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Scared To Lose You: Attachment Narratives of Mothers Post-Neonatal Hospitalization

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SCARED TO LOSE YOU: ATTACHMENT NARRATIVES OF MOTHERS POST-NEONATAL HOSPITALIZATION

BY

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Abstract

In the United States, approximately 400,000 infants annually are born prematurely, while a further 1% of full-term babies experience illnesses requiring neonatal intensive care unit (NICU) admission. The NICU experience can be profoundly stressful, and for some families, the trauma lingers for years post-discharge, and are at risk for parental perception of child vulnerability (PPCV), wherein parents view physically healthy children as illness-prone despite lack of evident symptoms. This study explored the impact of early attachment narratives of NICU mothers meeting PPCV criteria on their post-NICU parent-child relationship narratives.

Although significant research exists on NICU outcomes, Vulnerable Child Syndrome, and the effects of parental mental health and attachment style on parent-child relationships, no prior study has investigated the interplay of NICU mothers' early attachment experiences and their parent-child relationship narratives in the context of PPCV.

Two research questions guided this qualitative study: 1) How do the attachment narratives of NICU mothers who currently meet criteria for PPCV impact their narratives about their child and their relationship with their child? 2) What effect does the mother's representation of herself as a mother have on her experience of PPCV and her relationship with her child?

The study identified three categories reflecting the mothers' experiences: a) healthy mentalizing in the context of intergenerational attachment trauma, b) healthy mentalizing in the context of intergenerational attachment security, and c) impairments in mentalizing. The narratives addressed how these mothers consciously and unconsciously made meaning of motherhood and their relationship with their children through their attachment and trauma histories. Limitations and implications for theory, practice, and future research were discussed.

Keywords: Vulnerable Child Syndrome, attachment narratives, neonatal hospitalization

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CHAPTER I

Introduction

In the United States, four million babies are born per year, of which 10% are born prematurely (Centers for Disease Control and Prevention [CDC], 2020). In addition, one percent of full-term infants have illnesses that warrant a stay in the neonatal intensive care unit (NICU) (Bockli et al., 2014; Kuppala et al., 2012). For these families, welcoming their new baby can be confusing, stressful, and even traumatic. Preterm birth and low birth weight (LBW) accounted for approximately 17% of infant deaths in 2016 and 2018 (CDC, 2020; Van Meurs & Hintz, 2021). For some families, the trauma of the NICU follows them home and remains present for several years after a child's discharge from the hospital. As a result, NICU families are at a higher risk for parental perception of child vulnerability (PPCV), which is a central component of Vulnerable Child Syndrome (VCS), when compared to families of full-term, healthy infants (Bidder et al., 1974; Kerruish et al., 2005; Perrin et al., 1989). VCS was first conceived by Green and Solnit (1964), who asserted that "parental reactions to an acute, life-threatening illness in a child may have long-term psychologically deleterious effects on both parents and children" (p. 63). PPCV describes a dynamic in which a physically healthy child, who usually endured serious illness in infanthood, is viewed by their parents as being at risk for further illness or problems despite the lack of evident signs or symptoms of illness (Green & Solnit, 1964; Pearson & Boyce, 2004).

Statement of the Problem

Empirical research has provided considerable evidence for the neonatal, child, and parental risk factors for PPCV (Allen et al., 2004; Levy, 1980). Studies have shown that PPCV typically originates after an event in a child's infancy, often at birth, that is perceived as life-

threatening, and that symptoms in the family continue throughout the first several years of the child's life (Pearson & Boyce, 2004). In addition, research has shown that PPCV relies on the parents' perception of past events in their child's life rather than the child's present health status (Pearson & Boyce, 2004). However, there is only limited research on the variability in the development of PPCV (Duncan & Caughy, 2009). The literature has also illustrated how PPCV can be part of the sequelae of posttraumatic stress, particularly for parents of NICU babies or children hospitalized in infancy (Schmitz, 2019). Limited research has evidenced effective psychological treatments for PPCV. However, there is empirical evidence of effective psychotherapeutic treatment for traumatic stress that precedes and is related to the development of PPCV (Schmitz, 2019). Significantly, models for the development of perceived vulnerability are based on theories of trauma and coping styles. However, study outcomes are unclear as to whether related psychotherapeutic treatments reduce PPCV (Horwitz et al., 2015b).

Original research on VCS (Green, 1988; Green & Solnit, 1964) described it as a parent-child relationship disorder (Thomasgard et al., 1995; Thomasgard & Metz, 1999). Yet, research on VCS lacks a conceptual framework for understanding this dynamic. Although Thomasgard et al. (1995) outlined a conceptual model for the construct of PPCV, their model was not specific to premature infants or NICU babies (Horwitz et al., 2015b). PPCV in NICU parents can be understood as a sequela of interpersonal trauma, or "the threatened loss of a child," as termed by Green and Solnit (1964, p. 58).

Despite decades of research on this phenomenon, Horwitz et al.'s (2015b) article is the first published piece of literature that provides a theoretical model, based on empirical literature and clinical background, for the development of PPCV in mothers of preterm infants. The trauma-based model proposes that three key factors influencing maternal perceptions of child

vulnerability in their premature infants are (a) maternal psychosocial characteristics, (b) social support, and (c) maternal responses to the trauma of preterm birth, which shows that elevated depression, anxiety, and trauma symptoms are related to a higher risk of PPCV (Horwitz et al., 2015a; Horwitz et al., 2015b). In addition, Horwitz et al.'s (2015b) theoretical model provided an understanding that mothers who have experienced prior trauma and mothers with maladaptive coping styles, such as substance use and self-blame, were more likely to have an increased traumatic response to the premature birth of their child. Previous research has supported the idea that early traumatic experiences for adults can influence physiological changes in their stress response system, making it difficult to adaptively cope with their own child's illness or the threat of losing their child (American Academy of Pediatrics [AAP], 2014). What Horwitz et al.'s (2015a, 2015b) research and related VCS and PPCV research is missing, however, is (a) a more comprehensive explanation for how the mother's psychosocial history influences her trauma response to the birth of her NICU baby, and (b) how PPCV is inherently a maternal representation of her child as uniquely vulnerable, and how that maternal representation impacts the parent-child relationship, particularly after the initial trauma of the NICU has passed and the baby is home. What the current study is seeking to understand is how the mother's attachment narrative, which she has carried from her childhood into parenthood based on her own attachment to her primary caregiver, can provide not only a more comprehensive understanding of her traumatic response to the child's birth but how that traumatic response impacts PPCV and is ultimately played out in the parent-child relationship.

According to Shaw et al. (2021), psychological distress can impact a mother's ability to form positive expectations of their infant and actualize positive attachment representations. Researchers have shown the relationship between parental posttraumatic stress symptoms and

inhibited attachment and bonding in NICU parent-child relationships, evidencing either difficulty with maternal engagement or interaction (Parfitt & Ayers, 2009; Seng et al., 2013) or high maternal arousal that precipitates heightened maternal engagement (Borghini et al., 2006). The combination of overprotective and overly permissive or indulgent parenting is a precursor for VCS (Horwitz et al., 2015b). Attachment theory (Ainsworth, 1978, 1991; Bowlby, 1958, 1969, 1973, 1980) is one way to understand the parent-child relationship for those with high levels of PPCV.

The research on parent-child attachment is far-reaching, with empirical evidence showing that one's attachment in childhood is correlated with attachment organization in adulthood (Collins & Read, 1990; O'Connor & Elklit, 2008; Barr, 2014). Furthermore, there is evidence to illustrate how a mother's insecure adult attachment style is significantly and negatively correlated with mother-infant bonding (Adam et al., 2004; Nordahl et al., 2020). Nordahl et al. (2020) found that higher scores on attachment anxiety and avoidance in mothers were associated with increased stress, which, in turn, related to decreased quality of mother-infant bonding. Of note, bonding is one element of parenting and is distinct from attachment (Beniot, 2004). Parents develop internal working models that they use, consciously or unconsciously, as a foundation to parent their children (Bowlby, 1977; Barr, 2014). Maternal re-imagining of one's own childhood, and more importantly, one's own mother, helps a mother to mentalize the needs of her infant and provide the baby with care (Fonagy et al., 1991, 2002; Zdolska-Wawrzkiewicz et al., 2020). Having a child in the NICU can be considered a threat of interpersonal loss (Lean et al., 2018). Some literature has suggested that parents with anxious attachment styles, particularly those displaying post-traumatic stress symptoms, may be inclined to overprotective parenting behaviors as a result of difficulty with determining signals of safety and danger (Jovanovic et al.,

2005). Other literature has suggested that parents may avoid or delay the development of a close bond with their premature baby over the conscious or unconscious fear that the baby will die or have future health problems, making the emotional investment of a close bond difficult (Haward et al., 2020). As suggested by Steinberg and Patterson (2017), maternal preoccupation with the infant, which Winnicott described as typical for a mother with her newborn, is "dysregulating" for a mother with a baby in the NICU (p. 7). These findings seem especially relevant for understanding parents with VCS, given that VCS can be understood as the reaction to the threatened loss of one's child (Green & Solnit, 1964).

Current research endorses the dyadic relationship between parental and infant health (Hynan et al., 2013; Purdy et al., 2015). NICU parents experience psychological distress, which can be understood on multiple levels, from the fear of losing their child, financial stress, job stress or unemployment distress, to the unfortunate day-to-day stressors that build up until they are addressed, such as a lack of sleep and general care for oneself. Deterioration of mental health in NICU parents is correlated with a weakened parent-infant relationship and subsequently with impairments in the infant's emotional and physiological development. When the child's health declines, the feedback loop is charged with a renewed wave of adverse effects on parents (Hynan et al., 2013; Purdy et al., 2015). Psychological distress and symptoms of mental health disorders in NICU parents are correlated with (a) difficulties in NICU visitation for parents, (b) the developing parent-child bond in both mothers and fathers and (c) impairments in growth and development later in the child's life (Hynan et al., 2015).

The literature on NICU experiences has illustrated that some parents are at risk for acute stress disorder or post-traumatic stress responses during and months or even years after their baby's NICU stay (Holditch-Davis et al., 2003, 2009; Reichman et al., 2000). The literature on

acute stress disorder in NICU parents is relevant to the phenomenon of PPCV because of the trauma-related symptoms common in both, such as hyperarousal in parents (Dowtin et al., 2021; Miles et al., 2007; Roque et al., 2017). There is a sense in both the parental post-NICU trauma response and PPCV of skepticism that their child could really be safe and healthy. Some research has supported certain factors that may increase the risk for posttraumatic stress responses in NICU parents (Forsyth, 2009). However, by and large, the literature has suggested that individual factors impact risk.

The present study explored, in-depth, NICU mothers' narratives that highlight early childhood attachment relationships that may impact their narratives of their current mother-child relationship with their young children. This exploration aimed to provide insight into how internal working models of motherhood play out in a mother's relationship with her baby. Furthermore, by focusing on NICU mothers who meet criteria for PPCV, these narratives aimed to contribute to the broader literature on VCS and PPCV, NICU parent experiences, and how attachment styles interact with a mother's threatened loss of her child. In addition, there is a dearth of findings on parent-child relationship experiences beyond 12 months after NICU discharge, which this study addressed by examining parents of children between the ages of 1 and 4 years old (Lean et al., 2018).

Finally, research has shown that attachment styles moderate the relationship between trauma and psychiatric symptoms; individuals with insecure attachment styles are more likely to experience psychiatric symptoms after trauma than individuals with a secure attachment style (Quinn et al., 2015; Woodhouse et al., 2015). As previously stated, the NICU experience has been conceptualized as a traumatic experience for NICU mothers. The present study argues that attachment is the link between the traumatic NICU experience and PPCV. This could explain

why not all NICU mothers perceive their children as vulnerable months or years after the NICU discharge (Culley et al., 1989). In other words, this study theorized that NICU mothers with PPCV are more likely to have insecure attachment styles, which likely impact their relationship with their child. This study aimed to explore how the attachment narratives of NICU mothers impact their perceptions of their child's vulnerability and how PPCV characterizes or is attended to in the parent-child relationship.

The rationale for the current study is based on the empirical findings that (a) the parent's attachment style is important in the building of a relationship with their child (Bowlby, 1958, 1969, 1973, 1980; Fraiberg et al., 1975; Iyengar et al., 2019; Winnicott, 1956; Zdolska-Wawrzkiewicz et al., 2020), (b) PPCV influences the parent-child relationship via the parent's posttraumatic response of the NICU, (Green & Solnit, 1964; Horwitz et al., 2015b; Perrin et al., 1989), and (c) there is a dearth of literature on the influence of the internal working models of motherhood on the parent-child relationship for NICU mothers who meet criteria for PPCV(Shaw et al., 2021). Notably, the current study makes the argument that attachment narratives provide a link between a) the parent's traumatic experience of the NICU and the resulting parental perceptions of child vulnerability and b) and the parent-child relationship.

Purpose of the Study

This study sought to explore how the early attachment narratives of NICU parents who currently meet criteria for PPCV impact the narratives of these parents' relationships with their child after NICU discharge. While there have been numerous research studies on NICU infant outcomes, Vulnerable Child Syndrome, and the role of parental mental health and parental attachment orientation on their child's attachment style, there has been no published research on the interplay among the early childhood experiences of NICU parents who meet criteria for

PPCV and their narratives of the parent-child relationship. The study aimed to tap into the mother's internal working model of her child, self as mother, and the parent-child relationship. The primary purpose of this study is to understand the impact of mothers' attachment narratives on the parent-child relationship in NICU families who meet criteria for PPCV.

Research Questions

As a qualitative study, this research asks two open-ended questions to explore the experiences of mothers who have had a child in the NICU and who meet criteria for PPCV using Forsyth's Child Vulnerability Scale (Forsyth et al., 1996).

1. How do the attachment narratives of NICU mothers who currently meet criteria for PPCV impact their narratives about their child and their relationship with their child?

a. What effect does the mother's representation of herself as a mother have on her experience of PPCV and her relationship with her child?

Significance of the Study

With technological advances and medical treatments, the survival rate of very low birth weight babies has increased significantly since the 1970s when newborn intensive care underwent major development, likely due to supportive governmental programs and funding (Gleason & Juul, 2018). Before the 1970s, survival of extremely low birth weight (ELBW) babies, those weighing less than 1000 grams at birth, was "very rare" (Gleason & Juul, 2018, p. 4). In contrast, the survival rate of ELBW babies, specifically those weighing between 501 and 999 grams at birth, was 75% in 2013 (Gleason & Juul, 2018). Research on a cohort of almost 50,000 infants across the state of California has shown that even among some of the most premature infants, those born between 22 and 29 weeks, more than 65% survived with no significant health problems in 2017 (Lee et al., 2020). Yet, in a community-based study of 1095

young children visiting their pediatricians, 10% of parents viewed their child as vulnerable (Forsyth, 2009), as measured with the Child Vulnerability Scale (Forsyth et al., 1996). In several studies on PPCV among NICU parents, the rate of PPCV has been found to be about 25% higher compared to a community-based sample. One study found that 44%-47% of NICU parents believed their babies were ill despite physicians and nurses concluding that the babies were healthy (Culley et al., 1989; Hoge et al., 2021; Malin et al., 2019; Perrin et al., 1989). The increased prevalence of infants surviving and going home after time spent in the NICU must be met with the growth of relevant research to understand better NICU families' experiences (Harrison & Goodman, 2015). In addition, research has shown that high levels of PPCV are associated with more frequent use of medical care, including visits to primary care and hospital emergency departments, compared to families with nonsignificant levels of PPCV (Chambers et al., 2011; Levy, 1980; Perrin et al., 1989). The treatment considerations of NICU families impact not only the families themselves but the health care providers as well as health care systems.

There is a large body of psychological literature on developmental health, child mental health, and even a growing field of integrated behavioral health, in which children treated for medical concerns are also having their mental health and social well-being integrated into their care (e.g., McCabe et al., 2020; Walter et al., 2019). However, there has been limited literature on psychotherapeutic practice specifically for NICU families, of which the existing literature has focused on maternal depression, anxiety, and posttraumatic stress (Horwitz et al., 2015b). Given the supporting evidence from studies such as Horwitz et al.'s (2015a) RCT on manualized trauma-focused cognitive behavioral therapy to prevent PPCV in parents of premature infants, as well as their clinical implications, understanding the parent-child relationship is critical in treating NICU mothers' responses to the trauma of their babies' hospitalization. The present

study's implications for future practice with PPCV and NICU mothers could support the utilization of attachment theory, specifically the concept of internal working models of attachment (Bowlby, 1969; Bretherton, 1990; Rosenblum et al., 2002), as a framework in which to conduct psychotherapy for NICU mothers at risk for or exhibiting symptoms of PPCV. Although the research on best practices in the NICU is growing, with the implementation of techniques like kangaroo care (Steinberg & Kraemer, 2010) and family-centered care (Davidson et al., 2017), there is still a need for the study of these families once they are home from the NICU and moving through the first few years of life together (Adama et al., 2015). Utilizing attachment theory in clinical cases of PPCV can serve to improve attachment security and build healthier relationships between the parent and child, which in turn, can lay the groundwork for healthier social and emotional health of the child (Crowell & Treboux, 1995; Main et al., 1985; Sroufe, 1979; Waters et al., 1995).

There are also significant theoretical and empirical implications in conceptualizing the experiences of NICU parents who meet criteria for PPCV through an attachment theory lens. Attachment theory and related developmental and interpersonal theories (Bryant, 2016; Crittenden, 2006; Horwitz et al., 2015b; Lazarus & Launier, 1978; Sullivan, 1953) emphasize the importance of the parent-child relationship and the sensitive period of the first two to three years of a child's life (Winston & Chicot, 2016). There is a dearth of research on a theoretical framework in which the parent-child dynamic, particularly in NICU families who experience high PPCV, is understood. The contemporary theoretical model in which VCS and PPCV are presented in the literature is Horwitz et al.'s (2015b) Trauma-Based Model, which focuses on the feelings of parental anxiety and parental guilt and how those feelings manifest in behaviors such as parental overprotection (Hoge et al., 2021). Horwitz et al.'s (2015b) model lends itself well to

interventions like trauma psychoeducation and cognitive restructuring (Hoge et al., 2021; Horwitz et al., 2015b). However, this theory stops short of proposing a theory for understanding the effects of internalized trauma on the parent-child relationship as experienced by the mother. In other words, although this framework is useful in addressing the symptoms of PPCV in parent-child relationships, it does not address the history of attachment relationships of mothers experiencing PPCV. Exploring PPCV in NICU families through psychoanalytic and psychodynamic theories could open many possibilities for better understanding the dynamics behind PPCV. For example, parents' ability to mentalize their child through measurements of reflective functioning (Fonagy et al., 1991; Slade, 2005), such as the five-minute speech sample (Sher-Censor, 2015), can be used to understand better the parent-child relationship, as well as attachment security, for those who meet criteria for PPCV. This study proposes that with an increased understanding of NICU mothers' perceptions of the parent-child relationship, future research can more specifically identify the complexity of mental and emotional processes underscoring PPCV.

Relevant Conceptual Definitions

Attachment Theory

Bowlby (1958, 1969, 1973, 1980) first introduced attachment theory to understand how the relationship between a caregiver and their infant affects infant health and well-being. Both Bowlby's (1958, 1969, 1973, 1980) and Ainsworth's (1978, 1991) theories proposed that infants have an innate drive to be close to their caregivers, which ensures the infant's safety and encourages exploration of their environment and effective regulation of affect in the context of this sense of safety. Whether the baby favors physical contact with its mother over exploration, or vice versa, is explained by the level of danger in the environment. As Waters and Deane

(1985) described, Bowlby's proposed "control system" allows an infant to "play an active role in its own behavior and development" and lays the ground for social and cognitive growth (p. 42). This attachment control system, if regulated effectively over time, is referred to as the secure base phenomenon (Ainsworth, 1973; Bowlby, 1969).

Attachment Styles

Attachment theory is the foundation for what is known as attachment styles, including secure, anxious ambivalent/resistant, and avoidant. Another important concept, distinct from attachment style, is attachment organization. There are four types of infant-parent attachment, three of which are "organized" (secure, resistant, and avoidant) and on that is "disorganized" (Benoit, 2004). Infant-part attachment is interactive and co-constructed based on the quality of the parent's caregiving. Infants are completely dependent on their caregivers; their behaviors allow them to communicate their needs to their caregivers. Some infant behavior can be understood as part of a consistent strategy to deal with distress, which every baby will experience at some point. The type of attachment style that an infant develops is largely impacted by the way in which their primary caregiver responds to their needs and their communications of distress. The infant-parent communication key to attachment will be reviewed in the subsections below. Research supports the notion that the attachment we display as infants with our caregivers generally remains throughout adulthood, although there are exceptions, and informs attachment behaviors in adult relationships (Fraiberg et al., 1975; Iyengar et al., 2014).

Secure. In studies on human infants (Ainsworth et al., 1978), secure attachment is evidenced when a child is active in play without apparent fear of the environment and when that child, when distressed after a brief separation from their mother, seeks to be close to the mother. The child who is securely attached to their mother is promptly comforted by her contact, and the

child is happy to return to play (Bowlby, 1969). When a baby is cared for in a loving and sensitive manner, they can deal with brief moments of distress, such as separation from their mother, in an organized manner. These babies are typically described as having a secure attachment (Benoit, 2004).

Insecure. In Ainsworth et al.'s (1978) study, children described as insecurely attached to their mothers were categorized as either insecurely attached and avoidant or insecurely attached and resistant/anxious. A child who exhibits avoidant attachment typically avoids contact with their mother after a brief separation. A child who exhibits anxious or resistant attachment fluctuates between eagerly seeking contact with their mother or resisting contact with their mother—sometimes in an angry manner and sometimes in a passive manner— after a brief separation (Bowlby, 1969). When a baby is cared for in an insensitive and inconsistent manner, they tend to develop an insecure-resistant attachment. When cared for in an insensitive and rejecting manner, they tend to develop an insecure-avoidant attachment. Babies with insecure attachment are still capable of dealing with distress in an organized manner because they come to anticipate their mothers' responses to them, as insensitive as those maternal responses may be (Benoit, 2004).

Disorganized. Main and Solomon (1990) described a fourth category of attachment that could be seen in Ainsworth et al.'s (1978) study—disorganized attachment. This attachment style is categorized by a child's fearful response to the mother's presence, wandering away from the mother, and unorganized affect. Unlike the three organized attachment types, disorganized attachment is identified by a child who cannot predict their mothers' responses to their distress and therefore does not establish an organized way to cope with that distress (Hesse & Main, 2000). Mothers in these infant-parent pairs provide caretaking characterized by an atypical

quality (Benoit, 2004). This attachment style in infancy has been shown in research to be most associated with a risk for later psychopathology (Lyons-Ruth & Jacobvitz, 1999; Lyons-Ruth & Spielman, 2004).

Attachment Representations and Scripts

The patterns of interactions and behaviors played out between a caregiver and their infant become incorporated into the infant's understanding of himself in relation to his caregiver. This understanding will remain with him as an *internal working model* on which he will re-construct future interactions and relationships (Fairbairn, 1952; Winnicott, 1965; Sullivan, 1953; Bowlby, 1973). The term *working model* is almost a paradox; it implies both a set frame as well as openness to experimentation (Bretherton, 1990). Internal working models involve representations of attachment figures (i.e., primary caregivers) as well as representations of self and one's expectations of receiving care (Dykas et al., 2006). Bretherton (1990) postulated that attachment representations are built on the foundation of attachment scripts. Narrative techniques, such as the Adult Attachment Interview (George et al., 1985), are useful in pulling for attachment scripts that uncover thinking patterns about the self and others within relationships. For the present study, the term *attachment narratives* will refer to attachment scripts constructed based on responses to questions asked in the semi-structured interview utilized.

Reflective Functioning

Reflective functioning, as a general construct, is defined as the ability to hold in mind the mental states of others (Fonagy et al., 2002) or to "look at oneself from the outside and at others from the inside" (Luyten et al., 2017, p. 175). *Adult reflective functioning* describes an adult's ability to consider the mental states of their own parents when reflecting on one's childhood.

Parental reflective functioning more specifically describes a primary caregiver's capacity to 1) hold in mind their baby's mental states and 2) consider their own mental states and how those are impacted by interactions with their baby and impact the caregiver's thoughts, feelings, and behaviors toward their baby (Slade, 2005; Sharp & Fonagy, 2008; Ensink & Mayes, 2010). Research has found that an individual's attachment orientation during pregnancy could consistently predict her parental reflective functioning at a follow-up when the infant was ten months old (Grienenberger et al., 2005; Slade et al., 2005).

Neonatal Intensive Care Unit

The neonatal intensive care unit (NICU), sometimes called an intensive care nursery or newborn intensive care, is a hospital unit where newborns who are sick or need specialized medical care are treated (Johns Hopkins Medicine, 2020b). Infants who are born prematurely (i.e., less than 37 weeks gestational age; Johns Hopkins Medicine, 2020a), experience problems during delivery, or who show signs of health issues after delivery make up the population of infants who are admitted into the NICU. Research has suggested that for many parents, the hospitalization of their infant in a NICU is a traumatic event (Shaw et al. 2021).

Vulnerable Child Syndrome

Vulnerable Child Syndrome was first introduced and defined by Green and Solnit (1964) after studying parents of children who had survived and recovered from life-threatening illnesses. In observing these 25 cases, Green and Solnit (1964) found that even after each child's full recovery, the parents continued to perceive their child as especially vulnerable to illness or death at a young age. Research on VCS has continued to develop to the present day, including Forsyth et al.'s (1996) article validating the Child Vulnerability Scale, which has strengthened subsequent research in the appropriate and correct identification of participants who met criteria

for PPCV, a central component of VCS. According to Forsyth (2009), the following three criteria must be met to confirm the presence of VCS: (a) The child in question experienced a severe or life-threatening illness that has now resolved; (b) A parent of the child has a heightened perception of their child's vulnerability to future illness and poor health outcomes, which results in a pattern of overprotective and overindulgent parenting behaviors; and (b) There are adverse behavioral, developmental, and health outcomes for the child.

CHAPTER II

Literature Review

This chapter will delineate the literature related to VCS, the parent-child relationship in VCS, measures of parental perception of child vulnerability (PPCV), and conceptual models of VCS. Additionally, a review of the literature on attachment theory will be provided, specifically on parental attachment styles and the concept of internal working models of motherhood. Next, a review of the literature on parental experience during and after their baby's NICU hospitalization and its implications for parent-child relationships will be examined. Lastly, literature linking attachment theory and concepts of interpersonal trauma will be explored to capture better the context of parent-child relationships within the experiences of NICU families and families who meet criteria for PPCV.

