using information from you in order to undertake this study and will use the minimum personally-identifiable information possible. Any research documents with personal information, such as consent forms, will be held securely at until the end of the study, at which point it will be destroyed/deleted.

What will happen to the results of the research study?

We will aim to publish the results in a scientific journal to contribute to the existing understanding of SPS. Findings will be shared with maternity services that provide support to families during pregnancy and at postnatal stages. Within maternity services, this could potentially lead to an enriched understanding of the innate traits some parents may possess which pose a distinct experience of early parenthood.

Concerns/Questions

If you have any questions about any aspect of the study, please contact the principal investigator of the project, Sarah Pirmohamed, using the contact details below. If you have any concerns about the study or would like to make a complaint, you should immediately inform the investigators (details below). If you are not satisfied with the response, you may contact the Research Governance Manager, Sarah Manning-Press (sarahm@essex.ac.uk) who will advise you further.

Study investigators

Sarah Pirmohamed – Principal Investigator: sp20386@essex.ac.uk
Silvia Rigato – Investigator: srigato@essex.ac.uk
Caroline Barratt – Investigator: barrattc@essex.ac.uk

Thank you for your time and interest in this study.

6.6 Appendix 6 – Consent Form

UK Data Service

I confirm that I have read and understood the information provided to me. I have had the opportunity to consider the information, ask questions and have had any questions answered satisfactorily.

Yes

No

I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study, without having to give a reason up until the stage that data has been anonymised and coded. I understand that any identifiable data collected up until the point of my withdrawal will be destroyed unless I give permission for the data to be kept

Yes

No

I understand that any identifiable data provided will be securely stored and accessible only to members of the research team who are directly involved in the project, and that confidentiality will be maintained.

Yes

No

I understand that taking part in the study involves participation in an audio-recorded interview that will be destroyed after it is transcribed as text

Yes

No

I understand that the data I provide may be published in research publications, in which case, my data will remain completely anonymous.

Yes

No

I confirm that I am 18 or older and live in the United Kingdom.

Yes

No

I confirm that I am a mother to a child aged 3-12 months.

Yes

No

I confirm that I identify with having Sensory Processing Sensitivity (SPS).

Yes

No

I confirm that I am not currently receiving treatment including therapy or medication for a significant mental health disorder within the perinatal mental health team or within another service.

Yes

No

I have considered all of the information given and agree to take part in the study.

Yes

No

→

6.7 Appendix 7 – Ethical Approval

20/06/2022

Miss Sarah Pirmohamed

Health and Social Care

University of Essex

Dear Sarah,

Ethics Committee Decision

Application: ETH2122-0979

We are pleased to inform you that the research proposal entitled "A Qualitative Study Exploring the Experience of New Mothers with Sensory Processing Sensitivity" has been reviewed on behalf of the Ethics Sub Committee 2, and, based on the information provided, it has been awarded a favourable opinion.

The application was awarded a favourable opinion subject to the following **conditions**:

Extensions and Amendments:

If you propose to introduce an amendment to the research after approval or extend the duration of the study, an amendment should be submitted in ERAMS for further approval in advance of the expiry date listed in the ethics application form. Please note that it is not possible to make any amendments, including extending the duration of the study, once the expiry date has passed.

Covid-19:

Please note that the current Government guidelines in relation to Covid-19 must be adhered to and are subject to change and it is your responsibility to keep yourself informed and bear in mind the possibility of change when planning your research. You will be kept informed if there are any changes in the University guidelines.

Yours sincerely,

REO Research Governance team