Vulnerable Child Syndrome

Vulnerable Child Syndrome (VCS) was coined by Green and Solnit (1964) and has since been utilized in research and clinical settings to understand the excessive worry experienced by parents of healthy children who have endured a life-threatening event or illness early in life. VCS has been indicated in various populations, including some infants identified through blood screening as sickle-cell carriers (Farrell et al., 2020), some children and adolescents with asthma, and those with Type 1 diabetes (Mullins et al., 2007). Notably, however, most of the empirical research on VCS has focused on infants and children who were born prematurely and hospitalized in the neonatal intensive care unit (NICU) directly after birth or comparison studies of premature and full-term babies (Culley et al., 1989; Estroff et al., 1994; Perrin et al., 1989; Porter et al., 2009; Stern et al., 2006; Tallandini et al., 2015). This section will review the broader literature on VCS, including its empirical and conceptual origins and experiences encompassing VCS, such as parental anxiety, overprotection, overuse of medical services for

their children, and, importantly, PPCV. The concept of the parent-child relationship is weaved in throughout certain models of VCS (Thomasgard et al., 1995a, 1995b) and empirical literature. Measures for VCS have included child behavior rating scales based on parental perception, clinical assessments of child behavior, self-reported parental behavior, and frequency of healthcare utilization (Forsyth & Canny, 1985; Green & Solnit, 1964; Levy, 1980; Sigal & Gagnon, 1975; Perrin et al., 1989). However, the most salient measurement of VCS is of PPCV (Forsyth et al., 1996).

Green and Solnit (1963, 1964) introduced and defined VCS, a concept that includes a set of clinical indicators, which will be delineated later in this chapter, as well as the construct of PPCV, the central criterion for VCS that is measurable using validated scales (Forsyth et al., 1996; Perrin et al., 1989) and includes parental beliefs. VCS was introduced in an inaugural study of 25 children with varied risk factors and presentations of medical illness. For example, one 17-month-old child presented with poor breathing and feeding, an 18-month-old with pneumonia, a three-year-old who was born prematurely, a 10-year-old who received a tracheotomy at three months old, and a 14-year-old with a history of perforated appendicitis at six years old. Most of these 25 cases had one commonality: during the child's illness, a doctor had told the parents that their child was likely to die soon or quite young. The researchers hypothesized that these life-limiting prognoses created, in the child and the parents, psychological distress, at-risk psychosocial development, and difficulties within the parent-child relationship, even once the child's health returned to normal. Green and Solnit (1964) explored the symptomology present among the 25 cases over a six-year period, including parental difficulty with separation, parental difficulty with disciplining their child and infantilization of the child, child's overconcern of their own somatic symptoms, and in the case of the older

children, the child's underachievement in school. They found a persistent pattern of distressing reactions to the threatened loss of their child across the 25 families. The article also delineated the possible risk factors for these families, including pregnancy and birth complications, hereditary disorders present in the family but not necessarily in the child, difficult experiences with the child's physicians, and psychological risk factors such as postpartum depression. Thus, Green and Solnit (1963, 1964) laid out a phenomenon with medical, psychosocial, and developmental implications and opened the door for decades of relevant research.

Forsyth and Canny (1985) presented on VCS at the annual meeting of the Ambulatory Pediatric Association in Washington, D.C., and introduced, for the first time, the Child Vulnerability Scale (CVS). The original CVS consisted of 12 items addressing PPCV. Forsyth and Canny (1991) administered the original CVS to parents of 320 3½-year-olds and reported acceptable reliability. The measure's validity has been supported by Forsyth's finding that mothers of children classified as vulnerable by the CVS reported more health care visits and phone calls to their child's pediatrician and more often reported that there has been a time when they feared their child might die.

The original CVS (Forsyth & Canny, 1985; Forsyth et al., 1991) was revised by Perrin et al. (1989) by adding four questions and eliminating the possibility of a response of "uncertain," although the rationale for these changes was not discussed in the article. This scale was renamed the Vulnerable Child Scale. In Perrin and colleagues' (1989) study on healthy 3-year-old children, parental scores on the Vulnerable Child Scale were compared between a group of children born prematurely and with children born at full-term with no neonatal morbidities. The study's findings showed a significantly greater sense of child vulnerability in mothers of the premature infants compared to mothers of the full-term infants. Mothers whose scores reflected

greater vulnerability also reported more difficulty with their child's behavior in terms of discipline, peer relationships, self-control, and somatic symptoms, as measured by the Personality Inventory for Children (Wirt et al., 1977). Culley and colleagues (1989) conducted a similar study to that of Perrin and colleagues (1989), in which PPCV was measured in mothers of healthy three-year-old children, divided into one group of mothers whose child was born prematurely and one group of mothers whose child was born full-term. The scales used were the Vulnerable Child Scale (Perrin et al., 1989), the General Well-Being Scale (Ware et al., 1978), and the Dyadic Adjustment Scale (Spanier, 1976). The results of this study replicated those of Perrin et al. (1989); mothers of children who were born prematurely reported a significantly higher level of PPCV compared to mothers of children who were born full-term (Culley et al., 1989).

Criteria for VCS have evolved over time. Green and Solnit (1964) identified the original indicators, or presenting symptoms, of VCS: (a) mother and child difficulty with separation, (b) parental difficulties with age-appropriate discipline characterized by an oppositional but dependent child and an overprotective and overly indulgent mother, (c) child and parent's marked concern with the child's physical health, and (d) school underachievement. Green (1988) reported in his article that the complete manifestation of VCS includes (a) frequent use of medical services, (b) an overprotective parent, (c) separation anxiety in parent and child, (d) resistance to enforcing discipline, (e) sleep problems in both the child and parent, and (f) hyperactivity in the child. Although research has yet to provide a rationale, VCS is more common in mother-child relationships than in father-child relationships (Green, 1988). Forsyth (1996, 2005) condensed the diagnostic criteria of VCS to (a) an experience early in the child's life that the parent perceived to be life-threatening, (b) the parent's persisting belief that their

child is at heightened risk for illness or death (i.e., PPCV), and (c) the presence of a behavioral or learning problem in the child. Specifically for children born at a very low birth weight (VLBW; birthweight < 1500 grams), PPCV has been reported in several studies as an independent risk factor for the development of behavioral and learning problems (Allen et al., 2004; Forsyth et al., 1996). Due to a lack of large empirical studies, the prevalence of VCS in the United States is unknown. Based on one community sample of 1,095 mothers and their children aged 4 to 8, PPCV—that is, the parent's view of the child as vulnerable as measured using the Child Vulnerability Scale (Forsyth et al., 1996)—was significant for 10% of the parents. The researchers identified that 1.8% of the 1,095 mother-child pair met full criteria for VCS. As a result of the various definitions of VCS, measuring it and drawing clinical outcomes has shown to be a challenge for researchers. Studies have measured a variety of constructs to represent VCS, such as child behavior (Green & Solnit, 1964), use of healthcare services (Chambers, 2011; Levy, 1980), parental anxiety (Jeffcoate et al., 1979), and parental sense of worry for their child's health (Forsyth et al., 1996; Levy, 1980).

Parent-Child Relationship in VCS

Before VCS was identified and studied as its own construct, the concept of a *parent-child relationship disorder*, or relational pathology, could be found in the psychological literature (e.g., Kupfer et al., 2002; Zeanah & Lieberman, 2019). Bowlby (1953) proposed that a consistent, warm, and close relationship between an infant and their mother or primary caregiver is necessary for the mother and child's mental health. Winnicott (1960) declared that "There is no such thing as an infant, meaning, of course, that whenever one finds an infant one finds maternal care, and without maternal care there would be no infant" (p. 585). Finally, Fraiberg and colleagues (1975) explored the concept and treatment of parent-infant relational

disturbances. Notable empirical research on the parent-child relationship includes Ainsworth and colleagues' (1978) Strange Situation Procedure, in which an infant's attachment to their mother can be assessed by observing the infant's behaviors and reactions to the pair's short separation and reunion. Based on behavioral sciences and early child development research, Sameroff and Emde (1989) posited that most pathology or behavioral disturbances in children under three years of age would be best conceptualized as a relational disturbance between the parent and child. They proposed a continuum of parent-child relationship disturbances, which included relationship disorders as the most severe.

Thomasgard and colleagues (1995b) conceptualized VCS as a parent-child relationship disorder (see Guili & Hudson, 1978; Hudson et al., 1980). They also delineated VCS from Parental Overprotection (POP), positing that VCS is comprised of both parental overprotection and overindulgence, specifically of a child whose parents have a marked fear of the child's death (Thomasgard, 1998; Thomasgard et al., 1995a, 1995b; Thomasgard & Metz 1996, 1997, 1999). Thomasgard and colleagues (1995b) studied a sample of 892 parents, who were mainly White, upper-middle-class mothers. The mothers completed the Child Vulnerability Scale (Forsyth et al., 1991) and the Parent Protection Scale (Thomasgard et al., 1995a). This study was key in initiating the literature that distinguished VCS from nonclinical POP. Thomasgard and his colleagues (1995a) found different correlates for parents who scored high for PPCV and parents who scored high on POP. In this study, PPCV was associated with a present medical condition in the child, a history of life-threatening illness or injury, and sick visits to the pediatrician. POP was associated with younger age of the parent and child. Interestingly, only 20% of the parents who, based on their scores, were considered high in PPCV were also high in POP. Similar findings were reported in Thomasgard and Metz's (1997) study comparing PPCV and POP in

280 parents of children between five and ten years old, in which approximately 30% of parents considered high in PPCV were also considered high in POP. Finally, Thomasgard and Metz's (1999) study of 103 parents with more diverse demographics in terms of race, marital status, and socioeconomic status compared to Thomasgard and colleague's (1995a) study, supported the differentiation of the two constructs of PPCV and POP, and provided support for the content validity of both the Child Vulnerability Scale (Forsyth et al., 1996) and Parent Protection Scale (Thomasgard et al., 1995a). This detail preceded the changes in Forsyth's (2005) VCS criteria in which parental overprotection is not included.

Thomasgard's (1998) study compared PPCV, POP, and their psychological and characterological correlates in 871 parents of children between the ages of two and six years old. The measurements used were the revised Child Vulnerability Scale (Forsyth et al., 1996), Parent Protection Scale (Thomasgard et al., 1995a), and the Brief Symptom Inventory (Derogatis, 1993). The study's findings correlated PPCV with a parental symptom profile composed of somatization, obsessive-compulsiveness, and anxiety, while POP was associated with a parental symptom profile composed of phobic anxiety, psychoticism, and paranoid ideation. Although such a study has not been replicated, Thomasgard's (1998) findings supported the differentiation of PPCV and POP as distinct constructs.

To explore the relationship between POP, PPCV, and parents' perceptions of their child's health-related quality of life, Hullmann and colleagues (2010) conducted a study of 89 parents of children who had been diagnosed with cancer and were between the ages of two and 18 years old. Health-related quality of life is a construct used in research on pediatric oncology and measures the child's response to cancer treatment, trajectory of the disease, and the child's adjustment-related outcomes. The authors conducted a mediation analysis using hierarchical

regression, which indicated that PPCV mediated the relationship between POP and the child's health-related quality of life. (Hullman et al., 2010). Post hoc testing of the mediation showed that 47% of the relationship between POP and the child's health-related quality of life was explained by PPCV. In other words, the results of the study support the hypothesis that parents who are overprotective tend to perceive their child as vulnerable more often than parents who are not overprotective. Ultimately, these overprotective parents with high PPCV perceive their child's health-related quality of life to be lower (Hullman et al., 2010).

Duncan and Caughy (2009) explored a theoretical model of emotion regulation (Calkins, 1994) through which they offer a conceptualization of the variability in the development of VCS. Their article also explored preventative interventions for VCS based on this conceptualization. Duncan and Caughy introduced Calkins's (1994) theory of emotional regulation, which asserts that regulatory skills in children are impacted by internal and external conditions. It is important that when an infant uses their regulatory systems, a parent is there to offer sensitivity and meet the infant's needs. According to Calkins (1994), the relational goals of the parent and infant must be compatible in order for the child to develop healthy ways of regulating emotion. These goals will be informed by the innate personality and characterological predispositions of the child, although the child's expectations and views about the world around them may change depending on their mother's response to their distress and bids for affection. Duncan and Caughy hypothesized that the variability in the development of VCS in the parent-child dyad of at-risk infants might be due to innate differences in a child's level of reactivity to what a parent perceives as a dangerous situation or environment. The authors provided an example of how Calkins's theory of emotion regulation may play out in a family with VCS: If a parent responds with overprotection to a child who is innately more cautious of new situations, the child may

expect that their environment is scary and may develop emotional regulation strategies that anticipate this fear. The child's emotional dysregulation, as well as their problem behaviors like disobedience, according to Calkin's theory, is a result of insensitive, intrusive, overprotective, and overindulgent parenting behaviors. Duncan and Caughy argued that the separation of the child from familial and societal expectations of healthy children results in social and behavioral problems. In addition, parents who are more likely to see their child as vulnerable also perceive their child as less capable of tasks that are appropriate for their age or stage of development, which can increase levels of dependence on parents, social withdrawal, and internalization of messages about their perceived inabilities (Duncan & Caughy, 2009).

The Use of Medical Care

Marked PPCV is associated with more frequent visits to primary care physicians and hospital emergency departments compared to families with a nonsignificant level of PPCV (Chambers et al., 2011; Levy, 1980; Perrin et al., 1989). Chambers and colleagues (2011) conducted a study on the overuse of healthcare services by families with VCS by exploring the relationships between PPCV and emergency department (ED) visits in 351 patients between the ages of 1 and 15 years old. The study found several variables that significantly differed between families whose scores on the Vulnerable Child Scale indicated low PPCV versus high PPCV. These variables included the number of emergency department visits, as the authors had hypothesized. Other variables that were found to be significantly correlated with PPCV scores on the Vulnerable Child Scale included hospital admissions, ratings in the reported health of the child, difficulties in the mother's pregnancy and delivery of the child, child mental health concerns as well as parents' mental health concerns, and problems with the child's development (Chambers et al., 2011).

Similarly, Levy (1980) interviewed 750 parents on-site at five different general pediatric clinics, and asked parents about their decision-making processes in terms of seeking medical care for their children. The study found that 27% of parents endorsed a fear of their child being vulnerable to illnesses. A review of the children's medical records revealed that of this 27% of parents, 40% of the cases had no medical or clinical rationale for their worry. Levy (1980) found a trend in the 40% of parents whose concerns about their child were medically unwarranted: A source of these concerns was the fear that the child's history of a given medical problem would return, even though that illness or injury had been resolved. Like the study conducted by Chambers and colleagues (2011), Levy (1980) found that families who endorsed a high level of perceived vulnerability in their child's health also endorsed more visits to the emergency room than parents who did not describe their child as uniquely vulnerable.

The literature has addressed suggestions for how healthcare professionals can engage with parents and children with suspected VCS. Green (1988) suggested that medical professionals listen carefully and respectfully to presenting parents and their child, do a thorough physical examination, and, if it is the case, inform the parent that the child appears to be physically healthy. The rationale is to attenuate the parent's acute anxiety and create an environment in which the mother may be more open to the professional's questions about the mother-child relationship, which, in turn, may allow for psychoeducation about how frequent worry over the child's health can have deleterious effects on the relationship. Schmitz (2019) maintained that after a strong alliance is built, pediatricians can work to decrease parents' anxieties and engage in cognitive reframing with patients who present with signs of VCS. The extant literature supported Pearson and Boyce's (2004) recommendations for management. The authors emphasized the importance of using clear communication by physicians with the

expectation that families with VCS often require more time and energy than families whose concerns are attenuated by the physician's reassurance. Pearson and Boyce (2004) also recommended that physicians' offices provide questionnaires for parents to fill out while in the waiting room to allow parents an extra opportunity to state their concerns. Questions pertaining to VCS, specifically yes/no questions about prior life-threatening illnesses or injuries in early childhood, could aid in the medical management of VCS (Pearson & Boyce, 2004). Specifically, when taking a history of the child's injuries or illnesses, the physician can explicitly ask if the child was born prematurely or hospitalized in the neonatal intensive care unit, since research has supported that families with premature infants are at a heightened risk of VCS.

Focus on Premature Infants

The extant literature on VCS focuses on the often-life-threatening occurrence of premature birth and the resulting parent-infant relationship. Culley et al. (1989) explored premature birth as an antecedent to VCS by administering the Vulnerable Child Scale (Perrin et al., 1989) to mothers of healthy three-year-old children. The mothers whose children were born prematurely reported a significantly higher score on the Vulnerable Child Scale than mothers whose babies were born full-term. These findings indicated that, in this study, the mothers of premature infants have a greater PPCV. In addition, mothers with higher education reported greater PPCV than mothers with less education, while mothers who reported greater well-being and satisfaction in their marriage reported lower PPCV (Culley et al., 1989). The authors theorized that mothers with higher education may have had greater expectations for their children to do well, leaving them with more internal dissonance after the premature birth of their child. In addition, these mothers may have had more anxiety about their own ability to be competent and effective parents after the premature birth of their child (Culley et al., 1989).

Estroff et al. (1994) specifically considered mothers of preschoolers who were born prematurely. These mothers were given measures on child vulnerability (VCS; Perrin et al., 1989), child behavioral problems (Child Behavior Checklist for Ages 2-3; Achenbach et al., 1987), and parent's sense of control (Parental Locus of Control Scale; Campis et al., 1986). The findings showed that mothers with higher PPCV also reported more behavioral problems in their children, including somatic concerns, aggression, and poor socialization, as well as a lesser sense of parental control of their child's behavior (Estroff et al., 1994). Notably, the objective measure completed by the child's medical care provider, the McCarthy Scales of Children's Abilities (McCarthy, 1972), did not show any differences in cognitive abilities between children whose parents reported lower PPCV compared to higher PPCV. Finally, on a scale measuring the child's developmental competence as perceived by the mother and the medical care provider, scores differed significantly between mothers with higher PPCV and the medical providers reporting on the same child. Therefore, it could be theorized that mothers with higher PPCV will be more hypersensitive to their child's problems.

Stern and colleagues (1984, 1988, 1989, 1992, 2000) introduced the construct of *prematurity stereotyping*, in which mothers hold negative beliefs and behave in a less positive manner toward infants they believe were born prematurely than to infants they believe were born full-term. Stern et al. (2006) examined the relationship between prematurity stereotyping and PPCV in pre-term and full-term mother-infant dyads during the first year of life as well as the association with their babies' scores on a developmental assessment at 32 months. Mothers were shown videos of infants they did not know and were asked to predict whether the baby in the video was born prematurely (i.e., preterm label) or full-term (full-term label). Regardless of their own baby's birth status, mothers rated preterm-labeled babies more negatively than babies

perceived as full-term. Mothers of preterm babies who rated preterm-labeled babies on the video more negatively than full-term labeled displayed more negative interactions with their own child, such as intrusiveness on the baby's space. Another finding of the study showed that mothers who endorsed a higher level of PPCV and who exhibited more prematurity stereotyping at five months had babies with lower mental scores at 32 months (Stern et al., 2006).

To examine the parent-child relationship in mothers of premature infants, Porter et al. (2009) measured PPCV in 56 mothers of 5-month-old infants and their interactions at nine months old. The study also included 59 mother-baby dyads in which the baby was born full-term. In addition to measuring PPCV, Porter et al. (2009) also sought to investigate prematurity stereotyping. Mothers were shown video clips of infants they did not know and were asked to label the babies in the videos as either pre-term or full-term, after which they completed questionnaires on perceptions of vulnerability. When their babies were nine months old, the mothers were video recorded in interaction with their own baby; a randomly selected group of mothers completed questionnaires when their babies were 32 months old. The study found that mothers who perceived their baby as more vulnerable at five months old exhibited fewer positive interactions with their 9-month-old babies, regardless of whether the baby was born premature or full-term. In addition, mothers of premature infants who rated full-term babies more positively in questionnaires at five months felt less effective as parents and reported more overprotective behaviors.

Finally, Tallandini et al. (2015) conducted a systematic and meta-analytic review of PPCV in instances of premature birth. The authors noted that it is still unclear from the literature if PPCV is brought on by a child's health problems or by the parent's emotional well-being. Tallandini et al. (2015) reviewed ten articles and found that children's physical and parents'

mental health significantly impact the occurrence of PPCV but do so in different ways and during different stages of the child's development. For example, the literature supported that for mothers experiencing poor psychological well-being, the onset of the child's independence—when they begin going to school and spend time away from the mother—is a critical time during which PPCV can increase due to changes in the child's temperament and behavior (Tallandini et al., 2015). Overall, the authors found that maternal factors such as stress and anxiety most strongly impact the presence of PPCV, from the child's infancy to school years.

Trauma-Based Model of Vulnerable Child Syndrome

There has been limited research on a unifying theory for VCS, much less PPCV experienced by NICU families. The partnership of Horwitz and Shaw, and particularly Horwitz et al. (2015b), provided, for the first time, a theoretical model for the development of VCS in mothers of premature infants. Horwitz and Shaw are contemporary researchers in the field of VCS and the mental health of NICU parents. Together, individually, and with colleagues, they have linked traumatic stress, NICU experiences, and VCS by exploring parent-child relationships in VCS and NICU families (Shaw & Horwitz, 2020).

Horwitz et al. (2015b) proposed a Trauma-Based Model of Vulnerable Child Syndrome, in which the premature birth of the child is conceptualized as a traumatic event for the parent and can lead to symptoms of post-traumatic stress, including fears of a recurring illness in their child. In this model, much like the clinical picture of PTSD (APA, 2013), a non-threatening event occurring after the trauma, such as mild or benign symptoms in a child's health, can trigger recurrent feelings of anxiety and fear in the parents. Parental anxiety and guilt are first induced during the infant's hospitalization, as the NICU is an often unpredictable and stressful

environment, and mothers often believe that they must have caused the premature birth, even if there is no evidence of that (Horwitz et al., 2015b).

Horwitz and colleagues (2015b) explored this trauma-based model in which 105 mothers who were one-week postpartum and whose infants were in the NICU were randomly assigned to the treatment group or a comparison group. The treatment condition involved a month-long cognitive behavioral therapy that emphasized trauma-focused interventions, in addition to a group that focused on infant redefinition. The comparison group focused on education about the NICU and care for their premature infants and provided a referral to a parent-mentoring program. Participants were assessed one week after the completion of treatment or 4-5 weeks postpartum for the comparison group. Finally, all participants were assessed at six months postpartum. The variables measured were prior trauma, neuropsychiatric health, coping styles, depression, anxiety, parental stress, family social support, and PPCV using the Vulnerable Baby Scale, a modified version of Forsyth et al.'s (1996) Child Vulnerability Scale used for newborns and infants (Kerruish et al., 2005).

Path analysis was used to test maternal response to the trauma of preterm birth as a mediator between maladaptive coping and PPCV. It showed that mothers with higher levels of maladaptive coping also had a greater response to trauma and, subsequently, had higher PPCV. Maladaptive coping styles were described, for example, as using self-blame, denial, and substance use. Finally, maternal response to trauma mediated the relationship between prior trauma and PPCV. In other words, mothers with prior trauma had greater responses to trauma, and, subsequently, had higher PPCV. There was no significant reduction in PPCV for either group on the post-test given during a 6-month follow-up.

Using the same study design and participants, Horwitz and colleagues (2015a) further measured the impact of the intervention on PPCV by using a linear mixed effect model for moderator analysis to examine any variables that could have moderated the intervention effect on PPCV measured at six months postpartum. They found that maternal trauma history moderated the effects of the intervention on PPCV, $p = .025$. At the 6-month follow-up, mothers with no trauma history did not rate their PPCV any lower than before treatment. Meanwhile, mothers with even one prior trauma reported significantly lower PPCV after the intervention than did mothers in the control group, $p = .010$. The authors provided an explanation of why mothers with a trauma history responded to the intervention. However, they did not discuss why mothers without trauma history experienced PPCV at the same levels before and after the intervention, except to state that the intervention targeted PTSD symptoms and may have been particularly relevant to individuals with a history of trauma. Possible explanations for these results could include (a) less endorsement of the NICU experience as traumatic for mothers with no prior trauma history, or (b) the cumulative effects of trauma for mothers with prior trauma history may have lent itself more to PTSD-specific intervention compared to mothers whose first experience of trauma was in the NICU (Cloitre et al., 2009). However, these explanations are speculative based on the authors' discussion. Another explanation to consider is the restriction of range in PPCV measured for the subgroup of mothers without trauma history who had lower PPCV to begin with.

Attachment Theory

Thus far in the literature, the aforementioned trauma-based model of VCS (Horwitz et al., 2015a) has been the sole theory to examine the interpersonal dynamics at play in VCS, namely, the trauma of the NICU experience. However, the model does not directly address the mother-

child relationship. The current study aimed to understand the parent-child relationship for mothers with PPCV through attachment theory (Ainsworth et al., 1978; Bowlby, 1958, 1969; see Bretherton, 1992)—a widely used theory in empirical and clinical work that has scarcely been relied upon in the literature on VCS. In other words, although the literature on PPCV has supported the theory that a mother's traumatic response to the premature birth of her child precedes PPCV (Allen et al., 2004), and that PPCV impacts the parent-child relationship (Green & Solnit, 1964; Thomasgard & Metz, 1995), there is still limited exploration into what factors precede the traumatic response that explain the experiences of both PPCV and the parent-child relationship.

Bowlby (1958, 1969, 1973, 1980) first introduced attachment theory to understand how the relationship between a caregiver and their infant affects infant well-being. Both Bowlby's (1958, 1969, 1973, 1980) and Ainsworth et al.'s (1978/2015, 1991) theories proposed that infants have an innate drive to be close to their caregivers, which ensures the infant's safety, encourages exploration of their environment, and facilitates effective regulation of affect. In terms of the human parent-infant bond, attachment theory comes into play the moment the child is born. Research has shown that close contact between the mother and child in the first hours after birth is crucial for facilitating a secure attachment in the baby's first year (Klaus et al., 1972). In addition, more recent research has shown that skin-to-skin contact between mother and baby in the first hours after birth is correlated with an infant's greater respiratory, temperature, and glucose stability, in addition to significantly less crying, which research has shown to be an indicator of decreased stress (Phillips, 2013). In addition, research has shown that this time of close contact is also beneficial for the mother; her oxytocin levels are elevated, which aids in reducing anxiety and facilitating maternal behavior and bonding (Uvnäs-Moberg, 1994).

Winnicott (1956) posited that following a birth, a mother enters a state of "primary maternal preoccupation" (p. 183), which helps the mother and her baby to create and maintain synchronized interactions that are rewarding for both mother and baby.

Furthermore, animal experiments have shown that mother-offspring proximity is correlated with more social behaviors, lower stress levels, and lower blood pressure in the offspring (Holst et al., 2002; Liu et al., 1997). Lastly, research has shown that "rooming-in," or a hospital's initiative to keep a newborn in the mother's postpartum room in the 24 hours after birth rather than in the newborn nursery, has positive effects for both newborns and mothers. For example, rooming-in is correlated with increased maternal-infant bonding, mainly through increased rates of breastfeeding, and has been shown to be a protective factor against stress related to self-efficacy for some mothers in their new role as caregivers (Theo & Drake, 2017).

The literature on attachment theory, even beyond Ainsworth and Bowlby, is vast and is used in current research on topics such as parent-child relationships (Egeland & Farber, 1984, Lai & Carr, 2018), including the co-construction of the relationship with preverbal and verbal children (Posada & Waters, 2018), psychoanalysis (e.g., Mitchell, 2000), and perinatal depression (e.g., Rollè et al., 2020).

One of the hallmark studies in attachment research is the Still Face experiment (Tronick et al., 1978). In this study, a mother-baby dyad spent time alone in a room, and their interactions were recorded on video. The interactions between the mother and baby involved play, smiling, and some calm talking. In the videos, the baby follows her mother's smiles and bids for touch and play. The next step of the experiment involved the mother turning her face away from the baby for a moment and returning her gaze which showed a lack of responsiveness to her baby and flat affect for two minutes. At first, the baby continued to play and tried to gain her mother's

attention through various movements and sounds. When the mother did not reciprocate the baby's smiles and positive bids for connection, the baby became confused and distressed, evidenced by the baby's cries, screeching, and tensing of her body. When the mother stopped the still-face and returned to her regular interactions with the baby, the baby was quickly comforted and pleased to be with her mother (Tronick et al., 1978). This experiment brought to light the co-constructed relationship between a mother and her baby.

Internal Working Models

Bowlby (1969) introduced the concept of working models to understand the complex process in which individuals organize and adapt their behaviors based on their environment; this concept was then used in the context of the attachment system. In this context, working models serve to inform an infant's actions that are most adaptive to a given attachment figure. The attachment system is activated during times of distress and allows the infant to seek, avoid, or resist contact with the primary caregiver based on their *internal working model of attachment* (Bowlby, 1980; Main, 1990; Zimmerman, 1999). For infants whose attachment to their mother is organized (i.e., secure, anxious, or avoidant), these behaviors are an adaptive way to maintain safety within the attachment relationship (Zimmerman, 1999).

Starting in infancy, mental depictions of attachment figures begin to develop, eventually creating a working model from which individuals form their own understanding of how to be in relation to close others (Bowlby, 1988, p. 165). Moreover, these models carry into adults' personality predispositions (Bowlby, 1977). In other words, an individual's early experiences with their attachment figures have a lasting, although not inevitable, impact on their relation to self and others as adults and how they will repair ruptures in their relationships (Cozzarelli et al., 2003). Researchers and clinicians have utilized the Adult Attachment Interview (George et al.,

1985) to analyze an individual's attachment organization by eliciting memories and reflections of one's childhood and relationships with their primary caregivers (George et al., 1985; Main et al., 1985). Further research has also shown that an adult's early attachment experiences can have an impact on their attachment styles with their own child (Zdolska-Wawrzkiewicz et al., 2020).

When an individual becomes a mother, or even during pregnancy, she develops a representation of her child as well as a representation of herself as a mother based on her internal working model of attachment constructed by the experiences with her own primary caregiver (Benoit & Parker, 1994; Fonagy et al., 1991). The Parent Development Interview (Aber et al., 1985) was created to determine a mother's representations of her child, herself as a mother, and the parent-child relationship (Aber et al., 1985; Slade et al., 2005). The interview asks parents about experiences with their infant, their ideas about how the baby felt and what they thought during those experiences, and how the parent responded during those instances (Aber et al., 1985).

Fraiberg et al. (1975) described these maternal representations as "ghosts in the nursery" (p. 387). The article emphasized the concept of outside influences from the parents' past, whether present or long forgotten, on the mother-infant relationship. Some of these representations appear in the dyad infrequently and do no harm. Still, in families with a history of attachment trauma, the ghosts in the nursery greatly influence daily life in the mother-infant relationship, leading to feelings of helplessness in the parent whose good intentions for parenthood are not safeguarding them from these difficulties with their child. Fraiberg et al. argued that in these cases, the infant has likely already endured difficulties with emotional self-regulation.

On the other hand, the authors argued that the ghosts in the nursery are not always threatening destruction within the mother-infant relationship; they often serve as guides and as working models from which the mother parents her baby. Fraiberg et al. posited that healing within these relationships does not simply mean banishing the mother's internal working models of motherhood. Rather, healing can arise from the mother's naming, recognizing, and re-experiencing in a corrective and safe way, the emotional trauma felt when she was a child while experiencing the ghosts' harm. According to Fraiberg et al., remembering the pain she felt, rather than the acts of the ghosts themselves, is what helps a mother mentalize her child's experience and feel that she does not want to inflict the same emotional pain on her child.

Research has supported Fraiberg et al.'s (1975) concept of maternal representations and their impact on the mother-infant relationship. Fonagy and colleagues (1991) conducted a study examining the relationship between maternal representations of their childhood and the attachment relationship in the mother-infant dyads with their own baby. The study design included the administration of the Adult Attachment Interview (AAI; George et al., 1985) to 100 mothers pregnant with their first baby. At 1-year follow-up, the mothers and children were seen for the Strange Situation experiment. As was the case for Fonagy et al. (1993), in this study, maternal representations of attachment during pregnancy were found to predict infant-mother attachment orientations 75% of the time.

Fonagy et al. (1993) conducted a similar study two years later in which the AAI was administered to both the mother and father within a couple during their last trimester of pregnancy, the Strange Situation with the mother-baby dyad at 12 months old and with the father at 18 months old. Mothers in their third trimester whose AAI indicated an insecure (dismissing or preoccupied) internal representation of past attachment relationships were more likely to have

children who related insecurely (anxious or avoidant) to them in the first year of life. According to the article, its most salient finding was that the child's attachment orientation toward their parents at 12 and 18 months old could be predicted during the third trimester from both the mother and father's AAI, or their narratives of their own childhood attachment experiences.

Rholes et al. (1997) investigated the relationship between adult attachment styles and working models of parenthood. The researchers administered questionnaires to 379 undergraduate psychology students between the ages of 18 and 23 who were unmarried and did not have children. The questionnaires assessed (a) attachment styles, (b) desire to have children, (c) perceived ability to relate well to children, (d) parenting beliefs and expectations of own parental behaviors, (e) expected satisfaction felt from caring for an infant, (f) perceptions of maternal rejection, and (g) extraversion, neuroticism, and agreeableness. The study's results showed that individuals with more insecure models of close adult relationships held more negative beliefs about parenthood and parent-child relationships, and that these internal working models of attachment form before one has a child of their own.

Rosenblum et al. (2002) conducted a study that aimed to conceptualize maternal representations of an infant within a framework of insights gained about emotional self-regulation from the Still Face experiment (Tronick et al., 1978). The study investigated 100 mother-baby dyads, looking at the relationship between the mother's depression, their narratives about their 7-month-old babies, and the babies' emotional self-regulation during the Still Face measure. The study's results showed that although all of the babies had decreased positive affect when their mothers kept a still face, only the babies whose mothers had balanced, or secure, representations were easily comforted and returned to their previous levels of high affect once their mothers resumed interaction. Furthermore, the correlation between mothers' representations

and their babies' responses during the Still Face experiment was mediated by parenting behaviors such as positive behaviors, like following the baby's attention and smiling, as well as rejecting or controlling behaviors, like intrusive touching of the baby, voicing negative comments toward the baby, fidgeting, sighing, using a high-pitched voice. Lastly, maternal depression did not contribute to the babies' emotion regulation above and beyond the mothers' representations.

Kretchmar and Jacobvitz (2002) explored the transmission of caregiving behaviors and attachment patterns from one generation to another. The study observed 55 triads of maternal grandmothers, mothers, and their infants at 6, 9, and 18 months old. Grandmothers and mothers engaged in recorded conversation tasks when the infants were six months old that were categorized by the researchers as disengaged, balanced, or entangled relational patterns, coded based on the Boundary Assessment Coding System developed by Kretchmar and Jacobvitz (2002). Mothers were assessed on their sensitivity and intrusiveness during interactions of play with their baby at the 9-month period. Finally, at 18 months, the Strange Situation experiment was performed with the mother-child dyad. Similar to Fonagy et al. (1991, 1993), memories of their own childhood and attachment experiences with their own mother impacted the attachment patterns of mothers and their own children. Mothers who recalled a childhood with their own mothers that could be categorized as balanced or secure in attachment orientation displayed more sensitivity and less intrusiveness in play with their 9-month-old. Finally, mothers who had memories of overprotection in their own childhood and current high levels of entangled patterns of interaction with their own mothers were significantly more likely to have infants with resistant attachment styles than either secure or avoidant attachment styles (Kretchmar and Jacobvitz, 2002).

Maternal Sensitivity to Her Child

Maternal sensitivity in interactions with one's infant has been a topic of several studies on mother-child attachment (Behrens et al., 2016; Pederson et al., 1998). Maternal sensitivity has been described as a mother's well-timed attunement to her child's behavioral cues to which she properly responds (Ainsworth et al., 1978). Research shows that maternal sensitivity is not only dependent on the mother's ability to recognize and respond to her child's cues, but also relies on the infant's effective demonstration of cues, such as feeding cues like lip smacking or exhibiting the rooting reflex for younger infants (Oxford & Findlay, 2015). This finding is important regarding attachment research that involves infants who were born preterm or otherwise spent time in the NICU (Neuhauser, 2018). These babies may have barriers to effectively convey their needs which in turn may impact the mother's attunement to the baby and therefore, her responses or sensitivity to the baby. For example, if a newborn is in the NICU and is hooked up to medical equipment that covers their eyes and mouth, or restricts their neck movements, it can be difficult for that baby to elicit a sensitive and timely response from their mother. Lastly, a systematic literature review on maternal sensitivity has reported that maternal sensitivity may be the link between mother and infant attachment models (Deans, 2020). Deans (2020) found a large body of research connecting maternal sensitivity, parent-child attachment, and child outcomes. Specifically, mothers' behaviors of sensitivity or lack thereof can be classified as appropriate, insufficient, or intrusive responses to their baby's cues, while infant-mother attachment is often classified as secure, anxious-avoidant, and anxious-resistant (Smith & Pederson, 1988).

Maternal sensitivity is related to the maternal mentalization of her child. According to Midgley and Vrouva (2012), research points to maternal mentalization of the child as a more significant predictor of the infant's attachment security than maternal sensitivity, per se. For

example, a study by Meins and colleagues (2001) observed 71 mothers and their 6-month-old babies playing together and measured four categories related to maternal sensitivity and maternal behavioral responses to their infant (i.e., infant behavior such as vocalizations, gaze, and object play, as well as a global assessment of mothers' sensitivity to baby's cues) and one category termed "mothers' appropriate mind-related comments" (Meins et al., 2001, p. 637). This fifth category was thought of in this study as mentalization, or the mothers' ability to comment on their infant's mental processes in an appropriate manner. Both maternal sensitivity and maternal mentalization independently predicted attachment security of these infants at 12 months of age. Maternal sensitivity accounted for 6.5% of its variance, while mentalization accounted for 12.7% of its variance (Meins et al., 2001).

Pederson et al. (1998) explored internal working models of motherhood, maternal sensitivity, and the relationship between mother and baby. The study observed 60 mother-infant dyads in a Strange Situation environment at 13 months and administered the AAI to these mothers over the following six months. A strong correlation between AAI and Strange Situation results was seen in this study, as has been found in the studies described earlier. Mothers who were categorized as autonomous in the AAI were also more sensitive to their child's behaviors than mothers who were categorized as having insecure relationship patterns in the AAI. Finally, the study found that 17% of the association between the AAI and Strange Situation categorizations could be explained by maternal sensitivity (Pederson et al., 1998). Maternal sensitivity was also found to be a mediator between AAI security and Strange Situation security patterns in Behrens et al. (2016).

The literature on maternal sensitivity and mentalization is important to the proposed study since these constructs have been shown to be influenced by infant characteristics such as

preterm birth. NICU mothers, who are at a higher risk for PPCV than mothers of full-term infants, may be mentalizing their child too narrowly, emphasizing the child's vulnerability, and may therefore not attune to their child's needs. Their attachment narratives may be informing their internal representation of their child as vulnerable, which could help contextualize the mother's misattunement and difficulties with sensitive responding to their child's needs. For example, Vaccaro and colleagues (2021) found that maternal sensitivity differed significantly between mothers of pre-term infants and full-term infants who were nine months of age. In this study, lower sensitivity was defined as lower responsiveness to cues of nondistress, lower positive regard, and higher levels of intrusiveness. The infants' temperament could not account for the differences in maternal sensitivity; the researchers found that preterm status and socioeconomic risk correlated with lower levels of maternal sensitivity (Vaccaro et al., 2021). In this study, socioeconomic risk was a composite variable of two measures: maternal education and annual household income. The researchers indicated socioeconomic risk with a score of 0-14, in which 0 would be equivalent to the lowest education attained and an annual household income below $10,000. In this study, the specific cutoff score to indicate socioeconomic risk was not reported. Low socioeconomic status has been found in additional research to be linked with lower maternal sensitivity to cues of nondistress, higher levels of intrusiveness, and less positive regard toward their babies (Conger et al., 2010; Leerkes et al., 2012; Neuhauser, 2018; Pederson et al., 1990; Sturge-Apple et al., 2017).

Ballarotto and colleagues (2021) examined maternal sensitivity in mother-child interactions during feeding sessions. The dyads were composed of 150 mothers and toddlers between the ages of 18 and 30 months. Half of the toddlers included in the study were underweight (with no organic causes) while the other half of the children were at a normal

weight. Feeding sessions were video-recorded and assessed by the researchers who rated the interactions based on maternal behaviors such as intrusiveness, facilitating the child with an action already led by the child, and reciprocity of mother-child cues. The results of this study were significant and showed that (a) underweight children showed significantly fewer bids for autonomy than did children with normal weights, and (b) mothers of underweight children were less likely to recognize and respond to their child's demands for autonomy or to stop the feeding (Ballarotto et al., 2021).

Parental Reflective Functioning

Reflective functioning (RF), the primary concept within parental reflective functioning, is the ability "to hold others' minds in mind" (Luyten et al., 2017), and is how the construct of mentalization is operationalized (Fonagy et al., 1998). Though mentalization, or reflective functioning, can be purposefully practiced, it is inherently "unconsciously invoked" (Fonagy & Target, 1997, p. 681) in interaction with other people. It is related, though distinct from, concepts such as *theory of mind*, introspection, mindfulness, or empathy. Reflective functioning was first defined by Fonagy and Target (1997), and its procedural use in research was delineated by Fonagy and colleagues (1998). Research on this topic posits that RF is developed within and impacted by attachment relationships and that parental RF is influential in the development of a young child's RF (Fonagy et al., 2007; Sharp & Fonagy, 2008; Slade, 2005).

As stated previously, parental reflective functioning (PRF) describes a primary caregiver's capacity to hold in mind their baby's mental states, consider how their own mental states are impacted by interactions with their baby, and how their own mental states, in turn, impact their thoughts, feelings, and behaviors toward their baby (Slade, 2005; Sharp & Fonagy, 2008; Ensink & Mayes, 2010). There is an increasing amount of literature on parental reflective

functioning that supports its links to an individual's attachment and trauma history, as well as the parent-infant relationship.

Parental Reflective Functioning and the Parent-Infant Relationship

Research has shown some significant relationships between PRF and parental attachment security. For example, an insecure attachment style in a parent is significantly related to difficulties with RF. However, a secure attachment style does not necessarily mean the parent will exhibit high levels of RF (Fonagy et al., 2007; Fonagy et al., 2010; Fonagy et al., 2011; Sharp & Fonagy, 2008). The first study to assess the relationship between PRF and attachment in both mother and baby was carried out by Slade and colleagues (2005), who examined the role of maternal reflective functioning in the "intergenerational transmission of attachment" (p. 283). Forty first-time pregnant women participated in the study; the sample was over 90% White-identified, and half of the sample had a graduate-level education. Participants were seen twice during pregnancy, at which point their baseline levels of psychopathology were screened and they participated in the Adult Attachment Interview (George et al., 1984). The participants were then seen with their babies four times following the birth. When the babies were ten months of age, mothers were interviewed utilizing the Parent Development Interview (PDI; Aber et al., 1985) to assess maternal RF. At 14 months, the mother-baby dyads were seen for the administration of the Strange Situation procedure (Ainsworth et al., 1978) which was used to measure infant attachment.

Based on data collected from the PDI and AAI, mothers' RF was highly predicted by their attachment status prior to the birth of their babies (Slade et al., 2005). RF was highest among mothers whose attachment organization was secure, followed by organized insecure, which includes dismissing and preoccupied attachment. Mothers whose attachment was

disorganized, or unresolved, had the lowest levels of RF among all participants. Results were also significant for analysis of the relationship between maternal RF and infant attachment; RF scores were significantly higher in mothers whose infants demonstrated secure attachment in the Strange Situation compared to mothers whose infants demonstrated resistant or disorganized attachment. However, RF scores did not significantly differ between mothers of secure infants and mothers of avoidant infants, which did not support the researchers' second hypothesis of the study. Slade and colleagues (2005) understood this finding in the context of adaptive attachment strategies; they explained that avoidance is generally thought to be a more adaptive and lower-risk adaptation compared to resistant or disorganized attachment organizations. Furthermore, PRF may be more important in its role of protecting against disruptions in attachment which are less characteristic of avoidant attachments.

In a study measuring maternal RF and mother-infant interactions, Grienenberger and colleagues (2005) hypothesized maternal RF would predict the quality of emotional interaction between mother and infant. The latter was measured by the Atypical Maternal Behavior Instrument for Assessment and Classification (AMBIANCE; Bronfman et al., 1999), which is the instrument used to code atypical maternal behavior during the Strange Situation experiment. Maternal reflective functioning was measured by The Parent Development Interview (PDI; Aber et al., 1985). Forty-five mother-infant dyads participated from the third trimester of the mother's pregnancy through 28 months postpartum. Mothers completed the PDI when their babies were ten months old, and the mother-infant dyads participated in the Strange Situation experiment (Ainsworth et al., 1978) when the babies were 14 months old. Demographically, the participants were overwhelmingly homogenous in terms of education, race, and SES, with over 90% of the sample identifying as White, employed college graduates. Results showed a strong negative

correlation between the AMBIANCE measure and the RF measure. In other words, the quality of the mother-infant emotional interaction, as measured by maternal behaviors, was positively correlated with maternal RF, such that negative maternal caregiving behaviors were strongly correlated with low maternal RF. In addition, the AMBIANCE measure predicted infant attachment very well, with predictions confirmed by findings of the Strange Situation with this sample. Through linear regression analysis, Grienenberger and colleagues (2005) found that maternal behavior, as measured by AMBIANCE, mediated the impact of maternal RF on infant attachment. This study provides supporting evidence that an individual's attachment orientation during pregnancy is predictive of their ability for reflective functioning with their infant within the first year postpartum (Grienenberger et al., 2005; Slade et al., 2005).

Like Grienenberger et al. (2005), Ensink et al. (2016) examined the relationship between maternal RF and parenting behaviors. This study indicated negative parenting behaviors to be those that are (a) frightening to the child, (b) dissociative, (c) submissive or deferential to the child, or (d) disoriented or disorganized, such as behaviors that are contradictory. Importantly, this study included a group of mothers with histories of childhood abuse, which they endorsed during the administration of the Adult Attachment Interview (AAI; George et al., 1985). Eighty-eight mothers from socioeconomically diverse backgrounds were assessed prenatally for RF using the AAI (George et al., 1985). The mother-infant relationships were assessed at six months postpartum using the Maternal Sensitivity Scale (Ainsworth et al., 1974) and at 16 months using the Disconnected and Extremely Insensitive Parenting Scale (DIP; Out et al., 2009). At 16 months, infant attachment was measured using the Strange Situation (Ainsworth et al., 1978). As shown in several other studies, Ensink et al. (2016) found a strong relationship between maternal RF, parenting behaviors in interaction with their infant, and infant attachment. Negative

parenting behaviors, particularly those that were intrusive, aggressive, or withdrawn, mediated the relationship between maternal RF about their own childhood attachment relationships and infant attachment disorganization. The researchers discussed how mothers with higher RF may be better equipped to recognize and monitor their feelings of anxiety and aggression before responding to their babies, being able to imagine what those responses would look like from the outside and how those responses could cause their baby distress.

Ensink and colleagues (2016) also hypothesized that a history of abuse and higher demographic risk as indicated by lower levels of education, would be associated with lower RF, lower maternal sensitivity, greater presence of parental negative behaviors, and a higher prevalence of disorganized attachment in the infants. The results of the study did not support this hypothesis. Maternal histories of abuse were not significantly correlated with lower RF, maternal insensitivity, maternal negative behaviors, or with an increased likelihood of disorganized or insecure attachment in the infant. Lower levels of education were, on the other hand, associated with lower maternal sensitivity, higher negative behaviors, and higher infant attachment insecurity and disorganization. The researchers presented several explanations for understanding these results. Although the existing literature shows a strong indication of abuse history as a risk factor for negative parenting behaviors (Koren-Karie et al., 2008) and difficulty with emotion regulation and distress tolerance (Heim et al., 2010), there is also literature indicating resiliency as a protective factor against these very same parenting-related difficulties (Dixon et al., 2009; Jaffe et al., 2013). The results of Ensink et al.'s (2016) study may provide important evidence that less stressful circumstances in terms of SES may better allow mothers to utilize resources accessible to them to limit the impact of prior trauma on their parenting. The researchers also indicated that their methods of measuring abuse history, with the AAI rather than a validated

measure of trauma, and their lack of attention to detail in terms of type and severity of abuse, may have also contributed to the lack of significant findings regarding the relationship between abuse histories and the aforementioned variables of parenting (Ensink et al., 2016).

Within the attachment theory literature, the Parental Reflective Functioning Questionnaire (PRFQ; Luyten et al., 2009) has been shown to be a useful measure in examining the parent-child relationship. Rutherford and colleagues (2013) examined how parental reflective functioning relates to a mother's tolerance of her infant's distress. Twenty-one mothers took part in the study, which involved an exercise of maternal distress tolerance in which mothers had to soothe an inconsolable life-like baby simulator; the variable evaluated was length of time that mothers persisted in trying to soothe the baby simulator. The PRFQ was used, as well, to examine the mothers' curiosity and interest in their own child's mental states. The researchers found that higher PRF in mothers was associated with (a) greater interest and curiosity shown by the mothers in their own children and (b) longer persistence time with the baby simulator. Mothers were also asked to complete a general task that would measure non-parent distress tolerance; in that case, RF was not related to the participants' distress tolerance or level of persistence. Results of the study showed that PRF may be related to persistence behaviors, specifically in parenting contexts (Rutherford et al., 2013).

Rutherford and colleagues (2015) performed a subsequent study with a larger sample, measuring maternal distress tolerance as well as PRF with the addition of physiological measurements of distress. During the experiential component of the procedure, the 59 participants had their blood pressure and heart rates measured. Approximately half of the participants were first-time mothers, and all mothers had an infant between the ages of 3-10 months old. Over half of the participants identified as Black, and the sample also included

mothers who identified as White and Hispanic. Mothers who reported greater difficulty with PRF also experienced less distress tolerance during the behavioral exercise as well as the distress tolerance self-report measure. Successfully replicating the results of the Rutherford et al. (2013) study. In addition, measurements of participants' systolic blood pressure were significantly related to their PRF-related interest and curiosity as measured by the PRFQ, but only prior to controlling for maternal age and education. Diastolic blood pressure and heart rate were unchanged before, during, and after the interaction with the infant simulator. Higher levels of PRF-related interest and curiosity were associated with lower systolic blood pressure before, during, and after the interaction with the infant simulator. A limitation within both studies was the lack of measurement for general reflective functioning which would provide information about parental distress tolerance and its relation to a parent's ability to mentalize for themselves in addition to their baby (Rutherford et al., 2015).

Krink and colleagues (2018) used the concept of PRF with a sample of 50 mothers diagnosed with postpartum depression and their infants between 3-10 months old, recruited from the University Medical Center of Hamburg. The researchers examined the relationship between PRF and maternal sensitivity to her child during an emotionally distressing exercise, namely, the still-face procedure (Tronick et al., 1978). In addition to the PRFQ and still-face procedure, assessments included the revised maternal behavior Q-set (Mini-MBQS-V; Tarabulsy et al., 2009) used by the researchers to code maternal sensitivity during the time mother and baby were together before being separated and again after the separation, during the time of reunion. Krink et al. (2018) hypothesized that low levels of PRF would correlate with decreased maternal sensitivity in response to the still-face procedure. The findings, in part, supported this hypothesis. Results discordant with the researchers' expectations showed that there were no significant

correlations between maternal sensitivity in either the play period or reunion period and PRFQ dimensions of interest and curiosity in mental states or certainty about mental states.

As the researchers expected, there was a negative correlation between maternal non-mentalizing modes and changes in maternal sensitivity (Krink et al., 2018). In other words, stronger decreases in maternal sensitivity between the mother-infant play period and reunion period were correlated with higher non-mentalizing modes. The pre-mentalizing subscale of the PRFQ (that measures non-mentalizing modes) was also significantly and positively correlated with scores of depression measured by the Beck Depression Inventory (BDI-I; Beck et al., 1988), in which higher scores indicate greater levels or symptoms of depression. The findings of this study provide evidence for the importance of maternal pre-mentalizing modes for the sensitivity in mothers with postpartum depression, particularly when these mothers and their babies are under emotional distress.

The absence of a correlation between maternal sensitivity and the PRFQ subscale of interest and curiosity presents a conflicting picture compared to the findings from Rutherford et al. (2013), in which lower levels of maternal interest and curiosity in mental states were correlated with lower distress tolerance in response to an inconsolable infant simulator. Krink et al. (2018) provide possible explanations for these unexpected results. First, the sample used in Krink et al. (2018) was a clinical sample, specifically presenting with postpartum depression, as opposed to a community sample in similar studies. Though Krink et al. (2018) did not expand on this explanation, one could consider how depression may affect the mothers' predisposition to engaging with negative thoughts that are more common in the pre-mentalizing subscale (e.g., "My child cries around strangers to embarrass me") as opposed to engaging with neutral or positive thoughts more common in the interest and curiosity subscale (e.g., "I am often curious to

find out how my child feels") or certainty in mental states subscale (e.g., "I always know why my child acts the way he or she does") (Krink et al., 2018, p. 1674).

A recent study out of Israel examined the link between infant prematurity and parental stress as moderated by PRF (Dollberg et al., 2022). Dollberg and colleagues (2022) looked at group differences between parents of premature and full-term babies in their self-reported parenting stress as well as their level of PRF. They hypothesized that parents with higher levels of PRF would evidence a weaker association between prematurity and parenting stress compared to parents with lower levels of PRF. The sample included 73 couples who identified as heterosexual. Separated into these two groups, thirty-four of the families had babies born between 28-36 weeks gestation, and 39 families had babies born full term (i.e., 37 weeks and above). The current age of all babies was between 6 and 7 months (with age corrected for premature infants). The Parent Stress Inventory (PSI-SF; Abidin, 1995) was completed individually by each parent to assess subjective childrearing stress levels. In addition, the Parent Development Interview (PDI-R2-S; Slade et al., 2003) was coded to measure self-focused reflective functioning and child/relation-focused reflective functioning. Findings showed that although the two groups did not differ in their PSI scores or PRF levels, mothers' self-focused PRF moderated the relationship between prematurity and childrearing stress levels. These results are consistent with evidence from multiple studies indicating the protective role of mothers' PRF and mentalization of their own experience during times of distress (Borelli et al., 2017; Dollberg et al., 2021). Furthermore, a complex pattern of associations was seen among the variables of the infant's birth status, parents' gender, and specific domains of PRF and parental stress tested (Dollberg et al., 2022). The researchers noted the importance of future studies considering these same variables in parents of premature babies at different developmental stages—while still in

the NICU, several months after adjusting to having their baby at home, and beyond infanthood—in order to assess negative effects of prematurity at different stages of the families' experiences (Dollberg et al., 2022).

Parental Reflective Functioning and Prior Trauma

Research has shown that an individual's history of childhood abuse and insecure attachment has a significant effect on maternal reflective functioning). Cristobal et al. (2017) examined how an individual's history of trauma places stress on that individual's functioning as a parent. Specifically, ACEs and attachment style were measured across 125 mothers using the Child Trauma Questionnaire (CTQ; Bernstein et al., 2003) and Experiences in Close Relationships (ECR; Brennan et al., 1998), respectively. Functioning as a parent was operationalized as the individual's level of reflective functioning and was measured using the Parental Reflective Functioning Questionnaire (PRFQ; Luyten et al., 2009). The study found that physical neglect, specifically, and insecure attachment, more broadly, had a negative effect on maternal reflective functioning. The relationship between insecure attachment alone and low maternal reflective functioning was significant, but not as strong, and the relationship between insecure attachment and pre-mentalization (e.g., non-mentalizing) was not statistically significant (Cristobal et al., 2017).

Attachment Style and Trauma

The literature on the relationship between adult attachment styles and trauma experienced as an adult is wide-ranging yet has consistently presented similar results: insecure attachment styles are often correlated with more difficulty in coping with trauma in adulthood (Marshall & Frazier, 2019; Mikulincer et al., 2015; Mikulincer & Shaver, 2016). Several studies have found that difficulty coping with trauma is predictive of developing psychological distress or

psychiatric symptoms (Benoit et al., 2010; Pilkington et al., 2020). Though there is no existing literature on the associations among attachment style, NICU mother-child relationships, and PPCV, the existing literature provides a strong basis for describing PPCV as a form of psychological distress or symptomology in reaction to the experience of the child's life-threatening illness (Green & Solnit, 1964; Schmitz, 2019). As such, the literature reviewed here on the moderating effect of attachment on the relationship between trauma and psychological outcomes has relevance for the current study.

NICU and Childbirth Trauma

Considering the aforementioned literature on internal working models, and the research supporting the concept of a mother's attachment style impacting her child's subsequent attachment style by way of maternal sensitivity, it is then vital to examine how a mother's history of trauma, particularly interpersonal and relational trauma, has an impact on her and her child's attachment styles. Although there is a large body of research on how trauma and adverse childhood experiences (ACE; Felitti et al., 1998) impact attachment orientations (e.g., Özcan et al., 2016; Stronach et al., 2011), there is a lack of empirical work on how coping with a history of interpersonal trauma is impacted by attachment style and mental representations of attachments (Bryant, 2016). There is also a dearth of literature on how attachment styles and early childhood attachment experiences can be used to conceptualize how an individual responds to and copes with the threat of interpersonal loss (e.g., the hospitalization of a newborn for a life-threatening illness).

Research has shown that the relationship between trauma and psychiatric symptoms is stronger for individuals with insecure attachment styles compared to those with secure attachment styles (Mikulincer & Shaver, 2012; Ogle et al., 2015; Woodhouse et al., 2015). The

traumatic experiences explored in the extant literature were varied, including intimate partner violence, military-related trauma, as well as birth trauma. However, much of the literature on birth trauma and NICU trauma has not looked at the role of attachment as moderating the relationship between the trauma of the NICU and the psychological outcomes of the mothers. Furthermore, the research is largely missing how those maternal psychological outcomes impact the parent-child relationship.

The two exceptions are an article about the development of a manual for the prevention of postpartum stress in mothers whose babies were born prematurely (Shaw et al., 2013) and a study that specifically explored how maternal attachment style moderates the relationship between the mothers' trauma history and their posttraumatic stress response to childbirth (MacKinnon et al., 2018). Shaw et al.'s (2013) article is relevant for its recognition of the role maternal attachment plays in the posttraumatic stress response of a NICU mother. Specifically, the authors emphasized the mother-child relationship as critical to attend to with trauma-informed interventions. While maternal attachment style was taken into consideration in the development of the manual, it was not a central component. For example, Shaw et al. (2013) touched on the disruption of the mother-child relationship in instances of maternal PTSD, especially in instances with premature infants. The authors also referenced the negative implications of both postpartum PTSD and premature birth for the mother-baby attachment. For example, Shaw et al. (2013) referenced a study by Borghini and colleagues (2006) that found a significant difference between mothers of preterm babies and mothers of full-term babies in their attachment representation of their child at six months old; only 20% of mothers whose babies were preterm had a secure attachment representation compared to 53% for mothers of full-term babies.

MacKinnon et al. (2018) examined the role of maternal attachment style and trauma history in the maintenance of posttraumatic stress related to childbirth. The study recruited 298 women who were newly postpartum and controlled for whether the mothers delivered full-term or preterm. They completed self-report measurements on risk factors related to childbirth, psychosocial risk factors (Austin & Priest, 2005), interpersonal trauma history, attachment style (Bartholomew & Horowitz, 1991), and childbirth-related posttraumatic stress (Callahan et al., 2006). The measurements were completed within a week of the baby's birth, five weeks postpartum, two months postpartum, and six months postpartum. The researchers conducted a latent growth curve analysis and found that for mothers without an interpersonal trauma history, secure attachment was correlated with fewer posttraumatic stress symptoms at each time of measurement compared to mothers with insecure attachment. In addition, baseline PTS symptoms and the decrease in PTSD symptoms over time differed for mothers with and without trauma history, depending on their attachment styles. Although prior trauma history was a predictor of higher baseline PTSD symptoms, among mothers with trauma history, higher preoccupied ratings predicted lower baseline symptoms. The researchers predicted that childbirth may not be experienced as traumatic for mothers with preoccupied attachment because childbirth is often a time of increased social support for a mother. In addition, having a new baby who is dependent on the mother may meet her attachment needs, which could account for lower baseline levels of PTSD symptoms for mothers with preoccupied attachment (MacKinnon et al., 2018). Since baseline ratings of PTSD symptoms were taken within one week of childbirth, it can be speculated that this was a time when mothers may have had increased support (e.g., perinatal care, labor and delivery providers, friends, and family) compared to later in the postpartum period. In addition, higher preoccupied or dismissing ratings predicted steeper

declines in PTS symptoms over time. Ultimately, the study found that attachment style moderates the impact of trauma history on a mother's experience of childbirth as traumatic.

MacKinnon et al.'s (2018) study utilized the social ecological framework of Charuvastra and Cloitre (2008), which states that one's susceptibility to posttraumatic stress is predominantly based upon one's interpersonal trauma history and one's attachment style. Namely, adverse experiences in childhood predispose an individual to the development of insecure attachment styles, and in turn, to experiencing posttraumatic stress in adulthood. (Charuvastra & Cloitre, 2008). Research, including that of Charuvastra and Cloitre, has found that a secure attachment style guards against the development of PTSD following trauma in adulthood. This is congruent with the results of MacKinnon et al.'s (2018) study in terms of mothers who did not have a history of interpersonal trauma. However, secure attachment was shown not to be a protective factor against posttraumatic stress responses for mothers with a history of interpersonal trauma.

Quinn et al. (2015) examined the role of maternal attachment styles, measured prior to childbirth, in maternal perceptions of pain during labor and delivery, as well as posttraumatic stress responses in 81 British women. Using the Experiences in Close Relationships Questionnaire-Revised (ECR-R; Fraley et al., 2000), the Slade Pais Expectations of Childbirth Scale (SPECS; Pais, 2009), the Trauma Memory Questionnaire (TMQ; Halligan et al., 2002), and the Impact of Event Scale-Revised (IES-R; Wiess & Marmar, 1997), the researchers found that higher scores on attachment anxiety were correlated with higher reported pain severity. Insecure attachment was associated with posttraumatic stress symptoms, particularly hyperarousal (Quinn et al., 2015).

Trauma in Adulthood

Woodhouse et al. (2015) conducted a meta-analysis on the relationship between adult attachment style and posttraumatic stress symptoms, in general. The authors included 46 research studies in their analysis. Specific variables were delineated across the studies, including participant demographic details, type of trauma experience, time passed since the trauma, type of attachment measure, type of posttraumatic stress measure, and the study design. Woodhouse et al. found medium associations between secure attachment and lower post-traumatic stress symptoms, as well as between insecure attachment and higher posttraumatic stress symptoms. Anxious attachment was most strongly correlated with posttraumatic stress symptoms, especially fearful attachment. This specific relationship was moderated by the type of PTSD measure, whether interview or questionnaire, and attachment categories used (continuum of anxiety and avoidance or distinct categories such as fearful and dismissing attachment).

Murphy and colleagues (2014) sought to examine the relationship between scores on the ACEs questionnaire and classifications for the Adult Attachment Interview (AAI). Their findings were significant in terms of the higher prevalence of ACE scores above 4 in their clinical sample compared to their community sample and the association between ACE scores above 4 and an AAI classification of *unresolved/cannot classify* (U/CC). The U/CC classification was present for 76% of the clinical sample compared to 9% of the community sample in this study. In the ACEs questionnaire, a reported lack of emotional support was associated with 72% of AAIs being classified as U/CC.

There is also a body of literature addressing how attachment style can impact bereavement, which is related to interpersonal trauma in some cases. For example, Wayment and Vierthaler (2002) conducted a study on 91 adults who had experienced the death of a loved one

in the year and a half prior. Participants were assessed on their attachment styles, which in this study were categorized as secure, anxious-ambivalent, and avoidant. Relationships among attachment style, attachment to the loved one, degree of unpredictability of the loved one's death, and three reactions to bereavement (i.e., grief, depression, and somatization) were assessed. The study controlled for factors such as gender, age, level of education, age of the deceased, length of time since death, and a validity factor of socially desirable responding patterns. Participants who were evaluated as having an anxious-ambivalent attachment style responded with higher levels of grief and depression compared to individuals who were evaluated as having a secure or avoidant attachment style, while individuals with an avoidant attachment style reported higher levels of somatization (Wayment & Vierthaler, 2002). Higher levels of grief were reported in anxiously attached individuals in a study by Cohen and Katz (2015), as well. The authors investigated attachment style, reactions of grief, and posttraumatic growth in 150 adults in Israel who had lost a sibling. Finally, Maccallum and Bryant (2018) found an insecure attachment style to have a significant impact on prolonged grief response and depression in 285 individuals who were grieving the loss of a loved one. In their study, anxious attachment was predictive of a prolonged grief response with high depressive symptoms, while an avoidant attachment was predictive of greater depressive symptoms but not a prolonged grief response (Maccallum & Bryant, 2018).

Social Baseline Theory

One conceptual article on the relationships between social attachments and stress responses to trauma utilized Social Baseline Theory (Beckes & Coan, 2011; Coan & Sbarra, 2015) and existing attachment theories to support the notion that attachment styles may impact the way individuals process and cope with trauma (Bryant, 2016). According to Bryant (2016),

Social Baseline Theory speaks to the role of evolution and survival within social relationships. Closeness to trusted others minimizes one's likelihood of attack and use of excessive energy to protect oneself. The conceptual link Bryant (2016) made in his article was to correspond threat to survival with what humans experience in the present day as trauma, adversity, and stress. The author posited that attachments, or proximity and security to others, help individuals cope with and manage stress. This hypothesis has been supported by a large body of research which has shown that social support is important in coping with stress on both an experiential and neurological level (e.g., Coan, Schaefer, & Davidson, 2006). Bryant (2016) argued that mental representations of security, then, may allow individuals to utilize social support effectively in times of adversity; in other words, a secure attachment style allows individuals to depend on others in times of need—a concept that was also supported by Barr (2014). Bryant (2016) also argued that insecure attachment is an evolutionary necessity in certain circumstances, which would help explain why more than one-third of individuals have an insecure attachment style (Ein-Dor et al., 2010). He posited that a variety of attachment styles are needed in a social group; some individuals will have a secure attachment style, which would help them more effectively cope with adversity, and some individuals within a social group will have an insecure attachment style, which would help them act vigilantly in detecting threats and promoting safety. Individuals with an anxious attachment style, for example, will experience more anxiety and hypervigilance than those with a secure attachment style, but it is an evolutionary advantage to be alert to dangers that more secure individuals may not notice due to their sense of safety (Bryant, 2016).

The Dynamic-Maturational Model of Attachment

In her dynamic-maturational model (DMM) of attachment, Crittenden (2006) conceptualized psychological disorders within attachment relationships and derived much of her

model from Bowlby's (1969, 1973, 1980) work. The basis of DMM is not new: Attachment is vital for individual safety and reproduction. The ways in which an individual achieves these evolutionarily necessary goals illustrate patterns of interpersonal behavior, and Crittenden argued, also serve as a useful system for diagnosing psychopathology. DMM differs from Bowlby's work in its emphasis on maturation and change as opposed to narrowing the focus on early attachments. DMM is relevant in the literature on attachment and interpersonal trauma because of its attention to the impact of dangerous experiences on one's psychological health. DMM contextualizes maladaptive behavior in terms of an individual's developmental background (Crittenden, 2006). Crittenden also utilized Ainsworth's (1978) work on the three basic patterns of attachment. As Crittenden described it, individuals who are Type A tend not to consider their own negative emotions when processing danger and instead conform to expected consequences. The tendencies of Type C individuals can be described in the opposite way: Their behaviors are influenced by their negative emotions instead of being influenced by expected consequences. Both types of individuals magnify the potential for danger and behave in ways that are self-protective when it is unwarranted. DMM also identified mental representation as a mediating variable between early attachment experiences, or what Crittenden referred to as "developmental insults," and psychopathology. This mediating relationship helps explain why individuals react differently to similar developmental insults such as trauma (Crittenden, 2006, p. 110).

Parental Attachment Styles and Parenting Behavior

Observable and measurable parent and child behaviors have been essential to the existing empirical research on attachment theory, such as in Ainsworth et al.'s (1978) Strange Situation and Waters and Deane's (1985) attachment Q-sort. Parenting behaviors, particularly, have been

shown to impact a child's attachment style (e.g., Benoit, 2004). Furthermore, an adult's attachment style has been shown to impact their parenting behaviors (Jones et al., 2015), which is notable and of particular relevance to the current study and literature review. Jones et al. (2015) reviewed the literature on adult attachment, parenting behaviors, and the parent-child relationship. Jones et al. specified the difference between the attachment behavioral system (Bowlby, 1969) and the caregiving system, which are the parental behaviors initiated to protect the child from danger and promote their growth (Bowlby, 1988). According to the research reviewed by Jones et al., the caregiving behaviors often associated with an anxious attachment in the parent are intrusive (Mills-Koonce et al., 2011), controlling, and tend to not mentalize what the child is needing in that moment. Rather, the anxiously attached parent provides their child with care based on the parent's desired timeline. On the other hand, an avoidantly attached parent will not often approach the child, and the caregiving behaviors they do exhibit tend to be insensitive to the child's needs (Jones et al., 2015). For example, Rholes et al. (1995) found an association between parental attachment styles and the levels of parent-child conflict as well as parents' behaviors during conflict with their child. In the same study, no significant association was found between adult attachment styles and hostile behaviors enacted toward the child (Rholes et al., 1995).

Adam et al. (2004) considered mediator and moderator models for the understanding of parents' attachment, emotion, and observed behavior with their 2-year-old children. The parents' attachment organizations were assessed using the Adult Attachment Interview (AAI; George et al., 1985). Angry and intrusive parenting behaviors, such as overdirecting the child's gaze and behavior or excessive and uninvited physical or affectionate touch, were more prevalent in parents with preoccupied (i.e., anxious) attachment, but this association was not mediated by

attachment-specific parental emotional well-being. However, lower warm and responsive parenting behaviors were significantly associated with dismissing (i.e., avoidant) attachment in the parent, but only among mothers with higher symptoms of depression.

Parental responsiveness is a recurring theme in the literature on parenting behaviors and adult attachment styles (Jones et al., 2015). Edelstein et al. (2004) explored this topic in the context of a stressful event, namely, during an appointment in which the child was receiving an injection at an immunization clinic. Thirty-nine parents were evaluated on attachment through a self-report measure, and their responsiveness to their child was assessed during observation at the immunization clinic using the Emotional Availability Scales (EAS; Biringen et al., 1998). The study found that avoidantly attached parents were both less responsive and more distressed during their child's inoculation compared to parents who scored low on avoidance.

Mothers respond in more ways than just their overt behavior. For example, Strathearn et al. (2009) researched neurological responses of 30 first-time mothers of infants who were viewing pictures of their own babies crying and smiling during functional MRI scanning of the mothers. The mothers' attachment organizations were assessed with the AAI (George et al., 1985), and their results were compared with the mothers' dopaminergic and oxytocinergic responses to their infants' cues. The finding suggested that differences in individuals' maternal attachment may be associated with the development of these brain reward hormones (Strathearn et al., 2009). Mothers with secure attachments showed greater fMRI activation in reward centers of the brain when viewing their own infant's smiling and crying faces. Avoidantly attached mothers (i.e., insecure/dismissing) showed greater activation in the anterior insula when viewing their own infant's crying faces. The anterior insula is a region of the brain associated with feelings of pain and disgust (Strathearn et al., 2009).

In Jones et al.'s (2015) review of the literature on attachment and parenting behaviors, they found eleven studies that resulted in significant associations between parental attachment style and parental stress (e.g., Mills-Koonce et al., 2011). For example, Nygren et al. (2012) explored the relationship between parents' attachment and levels of stress by revising the Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994) and conducting a longitudinal population-based study of 8,122 parents of toddlers. The study's findings confirmed previous research that an anxious attachment style in parents as well as discomfort with closeness, have a strong association with their perception of parenting stress, particularly on dimensions of social isolation and feelings of low self-efficacy (Nygren et al., 2012). Evidence of higher parenting stress among parents with an insecure attachment style was also found in a study of 44 Korean parents by Kim et al. (2019). Their study assessed parents with the Experiences in Close Relationships Revised into Korean (Brennan et al., 1998; Kim et al., 2004), Korean-Parenting Stress Index- Short Form (Lee et al., 2008), Maternal Behavior Research Instrument (Kim et al., 2003), and Symptom Checklist- 90- Revised (Derogatis et al., 1976) to assess the parents' mental health. Higher indications of an anxious attachment style correlated with higher parenting stress, hostile parenting attitude, and psychopathology, while a dismissing-avoidant attachment style correlated with significantly higher parenting stress than parents with a secure attachment (Kim et al., 2019).

Mills-Koonce et al. (2011) conducted a longitudinal, observational study in which 137 mothers were asked to freely interact with their infant for 10 minutes and to complete self-reports including the Adult Attachment Style measure (Hazan & Shaver, 1987), Brief Symptom Inventory (Derogatis & Spencer, 1982), and the Parent Stress Inventory (Abidin, 1995). The goal of the study was to investigate the relationships between adult attachment style, maternal stress,

and maternal sensitivity toward their child. The study found that mothers who were anxiously attached were less sensitive than securely attached mothers in their mother-infant interactions. Notably, avoidantly attached mothers were less sensitive to their infants only if they had experienced psychological distress. In other words, the study suggested that psychosocial stress moderates the association between avoidant attachment and insensitive parenting behavior (Mills-Koonce et al., 2011).

Attachment and Complicated Births

Along with a parent's attachment style, a variety of factors have been shown to influence parenting behaviors. Financial stress (Elder et al., 1984, 1985; Kotchick & Forehand, 2002), social support (Green et al., 2007), infant characteristics (Parish-Morris, 2019), and stress related to the medical circumstances surrounding the birth of the child can all impact a parent's behaviors and self-efficacy in their own parenting abilities. These factors can influence not only parenting behaviors but the parent-child relationship. In particular, medical complications surrounding the birth of a child have been shown to have a strong influence on parenting behaviors (Parish-Morris, 2019), parents' sense of self-efficacy (Lean et al., 2018), and a unique impact on the parent-child relationship (Lean et al., 2018). However, there is little research on the role NICU mothers' attachment styles play within these various topics related to the parent-infant relationship.

Berant et al. (2001, 2008) conducted a longitudinal study on the attachment style and mental health of mothers of newborns with congenital heart disease. Eighty-five mothers were assessed in Berant et al.'s (2001) first and second phases of the study. Two weeks after the infant's diagnosis with congenital heart disease, and again one year later, the mothers completed self-report measures on attachment style, opinions about motherhood, ways of coping with duties

of motherhood, and mental health. The results showed that attachment anxiety and avoidance significantly impacted the mothers' other outcomes. For example, attachment style at phase 1 of the study predicted appraisal of motherhood and ways of coping (Berant et al., 2001). Phase 3 of the study was conducted seven years after phase 2 (Berant et al., 2008). During phase 3, both the mother's and child's mental well-being were assessed, as were the associations with the mother's attachment style. Sixty-three of the original 85 mothers participated in phase 3, during which they completed the same assessments on mental health and attachment style, as well as a marital satisfaction scale. Finally, the children completed a measure of self-concept and the Children's Apperception Test (Bellak & Abrams, 1996). Maternal insecure attachment at the beginning of the study, in phase 1, was associated with their child's poor mental and emotional well-being seven years later. Avoidantly attached mothers at phase 1, specifically, were most likely to experience a decline in maternal mental health and marital satisfaction seven years later, especially for families in which the child had severe congenital heart disease (Berant et al., 2008).

Cox et al. (2000) investigated maternal attachment and representations as well as infant attachment in 50 predominantly Black-identified mother-baby dyads in which the babies were 19 months old and born prematurely. Thirteen of the babies had a history of intracranial hemorrhage (ICH), while the remaining 37 did not have a history of ICH. Measures used included a self-report questionnaire and a structured interview to assess maternal attachment, representations, and current relationship with their infant, as well as the Strange Situation procedure (Ainsworth et al., 1978) to assess the infant's attachment security. The findings suggested that maternal factors were more impactful than infant factors in predicting infant attachment security. Namely, maternal representation of the infant significantly predicted the infant's attachment security,

while the presence of an ICH and the mother's childhood attachment experiences did not impact the infant's attachment security.

Keren et al. (2003) utilized a structured interview, namely, Meyer et al.'s (1993) Clinical Interview for Parents of High-Risk Infants (CLIP), to investigate how mothers' representations of the infant and themselves as a parent would correlate with mother-baby interactions in the NICU. The researchers hypothesized that more positive representations of herself and the baby, such as readiness for birth, positive associations with pregnancy, and positive feelings about their baby, would correlate with maternal behaviors, like touch and sensitivity to the baby's emotional and physical feedback. The mothers' negative representations as assessed in the CLIP (e.g., negative initial reaction to the news of their pregnancy, negative affect during interview) were hypothesized by the researchers to predict infant withdrawal behaviors during interactions with their mothers. The researchers also hypothesized that mothers with negative representations would report during the CLIP interview having engaged less with their children during their NICU stay. The sample consisted of 47 mothers with babies in two different NICUs in Israel. Infants with certain presenting illnesses were not eligible for participation; for example, babies with genetic diseases, congenital neurological diseases, or grade IV brain bleed, as well as multiples (i.e., twins, triplets). The results of the study were in accordance with the researchers' hypotheses (Keren et al., 2003). This study is particularly relevant to research studying maternal representations of herself and her child and their impact on parent-child interactions.

The Neonatal ICU

"In a NICU—a setting saturated with fear, loss, and fragile hopes—opening up to one's own and others' experience means risking such disorientation and anxieties. Knowledge is often so dreaded it must be kept in the shadows, secreted from awareness" (Steinberg & Kraemer,

2010, p. 15). This experience of fear, apprehension, and uncertainty in the NICU need not be replicated in the mother-child relationship, and yet research has shown that there is a difference in the way NICU mothers relate to their infants compared to mothers of full-term infants (Brandon et al., 2011; Flacking et al., 2012; Ionio et al., 2016; Jackson et al., 2003; McConnico & Boynton-Jarrett, 2015).

As stated previously, much of the literature on PPCV has focused on premature infants and NICU families. This section will address, broadly, the parental experiences of the NICU during and after hospitalization. In addition, a link between NICU infants and PPCV will be made with an examination of the concept of interpersonal trauma and how research has used this concept to better understand the resultant parent-child relationship difficulties that occur in some NICU families.

Parental Distress When Baby is in the NICU

Various research studies have shown heightened levels of psychological distress in NICU parents during their infants' hospitalization and after discharge from the NICU (Brandon et al., 2011; Friedman et al., 2013; Holditich-Davis et al., 2009; Penny et al., 2015; Voegtline & Stifter, 2010). These studies have examined the prevalence of perinatal mood and anxiety disorders (PMADs) such as postpartum depression (PPD) and posttraumatic stress disorder (PTSD) and have found clinically elevated levels of these diagnoses in NICU parents (Hynan et al., 2015). The risk of perinatal mental health disorders, in addition to psychological distress at subclinical levels, is increased among parents of NICU infants and low birth-weight infants (Hynan et al., 2013; Ishizaki et al., 2013; Northwestern University, 2017; Tahirkheli et al., 2014). Studies have estimated the prevalence of clinically diagnosable mental disorders in NICU parents during the first postpartum year as 20-30% or higher. According to Tahirkheli et al. (2014), NICU mothers

are up to 70% more likely to experience postpartum depression compared to mothers of babies not in the NICU. In addition, the rate of postpartum depression in NICU fathers is around 3-10%, experiencing increasing stress levels in the two weeks after their infant's discharge from the NICU (Northwestern University, 2017). Given that babies in the NICU are already at risk for developmental delays and medical concerns, research has shown it is especially important for NICU parents to be able to mentalize their child during interactions and respond to their child in mutually desirable ways, but this is difficult to do when experiencing PMADs (Tahirkheli et al., 2014). Even so, there is a dearth of research that test early interventions with parents to prevent the development of negative outcomes for parents and parent-infant interaction (Lomonaco-Haycraft et al., 2019; Melnyk et al., 2006).

One notable exception is a small randomized controlled pilot study with mothers of premature infants conducted by Bernard and colleagues (2011). The intervention provided to 56 mothers was brief and sought to reduce symptoms of anxiety, depression, and PTSD one month after discharge from the NICU. The intervention was successful in reducing levels of depression based on follow-up at six months (p = .06, Cohen's f = .318), but there were no significant differences in levels of posttraumatic symptoms between the intervention and control group.

While many NICU parents are not diagnosed with a PMAD or PTSD, their experience may well be described by acute stress disorder (ASD), which is a traumatic stress response occurring in the first few weeks after a traumatic event; ASD is the precursor to persisting PTSD (APA, 2013; Shaw et al., 2006). Shaw et al. (2006) assessed 40 parents for ASD during the infant's hospitalization in the NICU, and of the 40, 28% developed symptoms of ASD. The study found that family environment (i.e., family cohesiveness and control) and the parent's coping style (i.e., suppression) were significantly correlated with the development of ASD symptoms

(Shaw et al., 2006). Shaw et al. (2013a) also found that coping style was significantly associated with symptoms of PTSD and ASD in 56 NICU mothers. Specifically, elevated PTSD risk was associated (RR = 1.09, p = .008) with dysfunctional coping style as measured on the Brief COPE (Carver 1987; Carver et al., 1989). Such coping styles included disengagement, denial, distraction, self-blame, and substance use (Shaw et al., 2013a).

Shaw and colleagues (2013b) also evaluated a manualized intervention for the prevention of traumatic stress, depression, and anxiety in mothers with premature babies in an RCT. The trauma-focused CBT treatment was used in conjunction with psychoeducation, cognitive restructuring, progressive muscle relaxation, and trauma-specific narrative therapy with the goal of facilitating "infant redefinition" (p. Shaw et al., 2013b, p. e887) with the understanding that maternal psychological stress after the NICU would impact a parent's positive perception of their baby. The treatment group consisted of 62 mothers of premature infants, and the comparison group consisted of 43 mothers of premature infants. Mothers in the treatment group saw significantly lower levels of trauma symptoms (p = .023, Cohen's d = 0.41) and depression symptoms (p < .001, Cohen's d = 0.59) compared to the control group. Shaw and his colleagues posited that the intervention helped increase parents' confidence in their abilities to care for their premature babies by addressing and changing parental negative perceptions of their premature infants. The interventions used in addition to trauma-focused CBT have been shown in previous studies to improve parenting skills for parents of premature infants (Als et al., 2003; Shaw et al., 2013b).

Loewenstein (2018) conducted a review of the literature on factors that contribute to the distress of NICU parents, specifically within the context of the social ecological model (SEM; McLeroy et al., 1988; Stokols, 1996). Of the 26 articles reviewed, Loewenstein (2018) found that

socioeconomic factors, history of parental mental health concerns, problems with family cohesion, birth trauma, altered parenting role, the infant's gestational age and birth weight, and the severity of the baby's condition while in the NICU have been linked to the development of parental distress. Roque et al. (2017) reported similar findings in their review of 66 articles on NICU parental mental health. Both Roque et al. (2017) and Loewenstein (2018) found no significant differences in the distress of NICU parents based on ethnicity, nationality, or cultural background, although Roque et al. (2017) specified that while there were no differences found among sociocultural groups, meanings of distress, coping, feelings of guilt and shame, and other mental health factors may vary widely across groups.

Holditch-Davis et al. (2015) investigated the various types of psychological distress experienced by a diverse group of mothers of premature infants. The study collected responses from 232 NICU mothers on five self-report questionnaires, which measured depression, anxiety, post-traumatic stress symptoms, stress due to the baby's appearance, and stress due to parental role alteration. The mothers filled out the questionnaires during the baby's NICU stay, at discharge from the NICU, and at 2-, 6-, and 12-months post-discharge. Holditch-Davis and colleagues identified five distinct subgroups of psychological distress in the mothers, each exhibiting different trajectories over the time span of the study: low distress, moderate distress, high distress related to the NICU, high distress related to depression and anxiety, and extreme distress. NICU mothers who were assessed as experiencing extreme distress, as well as mothers with high depressive and anxiety symptoms, were shown to remain at significant risk for psychological distress at the 12-month follow-up. These mothers also endorsed less positive perceptions of their babies, including greater worry and perceptions of child vulnerability (Holditch-Davis et al., 2015).

NICU Experience as an Interpersonal Trauma

Much of the psychological literature on the NICU, for both parents and babies, has described the experience as traumatic (Shaw & Horwitz, 2020). However, there is a paucity of literature on the relationship between the trauma of the NICU experience and how that trauma impacts the parent-child relationship. The most common feelings among NICU parents, found in a meta-analysis of NICU studies from August-September 2011, included fear, guilt, and grief due to the loss of the idealized child (Zani et al., 2013). One way to understand the loss of the idealized child, the loss of the idealized parent-infant relationship, and the threatened loss of the child themselves, is to conceptualize the NICU experience as an interpersonal trauma (Lasiuk et al., 2013). Interpersonal theory (Sullivan, 1953) asserts the essential role of human interaction within an individual's psychological wellness and development. Sullivan (1953) posited that it is important for individuals to form an understanding of relationships at the beginning and early on in life to put meaning to bodily experiences, and to use that understanding as a model for future relationships. Disturbances or disruptions in an individual's early relational experiences (e.g., neglect, isolation) place that individual at risk of dissociation from relational experiences due to the lack of conscious integration of those interactions earlier in life (Yalch & Burkman, 2019).

Briefly, trauma theory (e.g., Dalenberg et al., 2012; Herman, 1992) posits that after a traumatic event, the affected individual is not able to organize the meaning, mentally and emotionally, of what occurred. Trauma is understood as "a shattering of meaning," after which an individual's beliefs prior to the trauma are not compatible with the perception of the traumatic event (Yalch & Burkman, 2019, p. 78). In the context of the NICU as an interpersonal trauma, research studies have found that individuals' beliefs about their self-efficacy as parents changed after the premature birth of their baby (Nygren et al., 2012; Theo & Drake, 2017).

Research has suggested factors that predispose parents and their NICU babies to difficulties early in their relationship, including parental negative perceptions of premature babies and the actual behaviors of premature infants during hospitalization (Estroff et al., 1994; Field, 1983; Stern & Hildebrandt, 1984). For example, Field (1983) found that premature babies in distressed parent-infant pairs tend to avert their gaze, and squirm, while the mother tends to be intrusive, frustrated, and overly active. Mothers in Palmquist et al.'s (2020) qualitative study on lactation and caring for their very-low-birth-weight (VLBW) babies reported that the physical and emotional trauma of premature birth negatively impacted lactation experiences. These mothers also reported that separation from their babies during the NICU stay increased perceived suffering and inconsistent lactation and reported on their efforts to practice forms of "embodied resistance" to cope with their birth and NICU trauma (Palmquist et al., 2020, p. 5). These acts of resistance often came from the NICU mothers themselves and lactation consultants in the form of advocating against barriers to mother-child physical closeness (Palmquist et al., 2020). Finally, Lasiuk et al. (2013) interviewed parents of babies who were born prematurely to better understand their experience of preterm birth. The study's themes focused on what factors the NICU parents experienced as traumatic: prolonged uncertainty, lack of self-efficacy as an agent in their child's life, disturbance in the parents' meaning systems, and changing expectations of the parents and their role in the infant's care.

Based on the concept of internal working models of attachment, research on attachment in NICU families has postulated that a NICU parent's predisposition to attachment security or insecurity, developed in their own infanthood, should indicate the parent's attachment re-enactment and psychological response to the stressful event of their infant's hospitalization (Barr, 2014). Barr (2014) studied the relationship between adult attachment dimensions,

categorized as closeness, dependence, and anxiety, and worldview assumptions defined as benevolence, meaningfulness, and worthiness in 142 NICU parents (71 couples). The study found that parents who were inclined to attachment-dependence and parents who held positive beliefs about benevolence and worthiness had less psychological distress and more well-being. In this study, attachment-dependence was defined as the willingness to and confidence in depending on others for support. Barr (2014) described the most significant finding of the study as the strong relationship between parents' inclination toward attachment-dependence and indications of both their negative and positive psychological well-being after the baby's NICU discharge. More specifically, parents who endorsed more comfort with attachment-dependence showed less anxiety, depression, and loss of control on the study's measures of negative psychological health, and more positive affect, emotional ties, and life satisfaction on the study's measures of positive psychological health. According to Barr (2014), attachment-dependence partially mediates the relationships of benevolence and worthiness with psychological distress and benevolence with psychological well-being. Worthiness was found to have a direct relationship with psychological well-being.

Racial and Ethnic Disparities in the Delivery of Services

Research has shown racial and ethnic disparities not only in infant mortality, but also in maternal mortality, quality of care delivery, and various perinatal outcomes (Wallace et al., 2017). One study, for example, found clinically and statistically significant racial and/or ethnic disparities in quality of care between NICUs and within NICUs (Profit et al., 2017). Non-Latinx Black women are twice as likely to deliver pre-term compared to non-Latinx White women, and Black women experience perinatal losses and infant death more than any other racial group in the United States (Giscombé & Lobel, 2005; Manuck, 2017; Wallace et al., 2017). One study has

found that non-Latinx Black infants born at VLBW were 34% more likely to die compared to non-Latinx White VLBW infants (Bruckner et al., 2009). Stigma around mental health, in addition to financial barriers and lack of integrated mental healthcare in medical practices that serve perinatal women, play a role in the negative outcomes for Black women who are pregnant or give birth. Racial disparity in perinatal and newborn care has been shown to result in higher levels of infant and maternal mortality and morbidity (e.g., low birthweight) in Black mothers and babies compared to non-Latinx White mothers and babies (Liese et al., 2019; Petersen et al., 2019; Pruitt et al., 2020; Vedam et al., 2019). While research has yet to fully explain these racial disparities, implicit bias and unexamined discrimination by healthcare professionals toward non-white mothers and babies likely play a role (Saluja & Bryant, 2021).

A systematic review of 41 articles focusing on racial and ethnic disparities in the quality of care for NICU infants revealed complex racial and ethnic disparities in the structure, process, and outcome measures of NICU infants, which overwhelmingly disadvantaged infants of color, especially Black infants (Sigurdson et al., 2019). For example, some of these disparities include higher rates of infection and higher rates of discharge without breast milk feeding among NICU babies in hospitals with a higher proportion of Black patients compared to hospitals with a lower proportion of Black patients (Lake et al., 2015; Sigurdson et al., 2019). An important finding from Sigurdson et al. (2019) is that the patient-to-nurse ratio in "minority-serving" hospitals is significantly higher compared to "top-tier" hospitals, and mothers in minority-serving hospitals received 50% less care. In addition, a study from the University of Pennsylvania's School of Nursing found that nurses in hospitals serving at least 33% Black infants missed 50% more of their patient-related tasks than in hospitals where Black infants make up less than 10% of babies (Lake et al., 2017). Lastly, Black mothers of NICU babies were less likely to receive referrals for

early intervention and high-risk infant follow-up for their low-birth-weight babies (Sigurdson et al., 2019).

Inadequate quality of care for Black mothers and their babies could be important to understanding PPCV and how external factors may play a role in its development. The real disparities in care for Black individuals, not only in the NICU but in fields like pediatrics, oncology, and cardiology (Sigurdson et al., 2019), could cause heightened anxiety for parents who may suspect inadequate care could mean their child's physician has missed something. In a study on parental satisfaction with nursing care in the NICU, 50% of Black parents interviewed reported dissatisfaction with experiences in which their concerns were dismissed by nurses, whereas this dissatisfaction was reported by only 24% of White parents interviewed in this study (Martin et al., 2016). In addition, studies have found that non-White women are significantly less likely to be screened for postpartum depression compared to White women (Kozhimannil et al., 2011; Sidebottom et al., 2021).

To date, research has shown several factors that have correlated with heightened PPCV for mothers, including prior fetal loss (Burger et al., 1993; Miles & Holditch-Davis, 1995; Thomasgard & Metz, 1995; Thomasgard & Metz, 1997; Thomasgard, 1998), maternal anxiety and depression (Allen et al., 2004), as well as marital status, socioeconomic status, and education (Burger et al., 1993; Culley et al., 1989; Miles & Holditch-Davis, 1995; Perrin et al., 1989). Maternal race has not yet been shown to be directly associated with heightened PPCV, but that does not minimize the need for further research into this relationship, and furthermore, how race, identity, and discrimination may impact the experiences of PPCV. These considerations are important for the present study because of the underrepresentation in the literature despite the

preterm birth rate being 49% higher for Black women than for all other women in the United States (Sigurdson et al., 2019).

Discharge and Follow-Up Care

Much of the research discussed thus far has been related to the time in which a baby is still in the NICU. However, research studies exploring parents' experiences after their baby's discharge from the NICU are equally important in understanding the parent-child relationship. After discharge, parents are tasked with meeting the developmental, medical, and emotional needs of their new babies on top of other responsibilities or stressors in the parents' lives (Berman et al., 2019; Purdy et al., 2015). Many parents report that they do not feel confident in their role as a parent at the time of their child's birth, particularly when the birth is premature (Obeidat et al., 2009). Research has supported that during a baby's hospitalization in the NICU, staff should work to reinforce parental self-confidence before discharge (Ishizaki et al., 2013; Purdy et al., 2015). Parents who felt insecure about their parental role at discharge were more likely to have problems with their infants at home and were more likely to experience parent-infant relationship problems (Ishizaki et al., 2013). Research has delineated standardization of discharge and follow-up care by an interdisciplinary team that has been demonstrated to aid in better preparation for NICU parents (Purdy et al., 2015). In an interview of 15 NICU parents after their infant's discharge, Berman et al. (2019) found that the needs of NICU parents focused on communication, a clear understanding of the parental role, emotional support, and resources for gaining knowledge and navigating NICU-related finances.

Several research studies have confirmed the importance and efficacy of High-Risk Infant Follow-Up (HRIF) clinics, which provide medical, developmental, psychological, and social work services for babies and parents after a NICU discharge (Purdy et al., 2015). One study

investigated the pros and cons of screening for depression and post-traumatic stress disorder in parents of high-risk infants for emotional distress and proposed recommendations for doing so (Hynan et al., 2013). This study found that screening, support, and necessary referrals can help to minimize psychological distress in parents and the subsequent negative effects that parental distress has on the infant's development (Hynan et al., 2013). One of the strongest deterrents to screening for psychological distress in parents of high-risk infants during hospitalization and at discharge has been the difficulty in providing resources and referrals for mental health services (Hynan et al., 2013).

Parenting After the NICU

The literature on parenting after the NICU can easily circle back to where this review began—on VCS (Green & Solnit, 1964)— but there is additional literature on the topic that does not center on VCS (Adama et al., 2016; O'Donovan & Nixon, 2019). Even for parents who do not perceive their child as vulnerable once the baby is home, research has shown that parenting a child who was born prematurely is distinct from parenting a child who was full-term at birth due, in part, to the delayed transition to caregiving for their baby. O'Donovan and Nixon (2019) interviewed 13 parents of preterm infants younger than two years old at the time of the study on their experiences of parenting. Four themes were identified using interpretative phenomenological analysis: (a) "an unnatural disaster: the traumatic nature of preterm birth," (b) "the immediate aftermath:" sense of disconnection and displacement during the NICU hospitalization, (c) "breaking the ice:" attempts to connect to and bond with baby, and (d) "aftershocks: transitioning home" (O'Donovan & Nixon, 2019, p. 580). For all 13 of these parents, the birth of their child was experienced as traumatic, leading to shock and difficulty processing the event while it was happening. Parents identified their sense of disconnection from

their infant during hospitalization as both an emotional disconnection due to difficulty coping with the traumatic birth and a physical disconnection due to barriers around the baby (O'Donovan & Nixon, 2019).

A meta-synthesis of the qualitative studies on parenting after the NICU was outlined by Adama et al. (2016). The authors specifically focused on studies in which the population of interest was NICU parents whose children were between the ages of 0-18 months. Twelve studies were identified, creating nine themes and three syntheses. Two unequivocal themes arose, including the mothers' consistent behaviors in protecting their infants from harm, implying the infant's fragility. These behaviors included control of others' handling of the baby, such as requests for hand washing, no kissing, and no close touch. Similarly, a sense of responsibility to their baby was unequivocal and was represented by a quote regarding a mother's will to stay awake with her child. The three syntheses found were (a) parents' improved confidence in care when given support, (b) managing the difficulties of caring for a preterm infant, and (c) overprotective parenting. Adama and colleagues used Joanna Briggs Institute (JBI) approach to systematically reviews the studies' data and categorize them as either *unsupported, credible,* or *unequivocal,* in which unequivocal indicates evidence in the data that is "beyond reasonable doubt," including direct observations or reports that are "not open to challenge" (p. 32). The finding that mothers were overprotective of their infants whom they perceived as fragile was categorized as unequivocal. The results of the meta-synthesis posited that overprotective parenting that is present after NICU discharge was a response to having a preterm infant. Adama et al. described the correlates of overprotective parenting of a child who started life in the NICU: (a) a sense of guilt, (b) compensation toward the child for the suffering accompanied by their prematurity (e.g., persevering with breastfeeding), and (c) protecting the

child from being physically injured so as to avoid another hospitalization. Although none of the parents in these studies were screened for PPCV, the aforementioned findings support the research on VCS and PPCV. Adama et al. (2016) cited Miles and Holditch-Davis (1995), who found that mothers of preterm infants were still using compensation behaviors with their children three years after their NICU stay. Furthermore, these results can be connected to maternal attachment. One unequivocal finding was that the mother's confidence as a caregiver increased with the mother's perception of a strong mother-baby attachment. It is possible that maternal attachment helps explain why some NICU parents are especially prone to overprotective tendencies.

Summary

This literature review consisted of several interrelated key topics that are relevant for understanding VCS, the phenomenon in which a healthy child is perceived by their parent as uniquely vulnerable to illness, injury, or death. One of the most common risk factors for the development of VCS is premature birth of the child and subsequent hospitalization in a neonatal intensive care unit (NICU). The concept of interpersonal trauma was identified in the examination of how parental distress and the NICU experience are associated. Furthermore, attachment style is a factor that has been identified in the literature as impacting an individual's response to trauma, including the trauma of childbirth. The current study aimed to understand the parent-child relationship of mothers with PPCV whose child has been in the NICU through the mother's relationship with her own mother, utilizing attachment theory as a framework in which to make these connections (Ainsworth et al., 1978; Bowlby, 1958, 1969). Despite the large body of literature on attachment theory, VCS in NICU families has yet to be conceptualized through attachment theory and internal working models of motherhood. The literature on the mother's

representation of self as a mother and that of her child shed light on the concept of the parent-child relationship, which informed the current study in exploring the mother's narratives about her relationship with her own mother and her relationship with her infant.

CHAPTER III

Methods

The purpose of this study was to explore the parent-child relational narratives of mothers whose babies have been in the NICU and who meet criteria for PPCV. Narrative analysis (Josselson, 2004) was used to interpret the qualitative data on two levels that broadly explore the content and context and latent meanings of the narratives.

Paradigm and Research Design

Data were collected from in-depth, semi-structured interviews via audio-only communication (i.e., Microsoft Teams) within a constructivist paradigm (Guba & Lincoln, 2005; Ponterotto, 2005) and coded using narrative analysis (Josselson, 2004). One assumption of narrative inquiry, and constructivist paradigms as a whole, is the existence of multiple truths; particularly within narrative research, a personalized and constructed experience is seen as storied rather than as a record of facts (Josselson, 2011; Spence, 1982).

Narrative inquiry is a qualitative research method with growing use in the field of psychology. Its 20th-century roots come from the fields of sociology and anthropology, which relied on the oral and written histories of peoples and cultures for research (Chase, 2005). In addition, the Civil Rights Movement and other liberation movements of the mid-20th century enlivened the stories of oppressed groups in the United States. Narrative inquiry methodology has a variety of analytic lenses and traditions that vary across researchers. For example, one of several definitions of *narrative* is "an extended story about a significant aspect of one's life" (Chase, 2005, p. 652), whereas another definition encompasses an individual's entire life story from birth to the present day.

In the current study, participants were asked to share their story of a significant event in their life, which is the birth and hospitalization of their newborn child, and the subsequent experiences of excessive worry about the child's health. In the same interview, participants were also asked questions about themselves from their own early childhood and their perceptions of themselves as mothers, which can be considered a type of life story. In their analyses, narrative researchers are less concerned with facts; rather, there is a focus on how the telling of a story is a specific, contextualized construction. Narrative analysis is unique in the researchers' role of reconstructing that narrative as they interpret the participants' own constructed narrative. This methodology is well suited for the present study, which aimed to explore the mothers' constructed stories of their own relationships with their attachment figures and their relationships with their young children, with the core of the analysis centering on the interconnectedness of the various stories told by the mother. One of the goals of this study was to recognize and explore two stories within one: the story the individual is telling and the story they are not telling, which, through narrative analysis, is interpreted by attending to latent meanings of storylines, words, contradictions in the story, and difficulties with providing memories to illustrate their story. Narrative inquiry provides a unique method to explore these stories and fills a gap within the VCS, NICU, and attachment theory literature investigating parent-child relationships and internal working models of motherhood as well as mothers' attachment representation of their child.

Participants

The inclusion criteria for this study required that participants (a) are at least 18 years old, (b) are the mother of a child who was in the NICU for a minimum of 4 days as a newborn and who is now between the ages of 1 and 4 years, (c) can read and speak English, (d) graduated high school or received their GED, (e) and have access to the internet. The NICU length-of-stay

criterion was informed by research on average lengths of stay for NICU babies. According to a study conducted by the March of Dimes and the National Perinatal Information Center/Quality Analytic Services (NPIC/QAS, 2011), among babies of all gestational ages, infants admitted to a NICU in their study had an average length of stay of 13.2 days, ranging from 4.9 days to 46.2 days. Whether the length of stay impacts the risk for PPCV has been inconsistent in the literature. Several studies specifically exploring PPCV (Horwitz et al., 2015) and parental stress (Dudek-Shriber, 2004) in parents of NICU graduates found that length of NICU stay positively correlated with PPCV scores for parents. Tallandini et al. (2015) found that length of hospitalization was a better predictor of PPCV than the infant's gestational age at birth. In these studies, median NICU stays were approximately 30 days. Allen et al. (2004) explored how infant physiological factors and maternal psychological factors impact the risk of PPCV. The researchers found that, although longer NICU stays did predict higher PPCV in parents, this was only significant for families relatively soon after NICU discharge. Allen and colleagues (2004) found that maternal psychological factors stably predicted heightened PPCV even several years after the baby's NICU discharge. In that specific study, the mean length of stay was 92 days, with 42 days at the lower range, with 69% of the parents identifying racially as White, which could indicate limitations with generalizability to most NICU families.

On the other hand, there have been studies specifically on PPCV in which the length of hospitalization has not been a significant predictor (Greene et al., 2017). Ultimately, research has shown the importance of asking about the length of hospitalization through demographic information, but that the variable in and of itself may or may not be influential in the development of PPCV. On the one hand, parental stress can increase with a longer NICU hospitalization due to increased strain on resources, difficulties managing roles as a new parent

with work or caring for other children, and mere increase of exposure to the NICU. However, length of stay does not fully capture the severity of acute illness or the experience of a parent's immediate distress regarding their infant's likelihood of living. For example, sepsis or infection is the leading cause of neonatal death in the U.S. (World Health Organization, 2020), yet some infants with acute infections only remain in the NICU for 4 to 7 days (National Collaborating Centre for Women's and Children's Health, 2012). Given this information, the present study collected data on the length of hospitalization, but it was not a limiting factor in the study's inclusion criteria if participants met the other criteria, including a positive screening for PPCV.

In addition, the age bracket of 1-4 years old for the children was informed by research on the importance of these years in forming the parent-child relationship as well as the child's attachment style (Bryant, 2016; Crittenden, 2006; Winston & Chicot, 2016). There is a gap in the NICU literature regarding life after the NICU and what that looks like in the first few years for the parent-child relationship (Adama et al., 2015). Aside from the above-outlined inclusion criteria, participants were required to meet criteria for PPCV, which was assessed with a pre-screening tool, the Child Vulnerability Scale (Forsyth et al., 1996). A positive screening is indicated by a score of 10 or above (Forsyth et al., 1996).

Working with participants whose stories represent experiences of diverse cultural backgrounds, racial and ethnic identities, socioeconomic status, and marital status typically increases the richness and trustworthiness of the data. However, as anticipated, recruitment methods using avenues such as online support groups reach a disproportionately lower number of mothers with diverse backgrounds compared to mothers identifying with majority groups (i.e., White, middle- to upper-class SES). Diverse individuals continue to be underrepresented in psychological research for a multitude of reasons, one of those being unsuccessful recruitment

and outreach to diverse individuals and communities (Sugden & Moulson, 2015). The current study fell short in recruiting a sample as diverse in race, ethnicity, and SES as would be representative of families experiencing NICU hospitalizations. However, efforts were made to address this limitation at the time of recruitment. For example, recruitment methods such as outreach to support groups for mothers included groups that specifically serve mothers of color, such as the Shades of Blue Project.

The study aimed to recruit at least 8-10 participants and ultimately sampled 8 participants, and took into consideration the adequacy of the data (Vasileiou et al., 2018) throughout the concurrent interview and analytic processes. Saturation has been described in the literature on qualitative methods in a variety of ways; it has been described as a set-point event, a process based on thematic completeness or redundancy of codes, theoretical saturation (Glaser and Strauss, 1967), and as sufficient conceptual depth (Saunders et al., 2018). Narrative research, in general, does not see saturation as a goal but as a process that is determined as sufficient by the researcher based on conceptual depth, which was the method employed in the current study. Based on this interpretation of saturation, the data becomes "richer and more insightful" with each narrative, and it is left to the researcher to decide when the narratives, collectively, are rich enough (Saunders et al., 2018, p. 1901). Measures were taken to ensure the number of volunteers did not exceed the capacity of this study, based on the timeline of the study and resources. The number of initial responses to the screening survey from interested participants was tracked daily, all prospective participants who met criteria were contacted, and ultimately 8 participants were sampled.

Instruments

The study collected data through various instruments. First, an online screening questionnaire (Appendix A), including six questions about inclusion criteria and the eight questions that make up the Child Vulnerability Scale (Appendix B; CVS; Forsyth et al., 1996), was used to ensure eligibility. Then, the study utilized a demographics questionnaire (Appendix D), a semi-structured, 60-minute, qualitative interview (Appendix E) conducted via Microsoft Teams, and three structured measures delivered at the end of the interview: Experiences in Close Relationships Scale-Revised (Appendix F; ECR-R; Fraley et al., 2000), Parental Reflective Functioning Questionnaire (Appendix G; PRFQ; Luyten et al., 2017), and Adverse Childhood Experiences (Appendix H; ACEs; Dube et al., 2003; Felitti et al., 1998). Self-report data on adult attachment style with the ECR-R, parental reflective functioning with the PRFQ, and ACEs was used to provide additional information that may not have been adequately addressed in the interview or to provide additional confirmation of information that was shared in the interviews. Responses from the self-report data lent themselves to the researcher's interpretive process of re-constructing the original narrative constructed by the participant.

Screening Questionnaire

The screening questionnaire (Appendix A) was completed online directly prior to the Child Vulnerability Scale. The questionnaire screened mothers for inclusion criteria: (a) are at least 18 years old, (b) are the mother of a child who was in the NICU for a minimum of 4 days as a newborn and who is now between the ages of 1 and 4 years, (c) can read and speak English, (d) graduated high school or received their GED, (e) and have access to the internet.

Child Vulnerability Scale

The CVS (Appendix B) was presented immediately after the screening questionnaire and was completed online by the mothers interested in participating in the study as a pre-screening tool. The CVS was scored automatically through the survey program, Qualtrics, using the Scoring Editor feature of the website. A result window provided a message to the prospective participant, based on the automatic scoring, about whether or not the volunteer met the criteria to participate in the study. The CVS consists of 8 questions that assess a family's perceived vulnerability and is self-reported by the parent. It is a Likert-type scale with item responses that range from *definitely false* to *definitely true,* or 0-3. The highest possible score on the scale is 24, and a score of 10 or above indicates perceived vulnerability (Forsyth et al., 1996). In order for mothers to meet criteria to participate in the current study, they needed to score 10 or above on the CVS. The study purposefully explored the narratives of NICU mothers experiencing PPCV, so it was essential that mothers met these criteria before moving forward with participation. Sample items on the CVS include, "In general, my child seems less healthy than other children," "I often think about calling the doctor about my child," and "I often check on my child at night to make sure that s/he is okay," each to which the parent chose among the responses, *definitely true, mostly true, mostly false,* and *definitely false.*

The scale was normed on 1,095 children (Forsyth et al., 1996), and the cut-off score was determined by evaluating the score that best differentiated the children with and without the two primary variables of vulnerability identified in an item correlation analysis. Internal consistency of the scale was good, with a Cronbach alpha of .74. The item-total Pearson correlation coefficients ranged from .51 to .68, $p < .0001$. Forsyth et al. (1996) provided evidence of convergent validity of the scale with chi-square analysis by examining the association between

the measure of perceived vulnerability in the CVS and two other measures expected to have elevated scores among children with perceived vulnerability. The two other measures were the Child Behavior Checklist (CBCL; Achenbach, 1991), which examined problem behaviors in children, and the number of urgent physician visits by the child and their parent. Of note, the CVS does not fully measure VCS; it is a measure of PPCV, which is central to the narrative of the parent-child relationship, and the construct that was measured in the present study.

Demographic Questionnaire

The demographic questionnaire consisted of 20 short items asking about the participant's race, household income, age, and reproductive history, among other relevant demographics. Although this study is qualitative, and therefore did not measure statistical correlations among demographic variables, participants' background information was useful in making connections throughout their story and among various stories.

Individual Interviews

Individual interviews were used as the primary source of data in this qualitative study. First and foremost, this study was framed within a constructivist paradigm which asserts the existence of multiple truths, which is particularly important when considering stories and oral histories (Guba & Lincoln, 2005; Ponterotto, 2005). Stories are data that are personalized not only to the narrator's lived experience, but to the narrator's beliefs, worldview, use of language, and psychosocial development (Chase, 2005). One of the goals of narrative inquiry, particularly in reconstructing an individual's narrative, is to preserve and reflect the narrator's meaning (Josselson, 2011). Interviews are uniquely suited to capture a participant's own voice as opposed to close-ended questions and scales that are primarily rooted in the researcher's frame of mind.

The interview guide (Appendix E) for the current study was developed with the act of storytelling and personal reflection in mind (Weiss, 1994). The questions relied on the participants' perceptions, emotions, memories, psychological defenses (i.e., contradictions or gaps in memories), and willingness to share details. Three broad areas were considered in the interview questions: (a) NICU experience, (b) illustration of PPCV, (c) the mother-child attachment relationship, and (d) the mother's relationship with her own mother or primary caregiver. For example, one of the items in the interview was, "Tell me about a time when you were scared your baby/child was hurt or ill, once they were out of the NICU, and how you dealt with it," which gauged a PPCV-related experience. Specific subareas of the mother-child attachment relationship were addressed: (a) mother's childhood attachment relationships, (b) mother's representation of self as mother, (c) mother's representation of the child, and (d) mother's internal working model of the parent-child relationship. For example, one of the interview questions that gauged representation of the child was, "What ideas did you have about your baby before they were born?" An interview question that examined the mother's internal working model of the parent-child relationship was, "How has the relationship between you and your mother (or primary caregiver) when you were a young child influenced your relationship with your baby/child, if at all?"

The final interview guide was piloted on a volunteer to ensure that the questions elicited the kind of data suitable to answer the research question and for the analytic method. The volunteer was referred by a mutual acquaintance and did not know me personally. She was the mother of a 17-month-old baby boy who spent five months in the NICU. Due to the limited availability of a volunteer, the CVS was not administered, nor was the ECR-R. The interview lasting 60 minutes was conducted via Microsoft Teams, after which the volunteer and I debriefed

and discussed the interview. A preliminary analysis of the interview using Josselson's (2004) hermeneutics of restoration and demystification resulted in discernible strands.

In the restoration of the volunteer's story, I constructed a narrative in which the mother viewed the NICU experience as traumatic and scary, and a time in which the mother felt that her baby was fragile but very loved. She described feelings of grief and self-blame. The volunteer described the current mother-child bond as strong, and that she holds him to sleep in her arms every night. She described that "nothing was easy," including conception, pregnancy, birth, and the NICU.

Analysis through a hermeneutics of demystification also presented several storylines. There was evidence of the mother feeling fearful that her perceptions of the baby, herself as a mother, and the mother-child relationship were "wrong." She was hesitant to answer questions regarding the mother-child relationship out of fear that her son did not love her, although the evidence of their strong bond did not seem to support that fear. She was able to readily recall an instance when she took her baby to the emergency room for symptoms that were not medically substantiated. She described her own mother as absent and her father as present, though her memories only illustrated how the father was present for the volunteer's brother. Although she had evidence to show that she was, herself, a present and loving mother, her lack of an internal working model of a parent-child relationship impacted her ability to develop an accurate representation of herself as a mother and of her child, as well as understand her bond with her son as secure.

Based on this pilot interview and rough analysis, it was determined that the interview guide generated data suitable to the analytic method and the research question. However, more detailed data could have been collected had there been more probes for specific memories or

stories from the participant. As such, additional probes were added to several of the questions in order to encourage the participant to share specific memories or experiences that could illustrate their responses. One additional question and follow-up probe was added to the interview guide to get a sense of how the mother would describe her baby and to provide a memory illustrating those qualities of the baby. The aim was that this question would tap into the mother's representation of the infant.

Experiences in Close Relationships Scale

After the semi-structured interview took place, the participants were asked to complete the ECR-R (Appendix F), the PRFQ (Appendix G), and the ACEs (Appendix H). These questionnaires were administered after each interview was completed, but in real-time during the Microsoft Teams meeting so as not to prime participants for their responses in the interview portion of the study. The study aimed to explore how a mother's relationship with her primary attachment figure during her own childhood manifests in her relationship with her own child. The use of the ECR-R in this study was to measure the degree of attachment anxiety and avoidance for the participants. The qualitative data of the interviews looked for, among other storylines, the participants' overall integration and understanding of their early childhood attachments. Due to the nature of narrative analysis, participants' intentional as well as unconscious material related to their attachment orientations was interpreted. Therefore, a second mode of evaluating attachment allowed for triangulation of the interview findings and assisted in the interpretation and re-construction of the participant's original constructed narrative. Therefore, ECR-R responses were scored after the first phase of analysis (i.e., hermeneutics of restoration) and were used in the hermeneutics of demystification. Scoring was conducted as outlined by Fraley and colleagues (2000; 2012) and based on the normative data for the ECR-R

(Fraley et al., 2013). Sample items on the ECR-R include, “I worry a lot about my relationships,” “I do not often worry about being abandoned,” and “I am nervous when partners get too close with me” (Fraley et al., 2000).

The ECR-R is a quantitative self-report measure consisting of 36 items that assess individuals’ propensity toward attachment-related anxiety and attachment-related avoidance. The first 18 items of the scale measure attachment-related anxiety, while items 19-36 measure attachment-related avoidance, although the items should be randomized when given to research participants (Fraley et al., 2000). The items are scored on a Likert-type scale of 1= strongly disagree and 7= strongly agree. The scores for all items are averaged within each scale, resulting in a score for attachment-related anxiety and attachment-related avoidance. For the most part, the items focus on attachment within romantic partnerships based on the concept that adult attachment patterns are stable and reflect attachment history, even as an infant (Fraley et al., 2000).

Using item response theory (IRT; Hambleton & Swaminathan, 1985; Lord, 1980) to test the ECR-R, the questionnaire was found to have excellent test-retest reliability for the anxiety and avoidance subscales, respectively ($\alpha = .94$; $\alpha = .91$) and good discriminant validity based on a study of 1,085 undergraduate students (Fraley et al., 2000). However, the authors noted that the ECR-R scales, like other attachment scales evaluated in their study, assessed high levels of attachment security with less precision than insecurity; in other words, the ECR-R is not optimal for distinguishing low levels of anxiety and avoidance (Fraley et al., 2000). The internal consistency is excellent for the two ECR-R scales at over .90 each. (Sibley & Liu, 2004). Furthermore, test-retest correlations for the ECR-R subscales were found to be around .90 (Sibley & Liu, 2004). The ECR-R has been normed on a sample of over 17,000 individuals

based on those who have completed the instrument online (Fraley, 2012). The ECR-R has been used in studies of mother-child attachment, but there is limited information on reliability in these studies (Gobel et al., 2020; Kim et al., 2019).

Parental Reflective Functioning Questionnaire

The PRFQ (Appendix G) in this study was used to measure the participants' mentalization abilities or their capacities to view their infants as beings with their own mental states. The purpose of collecting PRF information was to help consider how mothers' reflective functioning, along with their attachment avoidance/anxiety as measured by the ECR-R, may come into play when navigating a stressful experience, such as the NICU hospitalization of their newborn. Sample items of the PRFQ include, "I always know what my child wants" and "I wonder a lot about what my child is thinking and feeling." The PRFQ was developed as a screening tool intended for studies with large sample sizes and provides a more robust understanding of PRF when paired with observer-rated measures like interviews and parent-infant interactions (Luyten et al., 2017). In addition, the PRFQ was intended for use with parents whose children are five years old or younger.

The PRFQ is a self-report measure consisting of 18 items that individuals respond to using a Likert-type scale with 1= strongly disagree and 7= strongly agree. The scale takes 5 minutes for respondents to self-administer. The 18 items are organized across three subscales; 6 items represent each subscale which covers essential features of PRF: (a) Pre-mentalizing subscale (i.e., inability to mentalize the child), (b) Certainty in Mental States subscale to gauge understanding of mental states as ambiguous, and (c) Interest and Curiosity subscale that examines parental interest in their child's mental states (Slade, 2005; Slade et al., 2007; Steele et al., 2008). The subscales were detected by exploratory factor analysis and tested by confirmatory

factor analysis (Rutherford et al., 2015). In terms of scoring, items #11 and #16 are reverse scored; the mean for each subscale's six items is then calculated. Interpretation methods of the PRFQ have not yet been agreed upon across studies (Anis et al., 2020). Luyten and colleagues (2017) assert that the PRFQ is multidimensional and does not lend itself to a single score yield. Instead, questions can be reviewed and understood within the context of the subscales, using the Likert-type scale to gauge the levels of each subscale. The developers of the PRFQ have posited that scores on the Certainty in Mental States and Interest and Curiosity subscales either on the lower end or higher end both indicate low PRF. Scores in the middle of the scale (i.e., mean scores between 3-5 on the Likert-type scale) of both Certainty in Mental States and Interest and Curiosity subscales may indicate more optimal levels of PRF (Luyten et al., 2017; Luyten et al., 2017b). To illustrate, high scores on the Certainty in Mental States subscale may indicate intrusive mentalizing in which the parent does not recognize the inherent "opacity" of mental states (Luyten et al., 2017, p. 183). On the other hand, a parent who obtains a low score on this subscale may indicate *hypomentalizing.* Similar reasoning follows for the Interest and Curiosity subscale.

The PRFQ's items were developed with influence from the RF manuals for the Adult Attachment Interview (Fonagy et al., 1998) and the Parent Development Interview (PDI; Slade et al., 2007). The PRFQ has been found to have good internal consistency for all subscales: Pre-mentalizing ($\alpha = 0.70$), Interest and Curiosity ($\alpha = 0.74$), and Certainty in Mental States ($\alpha = 0.82$) (Luyten et al., 2017b). Two of the subscales of the PRFQ, Certainty in Mental States and Interest and Curiosity, correlated significantly ($p < 0.05$) with the PDI-rated Reflective Functioning Scale, which provides evidence for convergent validity for the PRFQ (Anis et al., 2020).

Parental reflective questioning is related though distinct from reflective functioning in general. Steele and colleagues (2008) found a modest correlation of $r = .50$ between general RF as scored on the Adult Attachment Interview (George et al., 1985) and PRF, which is more "child-specific" (Luyten et al., 2017, p. 177) as scored on the Parent Development Interview (Slade et al., 2004). Furthermore, Luyten and colleagues (2017) emphasize the "context- and relationship-specific" nature of PRF (p. 177), even to the extent that parents can experience different levels of PRF in their relationships with different children. Luyten et al. (2017) cited a study by Bernier and Dozier (2003) in which high PRF was coupled with dismissive parenting, and hypothesized that either hypermentalizing or parental resilience could explain this unexpected combination. The complexity of PRF is vital to keep in mind when interpreting results (Fonagy & Luyten, 2009; Luyten, 2015).

Adverse Childhood Experiences

The use of the ACEs (Appendix H) in this study was to gain information about participants' childhood trauma experiences which may also provide insight into their vulnerability to experiencing significant distress in relation to their child's NICU hospitalization and the child's current health. The ACEs is a quantitative, retrospective, self-report measure consisting of 10 items that ask about an individual's traumatic childhood experiences before the age of 18, that could be considered traumatic, such as emotional, physical, and sexual abuse, witnessing domestic violence, and growing up with family members who used substances, were ever mentally ill or attempted suicide, or who were ever imprisoned (Felitti et al., 1998). Sample items include, "Did a parent or other adult in the household often or very often… Swear at you, insult you, put you down, or humiliate you? or Act in a way that made you afraid that you might be physically hurt?" and "Did you often or very often feel that … You didn't have enough to eat,

had to wear dirty clothes, and had no one to protect you? or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?" (Felitti et al., 1998). For each item that an individual endorses, one point is added to the ACE score. Felitti et al. (1998), in their study on the relationship between ACEs and health risk behavior and disease in adulthood, found that individuals who endorsed four or more of the items on the questionnaire were at significantly increased risk for psychological and physical health problems. In addition, the ACEs Aware (2020) initiative elaborated on how adverse childhood events put children at risk of Ace-Associated Health Conditions, also termed "toxic stress," and correlated scores on the ACEs to a level of risk for toxic stress. Specifically, a score of 0-3 on the ACEs is categorized as low risk, but only if the individual does not have any associated health conditions (e.g., learning or behavior problems, sleep disturbances, asthma). An ACEs score of 1-3 is considered intermediate risk if associated health conditions are present. Lastly, an ACEs score of 4 or more is correlated with a high risk of toxic stress (ACEs Aware, 2020; Dube et al., 2003).

A large body of literature has assessed and shown that the ACEs questionnaire has acceptable to good validity and reliability. Researchers have found that items within the questionnaire are strongly correlative; the presence of one traumatic experience in childhood, as assessed by the questionnaire, is associated with an increased probability of the presence of other ACEs (Bellis et al., 2014; Dong et al., 2004; Mersky et al., 2017; Scott et al., 2013). The measure has acceptable internal consistency (Bruskas, 2013; Ford et al., 2014; Mersky et al., 2017; Wingenfeld et al., 2011; Zanotti et al., 2018) and good convergent validity with the Childhood Trauma Questionnaire used with a sample of German adults (Wingenfeld et al., 2011). In examining the relationship between scores on the ACEs questionnaire and the Adult Attachment

Interview (AAI; George et al., 1985), Murphy and colleagues (2014) reported internally consistent (Cronbach's α=.88) ACE responses.

There is a significant positive correlation between high ACE scores and high levels of perceived stress and mental health concerns (Anda et al., 2006; Schilling et al., 2007). Exploratory and confirmatory factor analyses were examined on a large epidemiological sample and found moderate to high correlations among three factors: household dysfunction, physical/emotional abuse, and sexual abuse (Ford et al., 2014). The ACEs questionnaire is reliable in predicting the relationship between the number of ACEs and adverse future outcomes both retrospectively and prospectively (Afifi et al., 2011; Anda et al., 2008; Clark et al., 2010; Hardt et al., 2010; Scott et al., 2010). Finally, the measure has acceptable test-retest reliability, in terms of an individual's total score, over time periods ranging from 6 to 20 months, but there is conflicting evidence of test-retest reliability for individual items on the measure (Dube et al., 2004; Mersky et al., 2017; Pinto et al., 2014; Zanotti et al., 2018).

Procedure

Once the present study was approved by the Seton Hall University institutional review board (IRB), recruitment began. Participants were recruited through purposive sampling (Palys, 2008), in which participants were selected based on their meeting the study's inclusion criteria. These individuals, based on their experiences and identities, were uniquely suited to provide information that was relevant to my research question that could not be addressed by individuals who did not meet those criteria. Participants were recruited through online platforms created to support parents of NICU graduates, such as Postpartum Support International and Facebook groups for NICU parents. The recruitment letter of solicitation and flyer made clear that individuals interested in participating must first complete a brief, online, 14-item questionnaire

for pre-screening, which includes six questions to screen for inclusion criteria. The questionnaire first consisted of two items about their criteria as a NICU mother. The first part of the screening questionnaire provided the website and HelpLine phone number for Postpartum Support International (PSI), which offers resources such as directories for local support as well as their own virtual support groups. One of the weekly support groups PSI offers is specifically for current and former NICU parents. This resource was provided at the beginning, rather than the end of the screener, in order to set the tone of the study as one that would be exploring mental health and to provide the necessary resources for any person who found themselves on the initial survey page.

For individuals who met the inclusion criteria based on those six questions, they were then directed to the Child Vulnerability Scale (Forsyth et al., 1996), which consists of 8 items. All participants screened positive (i.e., a score of 10 or greater) and met criteria to participate in the study. Individuals who did not meet criteria were directed to a final Qualtrics window indicating that they were not eligible to participate in the study and were reminded of the resources presented at the beginning of the screening. Individuals who met criteria were directed, instead, to a Qualtrics window which provided a brief statement about their positive screening for PPCV. Since PPCV is a key component of Vulnerable Child Syndrome, this positive screening may have indicated pathology that was important for the participant to be aware of; these individuals were also given a list of resources. The individuals who further pursued participation in the study were prompted to provide their email addresses to be contacted by the principal investigator of the study. By email, I contacted the interested participants and asked them to thoroughly read and sign the Informed Consent form attached to the email and complete a demographic questionnaire by following a link to a Qualtrics survey which was provided in the

email. Once these two forms were completed, I scheduled the 60-minute interview with the individual.

I conducted in-depth, semi-structured interviews that aimed to elucidate the following research question: How do the attachment narratives of NICU mothers who currently meet criteria for PPCV impact their narratives about their child and the parent-child relationship? Interviews were conducted over Microsoft Teams and were audio-recorded. When the interview was complete, participants were asked to remain on the Microsoft Teams meeting and complete three measures which were emailed to them in real time via a Qualtrics link: Experiences in Close Relationships-Revised scale (ECR-R; Fraley et al., 2000), Parental Reflective Functioning Questionnaire (PRFQ; Luyten et al., 2017), and Adverse Childhood Experiences (ACEs; Dube et al., 2003; Felitti et al., 1998). Completion of these questionnaires was tracked on the Qualtrics website. Rather than asking for participant names or email addresses on the ECR-R, PRFQ, and ACEs, I was able to match these surveys to the corresponding participant by noting the day/time of completion that matched with the day/time of the participant's interview. Once participants completed the interview, and I verified receipt of their ECR-R, PRFQ, and ACEs results via my Qualtrics account, compensation was provided in the form of a $30 Amazon eGift Card. Prior to data analysis, I transcribed the audio-recorded interviews manually. Once each interview was transcribed, I emailed the transcript to the participant for *member checking* (Bryman, 1988; Lincoln & Guba, 1985), which is the process of participants validating that the transcript conveys the narrative the participant shared and provides the participant an opportunity to clarify or add information prior to the researcher's analysis. The participants were not required to make any edits or respond to the email, which I let them know at the end of the interview. No participants

responded to the email with the transcript. Member checking will also be addressed in the following section on analysis.

Analysis

Narrative analysis was conducted in this study using two hermeneutic positions described by Josselson (2004): hermeneutics of faith, or restoration, which aimed to reinforce the participant's intended meaning to their story, and hermeneutics of suspicion, or demystification, which sought to uncover or analyze latent meanings within the same story (Josselson, 2004). The interpretations made in the analysis phase, then, had two purposes: to understand what the participant was sharing in their narrative, as well as how and why the story was remembered and told in that particular way. The hermeneutics of demystification does imply a degree of authority on the part of the researcher, making interpretations based on material perhaps not consciously intended by the participant, which included the interpretation of their responses on the PRFQ, ECR-R, and ACEs questionnaire. The analysis was conducted with the assumption that my interpretation was only one truth of many that could be constructed from the narrative and was viewed through "personal, social, and historical conditions that mediate the story" (Josselson, 2011, p. 226).

While researchers often have ultimate authority in interpreting and representing narrative research, not all strictly position themselves in an authoritative role (Chase, 2005). Instead, some researchers aim to share the voice with the participants by providing them with the analytic results and obtaining the participant's feedback on the analysis. In the case of the current study, which aimed to accurately represent the participant's story in the hermeneutics of restoration (Josselson, 2004), as well as interpret the hidden meanings of the story in the second round of analysis, the hermeneutics of demystification (Josselson, 2004), the issues of voice and

representation were considered through different interpretive approaches. As described by Borland (1991), the researcher creates a "second-level narrative based upon, but at the same time reshaping, the first" (p. 63).

After the analysis of each transcript, meeting with my peer auditors, reviewing the results with my dissertation chair, and crafting what my chair and I referred to as "therapeutic summaries" of the results for individual participants, I emailed the analytic findings (i.e., therapeutic summaries) to the respective participant for feedback on the analysis. In providing each participant with my analysis of their narratives, I emphasized a therapeutic voice and a stance of my interpretation being one of many possible truths to their story. I have included each of these therapeutic summaries in the results section. Member checking in this manner was the most reliable way to rule out the possibility of misunderstanding the participant. However, the feedback that the participants provided on the analysis "is no more inherently valid than their interview responses" (Maxwell, 2013, p. 168). Therefore, although both the participant's original interview responses as well as their feedback were used as evidence for the validity of the researcher's restoration of their narrative (Maxwell, 2013), the premise of the hermeneutics of demystification implies that participants may not necessarily be consciously aware of the stories constructed by this level of analysis. Disagreement expressed by the participant was to be heard and included in the discussion of the analysis but was not intended to necessarily change the analysis itself (Borland, 1991). Ultimately, two participants responded to the member checking email that contained the therapeutic summaries. Their feedback is included in the results section.

The data from this study was first analyzed by reading through the interview transcript, documenting overall impressions, and identifying strands or storylines in the narrative within a hermeneutics of restoration (Saunders et al., 2018). Storylines regarding the participant's own

childhood attachment relationships, their current relationships with their child, and their ideas about their baby and motherhood during pregnancy, were formulated and reconstructed. In a second reading of the interview transcript, I identified strands and storylines within a hermeneutics of demystification, noting evidence of coherence or disorganization within the narrative and moments during which participants could or could not recall memories to substantiate their narrative claims (Meyer et al., 1993). During this stage of analysis, I also noted the participant's emotional expression and congruence of affect with the content of the narrative. Connections with attachment theory and VCS literature were considered in socially and psychologically contextualizing the narratives. Throughout the two levels of analysis, the "hermeneutic circle" (Josselson, 2011, p. 226; Schleiermacher, 1998) acted as a guiding principle to understand the narrative as both a whole and in its parts, or within a specific context, moving back and forth in this interpretive understanding.

The aim of the semi-structured interview was to tap into the mother's internal working model of the child, self as mother, and the parent-child relationship. Indications of attachment organization arose in the content and in the latent meanings of the interviews and were interpreted throughout analysis keeping in mind the question: "What is the quality of the attachment between this parent and their child?" (Benoit, 2004, p. 543). Designating each interview with an attachment organization was beyond what this study could measure, given its methods. After the completion of the first phase of analysis (hermeneutics of restoration), I followed standard scoring procedures for the ECR-R (Fraley et al., 2000, 2012), PRFQ (Luyten et al., 2017), and ACEs (Felitti et al., 1998). Waiting until after the first phase of analysis to score the questionnaire data allowed the intent of the participant to come through. Results from these three measures were incorporated into the hermeneutics of demystification. The

questionnaire data lent itself to a more interpretive lens that attended to what the narrator's motivations may have been beyond what they consciously communicated during their interview.

Trustworthiness

The overall qualitative nature of this study requires an additional explanation of validity and credibility. The central organizing principle of rigor in qualitative research is trustworthiness (Lincoln & Guba, 1985; Morrow, 2005). Trustworthiness can be described as the "conceptual and analytical soundness" of the research question and can be measured through specific criteria of "credibility/authenticity, transferability, dependability/auditability, and confirmability" (Fassinger, 2005, p. 163; Gasson, 2004).

First, validity can be improved by collecting data from diverse samples to represent the range of experiences within the given phenomenon that is being studied (Levitt et al., 2017). For example, diversity and heterogeneity in participants' cultural backgrounds, racial and ethnic identities, socioeconomic status, and marital status contribute to the richness of the data. Specifically, the stories of Black mothers who historically receive lower quality maternal care compared to White mothers and who have a higher rate of infants in the NICU would provide an important contribution to the narrative of mother-child relationships among NICU families with VCS.

In qualitative research, the number of participants says less about the confirmability of data than does the iterative nature of the data analysis, which works toward saturation (Levitt et al., 2017). In addition, thick description was used in the analysis of the data to practice transparency, show adherence to the subject matter, and provide support for the reported storylines (Levitt et al., 2017; Morrow, 2005; Noble & Smith, 2015). To establish reliability within the analysis of the data, auditing procedures were used in which two peer debriefers

reviewed the transcripts, memos, and storylines delineated. This was done to find a consensus on the fit of the storylines and ensure coherence and consistency within the findings (Noble & Smith, 2015). Auditing also increases fairness, which Morrow (2005) described as the "demand that different constructions be solicited and honored" (p. 252). In other words, auditing provides the opportunity for multiple voices to be reflected in the interpretive process so the primary researcher's interpretation is not unbalanced. I also attended to the influence of my biases by addressing researcher reflexivity.

Researcher Reflexivity

Researcher reflexivity is the practice of critical self-reflection of the researcher's own positionality and how this position may inform biases that could affect the research study at hand (Berger, 2015). Researcher positionality may impact the methodology used, the questions asked by the researcher, the way in which the participant shares their story, and the analysis of the data (Berger, 2015).

I identify as a 30-year-old, White American woman of Moroccan and Jewish descent, and I am in my fifth year of doctoral study in counseling psychology. My research interests include sociocultural identity development, infant mental health, reproductive mental health, and parent-infant attachment across cultures. I am not yet a mother myself, which places me as an outsider in this research. While I was working toward my master's degree in counseling, and during the first year of my doctoral program, I worked as a newborn technician in post-partum and labor and delivery units, as well as NICUs and newborn surgical units such as the Congenital Cardiovascular Care Unit (CCVCU) throughout three different hospitals in both Houston, Texas and New York City. I took the job after several years of being a daycare teacher during college and not feeling ready to let go of the time I got to spend with babies, despite the demands of

graduate school. Although my career was headed toward working with adults in the mental health field, I had wished there was a way to work with individuals across the lifespan, including infants, to fulfill a lifelong desire to observe the development of young children and help in that development. My job provided me the flexibility to spend dedicated time with babies, families, nurses, pediatricians, and neonatologists. In this private time, I heard the stories of many postpartum and NICU parents, saw the recovery and growth of most of the babies I encountered, and sadly saw the failure to thrive in others. My experiences as a worker within a NICU setting inform the stories I have about the specific hospital environment. Therefore, I did have several biases coming into the study: (a) my caution and slight distrust of maternal care in labor and delivery, (b) my trust and confidence that the NICU professionals have families' best interests at heart even if the parents feel unsure about strategies employed in the NICU, and (c) mothers birthing and delivering in hospitals where there is a large proportion of patients using Medicaid or government-subsidized health insurance tend to receive less mother-baby focused care that emphasizes rooming-in and skin-to-skin bonding compared to hospitals in which most mothers utilize private insurance or employer-subsidized insurance.

As a psychodynamic-oriented clinician, I believe parent-child relationships and early attachment experiences, viewed within the individual's cultural context, form the foundation of how individuals understand themselves and others. In my clinical work with adults and children alike, circumstances of the individual's birth and early childhood years hold stories that inform the individual's current life, relationships, self-care, and parenting values. I believe NICU parents respond in a range of normal ways to an extraordinarily difficult situation—the hospitalization of their newborn and the emotional and physical experiences that arise from the threat of loss. However appropriate these responses may be, it is significant when understanding

the NICU experience as traumatic and how trauma impacts one's sense of safety and security, particularly within the parent-child relationship that was threatened during the child's hospitalization. My hope through this research was to find meaningful patterns in the exploration of attachment in this population, namely, NICU mothers whose worries for their child's life persist months or years after the baby's NICU discharge. One pattern I expected to find is that mothers who were able to identify distressing memories of their child being ill after the NICU would also be more likely to identify times in their own childhood when they were ill or injured and how their parent responded to them. Another pattern I expected to find is that these mothers (i.e., NICU mothers who meet criteria for PPCV) would have difficulty substantiating any positive associations of their own primary caregiver, as well as describing the current relationship they have now with their own infant or child, which could indicate an insecure attachment style.

CHAPTER IV

Results

The following results include the narratives of each of the eight participants, and furthermore are broken into three overarching narrative categories, which emerged from the data and serve to address the research questions. The categories are a) healthy mentalizing in the context of intergenerational attachment trauma, b) healthy mentalizing in the context of intergenerational attachment security, and c) impairments in mentalizing. For the purposes of this study, the concept of intergenerational attachment style was based on a combination of the participants' narratives of their own childhood, both in the spirit of restoration and demystification, as well as their scores on the ECR-R and ACEs. In addition, the results will speak to a phenomenon that arose with three participants, namely that their narratives, though ultimately placed into respective categories, had weaker threads connecting their hermeneutics of restoration and hermeneutics of demystification. For the purpose of anonymity and confidentiality of research participants, all names, including those of children, have been changed into pseudonyms.

Each participant's interview was reviewed a minimum of four times in order to identify the individual narratives as well as the narrative categories. The first review focused on the participants' stories as they were told, attending to the conscious voice and words chosen by the participant, which was used in the hermeneutics of restoration (Josselson, 2004). The second review of the interviews attended to the participants' affects, thought processes, and speech patterns, which I then used to make interpretations related to the potential unconscious stories being told by the participants, utilizing a hermeneutics of demystification (Josselson, 2004). Findings from the PRFQ, ECR-R, and ACEs were incorporated as descriptive data into the

second review of the interviews. For example, if what a participant was sharing in the interview qualitatively sounded like healthy mentalizing (e.g., being curious about her baby's mental states as separate from her own), and the PRFQ also indicated healthy mentalizing capacities, then I was more likely to categorize the interview as an example of healthy mentalizing. The third review of the interviews focused on connections and disconnections among the two hermeneutic layers in each interview; here, I also noted my own biases that may have presented during this process. During the fourth review of the interviews and questionnaire data, I noted patterns among the narratives that gave way to the conceptualization of the interviews in the context of intergenerational attachment relationships.

Table 1

Participant Demographics

Pseudonym	Age	Race/ Ethnicity	Primary Caregiver	Relationship Status	First Pregnancy	Child Age	Length of NICU Stay	SES
Sonora	28	Black	Bio Mom	Married	Yes	3y	76 days	Mid
Madeline	34	White	Bio Parents	Married	Yes	17m	71 days	Mid
Amanda	33	White	Bio Parents	Married	Yes	12m	51 days	Upper-Mid
Elizabeth	30	White	Bio Parents	Married	Yes	3y	14 days	Mid
Kelly	34	White	Bio Parents	Married	No	2y	89 days	Upper-Mid
Grace	27	Black	Bio Mother	Married	Yes	2y	7 days	Mid
Jane	28	Black	Bio Father	Separated	No	2y	90 days	Low
Hannah	28	White/ Jewish	Bio Parents	Married	Yes	18m	42 days	Upper-Mid

Table 2

Post-Interview Surveys

Pseudonym	PFRQ		ECR-R		ACEs	
Sonora	PM[a]:	4.5	Anxiety[d]:	3.3	Score:	4
	CMS[b]:	3.7	Avoidance[e]	2.6	Outcome:	High risk
	I&C[c]:	4.7	Outcome:	Secure		
	Outcome:	Healthy				
Madeline	PM:	3.3	Anxiety:	2.9	Score:	2
	CMS:	3.7	Avoidance:	3.1	Outcome:	Moderate risk
	I&C:	4.5	Outcome:	Secure		
	Outcome:	Healthy				
Amanda	PM:	3.5	Anxiety:	3.9	Score:	6
	CMS:	4.5	Avoidance:	3.1	Outcome:	High risk
	I&C:	4	Outcome:	Secure		
	Outcome:	Healthy				
Elizabeth	PM:	3.8	Anxiety:	4	Score:	6
	CMS:	3	Avoidance:	3.1	Outcome:	High risk
	I&C:	3.5	Outcome:	Secure		
	Outcome:	Healthy				
Kelly	PM:	4.5	Anxiety:	3.5	Score:	0
	CMS:	3.8	Avoidance:	2.4	Outcome:	Low risk
	I&C:	4.2	Outcome:	Secure		
	Outcome:	Healthy				
Grace	PM:	6.5	Anxiety:	3	Score:	1
	CMS:	5.4	Avoidance:	1.8	Outcome:	Low Risk
	I&C:	6.5	Outcome:	Secure		
	Outcome:	Impaired				
Jane	PM:	3.3	Anxiety:	5	Score:	6
	CMS:	5.3	Avoidance:	3.8	Outcome:	High risk
	I&C:	4.3	Outcome:	Preoccupied		
	Outcome:	Healthy				
Hannah	PM:	3.8	Anxiety:	4.3	Score:	7
	CMS:	4.7	Avoidance:	4.1	Outcome:	High risk
	I&C:	4.5	Outcome:	Fearful-Avoidant/ Disorganized		
	Outcome:	Healthy				

[a]Pre-mentalizing subscale of PRFQ
[b]Certainty in mental states subscale of PRFQ
[c]Interest and curiosity subscale of PRFQ
[d]Attachment-related anxiety
[e]Attachment-related avoidance

Healthy Mentalizing in The Context of Intergenerational Attachment Trauma

Sonora's Story: Less of a Human

Therapeutic Summary Shared with Sonora

In this narrative, you described that this was your first pregnancy and first baby. You described feeling physically "normal" during your pregnancy but experiencing some depression and "moodiness." You recalled your emotions during the NICU experience as mixed: you were worried and scared that your baby would not survive, but also felt optimistic based on the reports from the medical team and your partner that the baby would survive. During the interview, you reflected on how you maybe love your child "even more" because of what the baby went through in the NICU. I wonder if the lack of normality in your daughter's birth has impacted the way in which you feel attached to her. Maybe on some level, it is difficult to accept and nurture a bond with your daughter when the relationship began with so much uncertainty. You recall your relationship with your own mother as caring, and it sounds like she worked hard to provide for you, and that has positively impacted the relationship you have with your own daughter.

Analysis

Sonora stated, "I almost didn't believe it," when the medical team reassured her that her baby would develop, grow, and become healthier. In that moment of the interview, Sonora seemed to reflect on her feelings that were emblematic of that moment in time while in the NICU and less about the future possibilities of her baby getting better. Although the medical team was responsible for the baby's care while she was in the NICU, Sonora felt she still needed to be there for her baby. During the interview, she reflected on how she maybe loves her child "even more" because of what the child went through in the NICU.

Sonora described her own mother as “vibrant,” “caring,” and a “disciplinarian.” She also stated her belief that being raised by her mother had influenced her, in a positive way, to be a loving and caring mother to her own daughter. In accordance with this logic, Sonora described her belief that she’d be a “great” mother, even before the birth of the child. An example Sonora gave to illustrate the care she received from her own mother was when her mom took Sonora to the hospital as a child when she had appendicitis. However, Sonora’s description of her mother was lacking in detail, so adjectives like “caring” felt vague and lacking in specificity. Moreover, her mother taking her to the hospital for appendicitis, by my interpretation, does not necessarily illustrate caring so much as a necessary act and some level of basic responsibility. In addition, Sonora’s first descriptor she used for her mother was “disciplinarian,” but then claimed that her mother was not strict. She seemed to have difficulty in being a little more vulnerable and sharing some less scripted thoughts, in general.

Based on the ECR-R, her attachment-related anxiety and avoidance were both low, indicating an overall relatively secure attachment style. Based on the PRFQ, her scores on all three subscales (pre-mentalizing, certainty in mental states, and interest and curiosity) were all in the median range (i.e., between 3 and 5), indicating relatively healthy parental reflective functioning. Lastly, she endorsed four items on the ACEs, including emotional abuse, indicating a high risk of sequelae related to childhood trauma.

Sonora may have had some blockage in truly experiencing and remembering the emotions she felt when her baby was sick and just born; it seemed more like she is operating from a sense that they got “through” the difficult time and now are feeling lucky and hopeful moving forward. But it is almost as if it didn’t happen to her and her baby, that it was perhaps more like a warning or a close call. She provided some contradictory perceptions of her

daughter. On the one hand, she sees her daughter as perhaps having some obstacles or needing extra love and care. On the other hand, she stated that she does not believe the NICU experience will "weigh [daughter] down" in the future. Another instance in the interview that could have been indicative of a defense was when Sonora was asked about a time her baby was hurt or sick after the NICU and responded only by stating that her husband was supportive and did not provide any direct response to the question. It seemed Sonora was making an effort to maintain the responsibility within the mother-daughter relationship: she did not want to weigh her daughter down too much with the memories of the NICU. She has some awareness that she does not want to make her daughter feel "less human," as well as some competing awareness that her daughter is "behind" and needs "extra care." Sonora shared about her feelings toward her daughter from the time she was in the NICU:

> I was worried about my baby, and also my spouse, and the people that you know were there for me. But I was—I had mixed feelings. I was worried…it was pathetic. For me to see such a very young baby like that, having to go through all of that. And it was, it was kind of, I thought she wasn't going to survive. She was so small. And then she just-- I felt she wasn't going to, like, make it. But then I was optimistic about the fact that she is going to be healthy at the end of the day, owing to the, the medical team, the assurances, and reassurances that they gave me and my husband, that the baby is going to be OK. So yeah, it was mixed feelings from my side. But the people around me, they had a quite optimistic, you know, they were quite optimistic about it.

She also described her feelings toward her baby once the baby was brought home from the NICU:

After we got discharged from the hospital, I would look at her and feel like, oh my God, is she really going to be, um, is she really going to get better? Or is she really going to be like every other kid I see out there? Is she gonna grow up to be normal? Or is she, I don't know, just like, doomed, like not going to catch up? Something like that. But later on, I noticed some changes, positive changes, and we were told from the beginning that she was going to, like, she had this chance of, you know, being better, but I'm looking at the way she was at that point. I almost didn't believe it. So yeah, as time goes on, you know, I almost don't remember everything that happened to her. It's almost unbelievable what she had gone through as a baby. So yes, she learns, she speaks well, she walks normal. She looks good. So, you would hardly even know that something had happened to her as a baby.

Finally, Sonora shared reflections about her daughter now that the child is a toddler and generally healthy:

And I've grown to, you know, really love her more because I'm remembering all that she went through three years ago. She's three years old. And I don't think I would want to, like, you know, treat her badly or make her feel less of a human. So, my relationship with her is good…. You know, compared to other kids or, the way she behaves, or um, I just feel like she wasn't, she doesn't catch up like the way she's supposed to, and I just give her that kind of attention and care that would make her feel accepted amongst other people. So, when she was newly born in the hospital, I, I mean, I don't know what she was just like, almost at the point of like, there was no life and, nothing in particular, but I just feel like I accept her the way she is.

As seen in this excerpt, she tries to focus on who her daughter is growing up to be, but she is not able to respond to questions about who her daughter is now. She has difficulty providing memories/illustrations and is not able to describe her daughter's personality as a whole separate being who is growing. However, she is more able to accurately describe her daughter when she was in the NICU with specific memories. She is not fully experiencing her child as she is now because I believe she has not fully accepted who her child was/where she came from.

It was striking that the idea Sonora had of her baby when she was pregnant was that the baby would be "pretty." Then, after the NICU experience, it is as if it is difficult for her to see her daughter as fully human. The word "normal" often comes up for her; perhaps the lack of "normality" in her daughter's birth and the aftermath makes it hard for her to feel attached to her. The relationship between Sonora and her own mother may further contribute to her experience of PPCV. In the relationship with her own mother, there is a sense that her mother worked hard to provide for Sonora but maybe was not the most overtly loving mother. Perhaps making sure that Sonora was "not spoiled" and did the right things were important. So, Sonora does not seem to have a model of a loving relationship in which deviation from "normality" and "beauty" can be lovingly accepted and nurtured. This is particularly relevant when considering the lack of "beauty" in the NICU, and the sterility of the NICU environment, especially if her baby was undergoing various procedures.

In reference to Sonora's representation of herself as a mother, Sonora expressed the belief that motherhood has positively changed her life, teaching her to be strong and responsible. This suggests that she perceives herself as a caring and devoted mother, despite the difficulties she has perceived with her daughter's premature birth and NICU stay. However, Sonora's PPCV is evident in her inability to fully engage with her child's current development and personality. It

seems that Sonora is fixated on the idea of "normality" for her child, possibly in response to the lack of normality in her daughter's birth and early experiences. This focus on normality might hinder her from fully connecting with her child in the present moment.

Madeline's Story: Unlearning Emotional Blind Spots

Therapeutic Summary Shared with Madeline

In this narrative, you described a difficult reproductive journey even before the pregnancy with your twin girls, as well as postpartum depression that you experienced after their birth. You shared that your current relationship with your babies is good, that they're a lot of work but that you really enjoy your time with them. You talked about how you did not necessarily always envision yourself as a mom, but that parenting your stepkids has made a positive impact on viewing yourself as a mother. You described how you strive to model emotional regulation for all your kids and that that was something missing from your own upbringing. It sounds like you had a good relationship with your own mom when you were a small child, but that it got more difficult as you got older, and you identified that part of the reason may be that your mom's tendency to want control is more easily tolerated in a relationship with a small child compared to an older child or adult who is wanting autonomy. You've seen your parents' limitations and it seems to me you want to do better, but on some level, you're worried that you will continue modeling your mother, especially her sense of anxiety, and your kids will model after you. I believe, if anything, this anxiety comes out in small ways and does not define the overall secure, warm, and healthy relationship you have with your babies.

Analysis

Madeline, a mother of twin 17-month-old daughters, has faced a complex reproductive history and a subsequent high-risk pregnancy with her girls. She entered her pregnancy with a

history of two ectopic pregnancies, emergency surgeries, IVF, and the knowledge that it was a high-risk pregnancy from the start. The pregnancy itself was emotionally turbulent, marked by a diagnosis of gestational diabetes at 16 weeks and a growth issue at 24 weeks.

Despite these challenges, the twins have been "fine" since leaving the NICU, and early intervention services were deemed unnecessary. Madeline reported experiencing severe postpartum depression, which affected her ability to feel like she was her daughters' mother; several months after her babies came home from the NICU, she sought out mental health treatment and is currently on antidepressant medication. She now has a close, loving relationship with her daughters, and she enjoys spending her free time with them, acknowledging that they require significant effort and care.

Madeline's anxiety focuses more on the smaller twin, and she shared an experience of intrusive thoughts about the baby possibly having cancer, even after the causes of the baby's symptoms had been resolved.

> I would say that most of my anxiety focuses around Alexa because she was, she was a little sicker, and she's been sicker. Like she's a little smaller. Like, they're monitoring her weight a little more closely. So it's never anything that rises to the level of a problem, but we do a lot of weight checks for her. Where it's like, OK, well, I guess she's OK well, you know, and then the next appointment, they're like, we should do another weight check. Um, so it's so-- she was, like I said, she was throwing up for, like, two or three weeks straight. It was really awful. Every night, she'd throw up on me. It's awful for her, especially. Also awful for me. And I remember, like, I was like. At one point, I was like-- so she was sick, and she was teething, and she had an ear infection, and I was like, OK, it's a combination of these things. And then everything was sort of getting better, like she

wasn't really sick anymore. Her teeth had come in. We were, like, kind of at the end of the ear infection, antibiotics, and she was still doing it. And I was like, oh, she-- maybe she has cancer. Do you throw up with cancer? And then I like almost Googled it, and I was like, no, no, I can't. I can't Google that. That's that's not gonna—it's probably not cancer. And then I realized I hadn't taken my antidepressant, so that helped too. I went and took it and calmed myself down. But it was like, it was this crazy intrusive thought that I like-- I never had thoughts like that before. I never had them about the stepkids. Even though, like, you know, they're my kids too. I've never had them about my husband or myself or, or anyone. But yeah, it's like I was, like, for a minute, convinced, like, and I really went down the path of like…What if she dies? Emma will be all alone.

She described her relationship with her mother as "really good" during her early childhood but noted that it became more difficult as she grew older. Madeline recognized that her mother's controlling nature might have been more tolerable in a relationship with a young child compared to an older child or adult seeking autonomy. Madeline shared how she works to model emotional regulation for her children, reflecting on the absence of these tools in her own childhood.

Fantasizing about her babies during pregnancy was important for Madeline, as it allowed her to distinguish them from other children and create unique fantasies about their personalities, given their identical twin status. Although she did not always envision herself as a mother, her experience with her older stepchildren positively impacted her view of motherhood.

Based on the ECR-R, her attachment-related anxiety and avoidance were both low, indicating an overall relatively secure attachment style. Based on the PRFQ, her scores on all three subscales (pre-mentalizing, certainty in mental states, and interest and curiosity) were all in

the median range (i.e., between 3 and 5), indicating relatively healthy parental reflective functioning. Lastly, she endorsed two items on the ACEs, indicating an intermediate risk of sequelae related to childhood trauma. The items she endorsed were emotional abuse by her parents, which she identified as infrequent, as well as childhood sexual abuse, though Madeline did not note this during her interview, and the ACEs questionnaire does not distinguish whether the adult abuser was a family member or not.

When discussing her babies' time in the NICU, Madeline focused on her postpartum depression, which understandably affected her ability to connect with her children.

> OK, actually, there's probably another piece of this, which is that I had pretty severe postpartum depression, and I didn't really do anything about it until…they came home in July…it was probably like September. And I finally went to the doctor and got on medication. So I was having a really rough time. I felt like I wasn't their mom, and I felt like I, like the doctors were just—like the nurses, were just taking care of them. We went every day, at least for one cares, except for I got sick. Like I got a cold, so I couldn't go in. But it was like, you know, you see your baby for an hour every day. And I was pumping all the time, which I really hated. And I kind of wish I had just quit doing that. Umm, so I loved the babies, and I wanted them to come home, but I was not doing well.

The narrative tone with which she described the current relationship with her daughters seems self-reflective and balances challenges and joys, as well as subjective and objective viewpoints. Yet, there appears to be lingering sadness and unexpressed feelings in her narrative. Notably, during the interview, Madeline sometimes distracted herself by commenting on her babies (e.g., “Emma’s over there picking tomatoes in the garden”) when delving into vulnerable

emotional territory, potentially serving as a reorientation strategy to maintain her positive feelings towards her children.

When asked for an example of closeness in her relationship with her daughters, she expressed both a sense of joy and a sense of guilt.

> They always want to snuggle with me when they're sick and when they're feeling bad, they like to show me stuff that they found, like rotten apples, but also like toys and stuff around the house. If—this is probably all of us— but like if, like we clean up after them a lot, obviously, so Emma, and later Alexa, started taking towels and, like copying us, like cleaning…. Like, I hope she doesn't think that adults only clean, but she really gets a lot of joy out of doing whatever we're doing.

Madeline's worry about her children copying the adults cleaning the house reflects her desire to be a better parent than her own and a fear of perpetuating her parents' limitations; she sees her children copying her behaviors and thinking about what she models for them might be scary when considering her desire to model calmness in the context of her depression and anxiety. In this example, the act of cleaning, itself, is not the focus of guilt, but rather Madeline's sense of wanting to be a good role model for her children, her uncertainty of what that may look like, and her balancing her own perceptions and reading her daughters' emotional cues to help figure that out. Despite her internal anxieties, she strives to model calmness for her babies, recognizing the importance of emotional regulation. The notion of her parents having "emotional blind spots" is a recurring theme in Madeline's narrative, and she acknowledges her mother's tendency to "fix things" when problems arise. Madeline sees a connection between her anxiety about her smaller twin and her mother's generalized anxiety, which might be a reflection of her concern about inadvertently passing on these traits to her children.

Attachment style can change at different times in a person's life, and the ECR-R questionnaire only reflects an individual's attachment-related anxiety and avoidance at a specific moment in time (Fraley, Waller, & Brennan, 2000). It is important to consider that Madeline's attachment history might have been influenced by various factors throughout her life. Her early experiences with emotional abuse and childhood sexual abuse might have led to hesitancies and concerns about becoming a mother, possibly reflecting an insecure attachment style developed in her formative years. Madeline's own mother's controlling nature and need to "fix things" could have further contributed to this insecure attachment pattern, as she might have internalized the belief that problems should be hidden or swiftly resolved rather than addressed with empathy and understanding.

However, Madeline's current healthy and supportive marriage, as well as her positive experiences as a stepmother, might have provided corrective emotional experiences, which are essential in altering attachment patterns (Bowlby, 1988). These supportive relationships could have facilitated the development of a secure attachment style, allowing Madeline to mentalize her children's experiences effectively and maintain healthy connections with them. Research on attachment theory supports the idea that secure attachment can be developed later in life through corrective emotional experiences (Sable, 2008). These experiences can include nurturing relationships, therapeutic interventions, or other supportive environments that promote understanding, empathy, and emotional regulation (Siegel, 2012).

Madeline's representation of herself as a mother appears to be deeply influenced by her role as a stepmother and her warm, loving relationship with her stepchildren. Her journey to becoming a mother to her biological children has shaped her identity as a caregiver, fostering a greater sense of confidence and understanding of her role. This perception of herself has had a

significant impact on her experience of PPCV, particularly her ability to self-reflect in the face of PPCV and her relationship with all her children. Madeline's approach to motherhood is centered around emotional expression and regulation and providing her children with the tools necessary for coping with life's challenges. Her emphasis on emotional well-being rather than milestones may be indicative of the ways in which she is able to counteract her experience of PPCV.

Madeline shared that she had not envisioned herself as a mother prior to her relationships with her stepchildren. She identified as career-focused and recognized that her maternal grandmother and her own mother were not given as much of a choice as she had in becoming a mom. When she became a stepmother, she initially thought of herself as a “fraud” but soon learned of and accepted the love and pride her stepchildren had in their relationships with her. In turn, this recognition and acceptance of her role as a stepmother positively influenced her relationship with her biological twins who were in the NICU. By acknowledging her role as a mom to her stepchildren, even before her twins were born, Madeline was able to embrace her maternal identity—one she had not always envisioned for herself— and provide emotional support to all her children, including her babies who were in the NICU.

Of note, I did not include further inquiry in my member-checking email to Madeline regarding the items on her ACEs that were not elaborated on during her interview (i.e., childhood sexual abuse) outside of a general invitation to provide more information or clarity to her interview, which I included in my sign-off in each of my member-checking emails. I had a sense from Madeline’s interview that her ACEs were not discrepant from her overall narrative in which she expressed negative feelings toward her own parents. However, an argument can also be made for asking this participant directly for clarification on the ACE item, which could be a consideration for future research and the use of member checking. Madeline was only one of two

participants who responded to my member-checking email. She responded to the email stating that she was grateful for my feedback and had no clarifications for my analysis, responding, "You really got at the heart of all of it in a very few words. I teared up a little at the end."

Amanda's Story: A Soft Place to Land

Therapeutic Summary Shared with Amanda

In this narrative, you described the experience of your otherwise normal pregnancy with your son suddenly escalating to pre-eclampsia and his unexpected diagnosis of IUGR. You shared stories that described your son, now a year old, as happy and adventurous. You described a healthy relationship between yourself and your son: that you feel deep affection toward him and can also acknowledge that he can sometimes drive you a little crazy. You helped me understand the relationships you had with your caregivers at different stages of your life. It sounds like the love you internalized from your grandmother has had a meaningful impact on the way you parent your son. It also sounds like the anxiety you witnessed (and still witness) in your own mom has played a role in your desire to give your son space to explore and to feel secure with you. You're able to attribute some of your anxieties in part to the relationship with your parents (intergenerational transmission of some anxiety in attachment relationships). And although you do experience anxiety, you are able to distinguish between your own mental state and your baby's mental state, your own desires/fears and your son's reality which is a healthy sign. I wonder if you cope with some of the trauma from your own childhood and of your son's birth and NICU stay by using humor and levity, perhaps creating some emotional distance from the scariness of these experiences. If so, that would be understandable and not necessarily a bad way to cope. It's also not bad to feel your own

distress, acknowledge it, and allow it to help you in the future to empathize with your son when he inevitably, as we all do, go through tough times.

Analysis

Amanda is a first-time mom to her one-year-old son, Roan. Amanda's pregnancy with Roan took an unexpected turn at 30 weeks when she was suddenly diagnosed with pre-eclampsia, leading to an emergency c-section and a NICU stay of 51 days for her baby who had intrauterine growth restriction (IUGR). Amanda experienced mistreatment from medical providers during her prenatal care, specifically feeling as though her concerns and questions were not being taken seriously. She attributes these instances of "dismissal" to living in a small town, where the culture emphasizes power differentials between relatively low SES residents and relatively high SES medical providers. She referenced that dynamic as being particularly difficult to navigate, given she tends to be an anxious person and described herself as "obnoxious." Amanda spoke about how she appreciated the support from her parents and in-laws during her son's time in the NICU, as they did not impose their anxieties onto her: "I'm proud of them for not doing that because that has characterized our whole parent-child relationship—them putting their anxiety on me so. Umm yeah, they managed to hold that back."

Despite these challenges in the neonatal stage, Amanda now sees her son as a "baby daredevil;" "he's happy, he's smiley, he likes to investigate things." Amanda acknowledges that her son's high energy can sometimes be overwhelming, but she maintains a loving and affectionate relationship with him. Juggling her role as a college lecturer and mother, Amanda identifies herself as an anxious person but strives to portray a sense of calm for her child. She references this, tearfully, in her response to the question of how she would describe herself as a mother.

It's hard because, of course, it's been something that, that I am, have been thinking about a lot, and of course, I'm prone to philosophical rumination. So, um. It, it, it is… I mean, I would describe myself as, as kind of anxious, but that's not me as a mother, that's just me as a human. I, I, I tend to be an anxious person, worried about a lot of things, and I'm trying really hard for the sake of my son to, to be less anxious or to project at least a calm, regulated persona. So, um. I don't always succeed. I don't succeed a lot, but I want to, to be… I don't know. I want to. I want to be a soft place to land, always (tearful).

Amanda was raised by her biological parents and her maternal grandmother, who played a significant role in her life until her passing when Amanda was four years old. She remembers her grandmother tenderly and more as a "feeling" than through specific memories. Amanda's parents worked hard to provide for her and her younger sister, although she believes they both have undiagnosed and untreated mental health issues that may have negatively impacted the parent-child relationships growing up. In reflecting on her childhood, Amanda recalls her mother's anxiety, which persists around her own baby, and her mother's absence from early memories due to depression after her grandmother's death.

I just, I, it makes me cry (tearful). I, there are two things that really stand out, and they're not super concrete things, but. I remember when my sister was born, Mamaw spent the night with me. And I was in my big bed, and she slept in my big bed with me, and then we had fruit loops, and then we went to the hospital to see my baby sister. And I also remember, and I think this is something I'll tell you more about this. I remember walking through the garden at Mamaw's house, walking through the garden in the sun. And I must have been holding her hand. And ever since that, I've been out on my own, I've always wanted to grow things and have plants, and now I have a house of my own, and I

have a fairly big garden, and I think I've been trying to recapture that (tearful). But…. I don't know. It's easy. It's easy to cry a lot when you're a parent. I made the mistake of watching, at one point in the spring that, that Mr. Rogers movie with Tom Hanks as Mr. Rogers and the weeping—but the thing that, there's a Mr. Rogers quote about, the people who loved you into being. And you think as, you know, I'm lifting and changing and feeding and doing all of these things with my baby, that there were people who did that with me, and some of these people weren't, aren't here anymore (tearful).

The ephemeral nature of her grandmother's memory is bittersweet for Amanda, as if she is scared to lose a memory so vital to her understanding of herself as someone who was loved as a child. Perhaps on an unconscious level, she is scared that the memory is not an accurate representation of reality and of what that would mean about her very sense of self, her ability to love and be loved.

On the ECR-R, Amanda's scores for attachment-related anxiety and avoidance were low, indicating a relatively secure attachment style, though her score for anxiety was borderline for a preoccupied attachment style. Based on the PRFQ, her scores on all three subscales (pre-mentalizing, certainty in mental states, and interest and curiosity) were all in the median range (i.e., between 3 and 5), indicating relatively healthy parental reflective functioning. Lastly, she endorsed six items on the ACEs, indicating a high risk of sequelae related to childhood trauma. The items she endorsed included significant emotional abuse in addition to having a primary caregiver with a mental illness.

Amanda's emotional affect during the interview was full and varied, at times tearful but mostly bright. Notably, she described her harrowing birth experience with levity and humor, creating an unexpected dichotomy between the severity of the situation and her emotional

presentation. This pattern of using humor to cover up anxiety may affect Amanda's ability to fully acknowledge the distress her son may have experienced in the NICU, not because she is not attuned to him, but because it may be difficult to mentalize his distress if her own is not fully appreciated by herself or others.

The inconsistencies in Amanda's stories about her pregnancy, birth, and childhood may reflect the complexities of her experiences and emotions. Her ability to separate her own anxieties from her son's reality and progress suggests a capacity for resilience and adaptation. It is possible that the love she internalized from her grandmother has positively influenced her parenting style, while her mother's anxiety has had a reversing effect in motivating Amanda to foster a sense of security and exploration for her son. Amanda's use of humor and levity as coping mechanisms for past traumas may provide emotional distance from the scariness of these experiences, which is not necessarily a negative way to cope. However, allowing herself to feel and acknowledge her own distress could help her empathize with her son during his future challenges.

Amanda's representation of herself as a mother appears to be influenced by her own experiences growing up and her innate predisposition towards anxiety. Her self-awareness of her anxiety and her desire to provide a calm, regulated environment for her son suggests that her experience of PPCV is likely linked to her own personal struggles. Amanda's awareness of her anxiety and her intention to be a "soft place to land" for her child indicate her commitment to creating a secure attachment. However, her struggle to maintain a calm and regulated demeanor may contribute to her PPCV. She is determined to break the cycle of certain parenting behaviors she experienced, such as yelling, and is motivated to provide her child with a sense of safety and encouragement.

Before becoming a mother, Amanda had specific ideas about the type of parent she wanted to be. She sought to create an environment for her child that was free from the fear and anxiety she experienced in her own upbringing. Her desire to expose her child to various aspects of the world, including art and science, highlights her intention to foster a well-rounded, confident individual. However, her PPCV may be a reflection of her own unresolved fears and anxieties, which she is trying to prevent from being passed on to her child.

Amanda's narrative demonstrates a mix of secure attachment and healthy parental reflective functioning while also acknowledging the intergenerational transmission of anxiety and the impact of her ACEs. Her capacity for resilience and adaptability, combined with her awareness of her own anxieties, may contribute to a stronger foundation for her relationship with her son and a more secure attachment style.

Elizabeth's Story: Where Is That Magical Feeling?

Therapeutic Summary Shared with Elizabeth

In this narrative, you described your experience with giving birth and witnessing your daughter in the NICU and how scary that was. You shared feelings of guilt and disconnect from your daughter when she was in the NICU, which are both common and understandable reactions. Now that your daughter is older, it sounds like you have a positive relationship and see her as intelligent and creative. You shared that you sometimes still struggle with motherhood, and you hope to protect your daughter from taking on some of the anxiety you experience. You described your own mom as warm, loving, generous, and overprotective, and look to model your mom in the ways you parent your own daughter, particularly with being hands on. When I looked at your post-interview surveys, it seemed like perhaps you grew up with an adult who had issues with

their own mental health. That did not seem to come up in our interview, so I just want to ask you about that if you'd like to clarify (but you certainly don't have to).

Analysis

Three years ago, Elizabeth delivered her daughter unexpectedly early due to pre-eclampsia resulting in a 14-day NICU stay which Elizabeth found "intimidating." While her daughter was in the NICU, Elizabeth struggled with feelings of guilt, regret, and a sense that her daughter was not hers. This made it challenging for her to initially form an attachment with her child.

> It started off very unexpectedly, I, a lot of, like it does for a lot of people where they don't know their child is going to end up being in the NICU. Because, like I was, they delivered very quickly. And I found the whole thing very, very intimidating. Very upsetting and scary. Um, it started off with, I wasn't sure how I was able to touch my daughter, even, because she was in the NICU. It felt it was an odd feeling because it almost felt like the child wasn't yours because you had to follow the rules of someone else, which is there for reason, and I know that now that I'm not just had a baby and full of hormones. So, I found the thing very much detrimental to my mental health because it just like it. She didn't feel like my baby almost because I had to ask someone to hold her, to feed her, to change her bottom. And it's intimidating because you walk in, not sure, you don't know how your child is doing.

Again, when asked how Elizabeth felt toward her baby, she shared feelings of fear, regret, and guilt.

> Regret. Like I felt regret. I wanted to apologize to her that I felt I wasn't strong enough to keep her out of the NICU like, and I felt guilty, guilty, was a big one. And I can't, I don't know if it's to her as much as to myself, but I kept thinking, like, like, let's be attached,

where's our attachment? Where is that magical feeling? Because, you know, I, I didn't feel it right away. You didn't have her at home. It wasn't just her and I in her room. We were surrounded; there were lights. So, I definitely felt detached and scared a lot and was very. Anxiety. Just kept wanting more of an attachment than I had, I guess. Which I am great with her now. She's, she's beautiful and that's there now. She's interesting. She's creative and intelligent. All that good stuff. But when she was in the NICU, I definitely struggled to feel attached to her. And it did, she, she didn't feel like mine. I kind of just was like, who are you?

Her guilt and distress about not feeling attached to her child immediately after birth may be more common than openly discussed, with societal expectations of instant maternal love potentially exacerbating her stress and guilt during the challenging NICU period. As time went on, Elizabeth began to relate more to her daughter, recognizing their shared creativity and playfulness. Despite this, Elizabeth still feels that she sometimes struggles as a mother and does not want her daughter to adopt her own anxieties.

We drove by McDonald's, and she goes, I want French fries. I said, “Oh, no, not today.” And she's like, “Can I have them on my birthday?” Which is in months but to her, it's like next week. I said, “Sure, we can get McDonald's on your birthday,” and she was like, “With my best friends, Megan and Taylor?” Like her two best friends. I said of course, and she goes, “And you, Mama. You my best friend. I love you.” And I was like, “I love you too.” And then, then she was like Mama, Mama, Mama, and she said, “Play the Barbie girl song” so I played Barbie girl by Aqua. I'm sure you've heard of it. And you're singing it really loudly the whole way. And she did her weird dances and I realized that

like, oh, that's, that's me right there. I'm full of weird dances, and I never stop talking and singing.

Elizabeth's own mother was a significant influence on her parenting style, as she was warm, loving, generous, and "overprotective." Elizabeth understands her mother's overprotectiveness in the context of loss. Before Elizabeth and her brother were born, her mother "lost a child," though more information was not shared. In addition, Elizabeth's maternal grandfather died when Elizabeth's mother was young, though, again, more information on this loss was not shared or probed further during the interview. Elizabeth equates her own mother's overprotectiveness with care and involvement in her life. Consequently, Elizabeth takes cues from her own mother, such as being involved in her daughter's school activities. It is notable that Elizabeth is able to reflect on how her mother's overprotectiveness was likely a result of her loss of a child, and yet she does not differentiate between descriptions of her mother as "overprotective," "spoiling," "very involved, "generous," and "doing things for other people," which then blend into an overall portrayal of her mother as a caring mother. Perhaps to Elizabeth, being overprotective, especially since she can relate to her mother's experience of loss via her own experience of the threatened loss of her child, is part of being a good mother.

Before her daughter was born, Elizabeth had an idealized vision of herself as a perfect mother who would do everything right, which may have added to her initial struggles with motherhood and attachment. She shared an example of a time she was particularly worried about her daughter's health after they left the NICU.

I had noticed that— this was probably about four months old, three months old—that she wasn't really turning her head like she should have. And her, I felt like, and I tried to lay her straight, and she like kept curved. And I was really concerned that something was

> significantly wrong because I felt like she looked crooked. So, I took her to the ER because I was panicking; I was tired. This was about four months old. And they told me she had what was called torticollis, which apparently is very common with babies from the NICU where it, basically she just needs some physical therapy to strengthen. But, and then I felt silly for taking her to the ER for that. And then that's kind of like when I realized because I assumed because she was in the—premature baby that something was like immediately sick with her and she was like, she has, my mind went like brain tumor, spinal tumor, like really drastic.

Elizabeth's ECR-R, PRFQ, and ACEs results had many similarities to those of Amanda. On the ECR-R, Elizabeth's scores for attachment-related anxiety and avoidance were low, indicating a relatively secure attachment style, though her score for anxiety was borderline for a preoccupied attachment style. Based on the PRFQ, her scores on all three subscales (pre-mentalizing, certainty in mental states, and interest and curiosity) were in the median range (i.e., between 3 and 5), indicating relatively healthy parental reflective functioning. However, her score for the CMS subscale was on the lower side of the median, at a score of 3, and her highest relative score is PM which may indicate some impairments in PRF. Lastly, she endorsed six items on the ACEs, indicating a high risk of sequelae related to childhood trauma. The items she endorsed included emotional abuse in addition to having a primary caregiver with a mental illness and who was a "problem drinker." This was surprising, given these details were not mentioned during her interview itself. However, the interview mainly focused on her mother, so it is possible that there was another adult in the family whom she is referring to in the ACEs.

Elizabeth's interview was characterized by a flat affect, a sense of distance, and guardedness, suggesting possible avoidance. Although her ECR-R indicated a relatively secure

attachment style leaning towards preoccupied, her demeanor during the interview seems to contradict this. Her consistent preparedness to answer questions without hesitation or contemplation may be indicative of her responses being more explanatory than exploratory. This is a notable response approach, given this interview was, in some ways, modeled after the Adult Attachment Interview, including its aim to "surprise the unconscious" as described in the AAI literature (George et al., 1985), to the extent that would be possible given the differences between this interview and the AAI. To elaborate, the AAI's consistent invitation to bring the participant back, over and over, to "highly emotional" (Steele & Steele, 2008, p. 8) memories that they likely have not thoroughly reflected upon prior to the interview, is an important element in encouraging an open, less guarded, less rehearsed thought process. Elizabeth's somewhat avoidant approach to the questions may indicate a need to defend against the "highly emotional" memories by providing a superficial response. This is in line with her lack of mentioning ACEs in her interview, yet scoring high on the ACEs questionnaire, which suggests there may be unprocessed traumas.

When asked what Elizabeth's relationship with her mother was like as a young child, Elizabeth's tone seemed somewhat defensive and she mentioned not having any negative associations with her mother, despite the interview question not indicating any assumption of a poor mother-daughter relationship.

> My mom has always been and still is my best friend. I don't have immediate negative emotions associated with my mom and any… I didn't do that rebellious I-hate-my-mom teenage phase. She hasn't ever given me really a reason to not have her in my life. She's never—there is things of course, she could have done better, but don't we all, and she

> actively tries to do better. Um, as young as I can remember, she's always been a very good mom. And I think that's why I have the skills to be the parent I do now.

This defensive stance could reflect underlying unresolved feelings or unexplored aspects of their relationship, with the understanding that their relationship was indeed a healthy, loving one overall. Furthermore, Elizabeth appeared to have more ideas about her baby's identity before birth than her own identity as a mother, which may suggest a focus on external reality rather than internal self-reflection.

Despite these potential avoidant and defensive tendencies, Elizabeth's memory of sleeping with her mother during her surgical recovery as a child seems to be a significant emotional resource for her in shaping the attachment and care she wants to provide for her child.

> I had reconstructive jaw surgery in freshman year of high school…. She stayed with me in the hospital the entire time I was there. And I refused to let her go. She also slept with, I slept in her bed when my dad slept on the couch for probably the first week after surgery. It was a very, very invasive surgery, very intense, and I, like, had my jaw wired shut. So, I slept, yes, so yes, I do remember seeking comfort. She stayed with me for like the entire time in the hospital, and I would not let her go home. And I realized now that that hasn't changed. Every time I've been in, before that when I was in the hospital, she was there the entire stay. After that, in college, she even stayed with me. She was in the delivery room with Raven, my daughter, when she was born, so yeah. But specifically, I do remember her there for the jaw surgery; she was there the entire time. And I stayed in her bed with her, slept in her bed with her that night so she could keep an eye on me.

Elizabeth's representation of herself as a mother appears to be characterized by a strong desire to support her child's growth and development while maintaining a boundary between her

own anxieties and her child's need for autonomy. Her PPCV seems to be influenced by her struggles with anxiety and her tendency to be hard on herself. Elizabeth sees herself as "doing her best" and recognizes that she would perceive a friend in her position as a “good mother.” This acknowledgment highlights her self-awareness and understanding that she tends to judge herself more harshly than others. Elizabeth is attentive to her daughter’s needs and encourages her to make mistakes and discover her interests, demonstrating her commitment to fostering a secure attachment.

Before becoming a mother, Elizabeth had certain expectations about her parenting abilities, assuming she would be “perfect,” which may have contributed to her PPCV. However, she has since realized that her expectations were not entirely realistic, and she has adjusted her approach to parenting accordingly. Her initial beliefs about being a perfect mother may have heightened her perception of her child's vulnerability, as she felt the pressure to protect and care for her child flawlessly.

Elizabeth was the only other participant besides Madeline who responded to my email about member checking. Elizabeth promptly responded to the email, which I have left in its original form as Elizabeth sent it, without editing for punctuation and grammar.

> Hello, My mom took what she called "happy pills" and had hoarding tendencies I think we're directly linked to the death of her father. My dad has anger issues but neither were super open about mental health. My family we Are and my oldest is even in therapy

This email response was a pleasant surprise, given my own experience of Elizabeth as guarded and her narrative as lacking in emotional content. It may be more accurate to conceptualize Elizabeth’s experience of emotional vulnerability as forthcoming with factual information but not in affective expression.

Healthy Mentalizing in The Context of Intergenerational Attachment Security

Kelly's Story: It Felt Very Vulnerable to Feel Too Deeply

Therapeutic Summary Shared with Kelly

In this narrative, you describe your experience of the unexpectedly pre-term birth of your son who then spent 89 days in the NICU and then last year nearly a month in the PICU. You shared that at the beginning of his life, you felt scared to form a close bond with your son because he was in such a vulnerable state. Now that your son is older, you feel a close connection to him, and you describe him as observant, thoughtful, and sometimes apprehensive in new situations. The way you described your son really mirrors your intention of wanting to create an environment that is developmentally appropriate for him; I was able to picture him as who he is now, as a toddler; sometimes that is difficult for parents who find themselves preoccupied with the past or imagined future. You also shared about your relationship with your own mom which sounds like it was secure, trusting, and comforting. During your son's life he's endured more than his fair share of illness and medical interventions, so in my opinion, your anxieties around his health are to be expected. I hope that as the years move forward, your son remains healthy and you begin to feel more at ease.

Analysis

Kelly's pregnancy was not considered high-risk, and the NICU experience coincided with the beginning of the COVID-19 pandemic, so in addition to the birthing experience being new territory for Kelly as a first-time mom, she had a particularly disorienting experience. Later, as a toddler, Kelly's son spent nearly a month in the PICU outside of their hometown due to simultaneous infections of RSV, adenovirus, and rhinovirus, as well as enlarged tonsils and adenoids, all resulting in low blood oxygenation.

During the early days of Ian's NICU stay, Kelly was hesitant to form a close bond with him, fearing the vulnerability of potentially losing him. She loved and cared for him from the start, but her affection was initially more focused on keeping him alive than cultivating a deep, personal connection. Over time, her love for Ian evolved into a more profound, person-to-person relationship.

> At first, well. I, it's a little hard to describe. I guess I didn't. Let me think about this. I, I loved him right away. At the very beginning, I was very scared. So, like, I felt, it felt very vulnerable to, to feel too deeply. Um, and it's weird, I, I guess I didn't feel like what some I feel like some moms describe of like, overwhelming love cause like I felt like I didn't…this was a person I didn't know, right? So, like I, I felt responsible for him, and I loved him in that manner of like, you know I'm, I'm responsible for keeping him alive. Umm. And for taking care of him. But I, I don't love him like I love him now, right? Now he's growing into a real person, and you know, we have interactions and that kind of thing. If that makes sense.

Kelly describes Ian as observant, thoughtful, and sometimes apprehensive in new situations. She described their current relationship as "wonderful."

> He is amazing. He, he's very bonded to both my husband and I, but he's definitely a bit of a mama's boy. We, we have a lot of fun together. He, he, we play and he's very chatty. Umm. And he is. He's. I'm very proud of him. He's been through a lot, and he is, he's pretty incredible.

Kelly's ability to self-reflect when speaking about her son, and see the world through his eyes, is remarkable, given that she is still able to maintain her own voice as well.

> He is very thoughtful. Umm. Like, and I guess thoughtful in the way that you hear some people describe their toddlers as, like, fearless, like, they'll just run into anything. In a lot of new experiences, he sits and watches. So, he's very observant. So, he kind of watches what's happening, even on things that I think he will enjoy. Sometimes his initial reaction is pretty muted because he's processing everything. So, it like takes him a little while to get into it. And then once you know, he's, he's into it, then he'll be more um more effusive and, and uh more reactionary, but a lot of times he's just like kind of sitting and observing. He really likes to solve, like, problem-solving. He's very into, like, puzzles and building toys and things like that. He really enjoys that, and he loves books.

Drawing from her NICU experience, she effectively advocated for Ian during his PICU stay, demonstrating knowledge of how to interact with medical staff and ask relevant questions. To help Ian navigate unfamiliar or potentially overwhelming situations, Kelly employs social stories, which are short, individualized, illustrated stories that describe social situations (e.g., getting a haircut, going to the doctor, going to grandma's house), including the purpose of said social interaction, anticipated social cues, and appropriate ways to respond in a given situation (Karal & Wolfe, 2018). Kelly shared that she is familiar with the use of social stories because, growing up, her parents used social stories to support her younger brother, who is autistic and nearly non-verbal. Reflecting on her childhood, Kelly characterizes her relationship with her mother as secure and very positive. Becoming emotional during the interview, she expresses her hope to emulate her mother's parenting style, fondly recalling her mother's comforting hugs. Kelly spoke about her appreciation of her parents' trust, respect, fairness, and their role as parents rather than friends, contributing to her sense of security and well-being.

I mean, they just, they did a really good job, both my parents as I was growing up of like, they were always my parents. Like it was never, you know, too much of a friend relationship you hear about sometimes. But they gave me a lot of, like, respect and trust. And so, one thing my mom laughs about is when I was, it must have been like 8th grade or freshman year…. So, one time I came home and I, it was that like I got dropped off by one of my friends, and it was after my parents had gone to bed, and I was like… I knew that, like my clothes, essentially all smelled like beer cause we've been crawling around on this floor [in an event hall]. And like, my thought process was, well, I don't wanna throw it, just like throw this in the wash because that seems weird and she might notice. But, like, she'll definitely believe me if I tell her, like, what happened. And she's not gonna think that I was like drinking. So, I actually woke her up, and I said, what do I need to do? My clothes smell like beer. Do we wash them right now? And she got up, and she helped me and she, she laughs about it now today because she's like, I, of course, did not think that you were like at a rager, right? Like, she's like, you told me what happened. She's like, and she knew the family. It's a small town. So, like, she knew where I was. She was like, yep, that's an, that's obviously a reasonable explanation.

When speaking about what kind of mother Kelly sees herself as, she is able to be more specific compared to other participants in this study.

I think that I am, you know, for Ian, I am, I'm warm and caring. Umm, I really try very hard to understand where he's at developmentally and try to make sure that my expectations are appropriate for his capabilities. And then I, I try really hard. I'm very, I'm pretty structured like I, I like structure and schedules and like knowing what's happening next. And so, I try very hard to make sure that I let Ian know what is

happening next so that he, you know, as best as he can understand and, and plan can prepare for what's gonna happen to him or what we need to do. And I also try very hard to set up the environment for him in a way that he could be successful. Like, not, not in a way that he doesn't experience, like, struggle or needing to do hard things, but like. I don't know. Not expecting him to be able to handle things like an adult would be able to, right? Like he's two, so.

It was striking to me in this excerpt that Kelly specifies that she is not just a mom, but a mom to a specific child, and that in some ways who her child is impacts the way she sees herself as a mom. Like her detailed description of her behaviors that reflect the kind of mother she is, she responded with specific behaviors and concrete examples when asked what kind of ideas she had about herself as a mother when she was pregnant with her son.

I was thinking about the things that I wanted to do with him. And I think like a lot of people, right, like thinking about what, umm, hobbies or, or things that I love that I would want to share with him, and books is a big one. So, we're, we're doing that and then just like, you know the different, you know movies or stories or media that we would watch together or places that we might be able to go together and, um, yeah.

Kelly's representation of herself as a mother seems to be centered around providing warmth, care, and structure for her son. She focuses on understanding her child's developmental needs and ensuring her expectations are appropriate for his capabilities. She emphasizes the importance of preparing him for new experiences and setting up an environment in which he can be successful while still allowing him to face challenges and struggles. This approach reflects her sensitivity to her son’s needs and her desire to nurture a healthy relationship with him. Her experience of PPCV seems to be influenced by her awareness of her child's vulnerability, given

both his NICU and PICU hospitalizations, and her efforts to accommodate his needs in developmentally appropriate ways.

Before becoming a mother, Kelly had some ideas about the activities and experiences she wanted to share with her son, focusing on her own interests and passions yet acknowledging that her son may have very different interests. This aspect of her maternal representation further emphasizes her commitment to forming a strong and authentic connection with her son.

On the ECR-R, Kelly's scores for attachment-related anxiety and avoidance were low, indicating a relatively secure attachment style. Based on the PRFQ, her scores on all three subscales (pre-mentalizing, certainty in mental states, and interest and curiosity) were all in the median range (i.e., between 3 and 5), indicating relatively healthy parental reflective functioning. Interestingly, her score for the PM subscale was highest in comparison to the other two subscales, though still within a healthy range. Lastly, she did not endorse any items on the ACEs, the only participant in this study to do so, indicating a low risk of sequelae related to childhood trauma.

In Kelly's narrative, her description of her son reflects her intention to create a developmentally appropriate environment for him. She seems to view her son accurately as a toddler, without parentifying or regressing him, which is consistent with her survey results that indicate healthy PRF. When discussing her own experience, Kelly found it challenging to talk about herself, stating that it was much easier to talk about her son. However, her narrative up to that point had already included many insights into her own experiences as a mother. Perhaps discussing her experiences within the context of her son's story made it easier for her to open up about herself.

The alignment between Kelly's post-survey scores and her narrative is notable. Her relatively secure attachment, healthy mentalizing, and denial of all ACEs and trauma-related sequelae in her life suggest a congruence between her self-report and her actual experiences. Kelly's concerns for her son's health seem to be within normal limits, and it is possible that her anxiety around his health will decrease over time if no further traumatic medical events occur. This interpretation highlights the consistency between Kelly's narrative and her survey results, demonstrating her genuine engagement with her own experiences and her son's well-being.

Impairments in Mentalizing

Grace's Story: I'm Just a Very Emotional Mother

Therapeutic Summary Shared with Grace

In this narrative, you expressed viewing the NICU experience as scary and emotional. It seems you may have had some difficulties describing your emotions, but overall expressed that you were worried during your pregnancy and at the same time kept in mind that birth is a normal experience. You described the current mother-child bond as one in which you worry about your son but also think highly of him. You recall feeling loved by your mother; that your mother was "very lenient" and that she was a good listener. You described that you are a "very attentive" and "emotional" mother. I do wonder if the emotional attunement between yourself and your son, as well as yourself and your mother, is as seamless as you describe it to be; if maybe there is some more difficult parts of the relationships that are too anxiety-provoking to acknowledge, especially to a stranger like myself. I can appreciate the difficulty of tapping into some of these potentially less-attuned memories within those relationships.

Analysis

Grace's narrative emphasized the emotional experience of the NICU, where her child spent seven days. Grace described continuing to worry about her son on a regular basis, "I'm always attentive and alert to what he's doing, like I'm reading any signs he's giving me that he might not be well. I'm always conscious about his health generally." At the same time, she expressed seeing positive qualities in him as an individual and in their relationship, "he's playful, is a very friendly boy, and he listens when I correct him on something. He is so smart, and he loves my company."

> There was one day we went out together; we were driving around. I see how he sees the environment and all of that. So, on our way back home, he was calling my attention to everything around us. Even me, as the adult, didn't notice what he was noticing. He would ask, "Did you see that?" So, I feel like he's very smart. He's taking notice of everything around him.

She described that she, herself, is a "very attentive" and "emotional" mother. She recalls feeling loved by her own mother, that her mother was "very lenient" and that she was "ready to listen to me, always." When asked to recall an experience of a time she was hurt or ill as a child, Grace was able to provide a specific experience and noted her own mother's worry for her.

> This was a long time ago, but there was one day I was cleaning the garden, and I fell down and I felt like one of my legs was broken. I just had to shout for my mom, and she quickly rushed out, and she was moved to tears. Like, how did you do this? How did you do this? Then she rushed me to the hospital.

The words she chose to describe herself and her mother, "emotional," "attentive," are notable. It is difficult to know what she means when stating that her mom is "emotional." When she recalled falling in the garden as a child, she said that her mother was "moved to tears," yet

the story lacks details as to how hurt she was that her mother was crying and taking her to the hospital. Because both this memory and her description of herself as an "emotional" mom are lacking in detail, there is a sense that she and her mother regularly experience emotional reactivity that is out of proportion to the given event. Grace also speaks about imagining herself as being "strong" as a mom; again, this descriptor lacks detail and perhaps makes sense, in this context, as a compensatory ideal. Overall, there is an impression that these descriptors characterize extremes of each quality.

Based on the ECR-R, her attachment-related anxiety and avoidance were both low, indicating an overall relatively secure attachment style. Based on the PRFQ, her scores on all three subscales (pre-mentalizing, certainty in mental states, and interest and curiosity) were all high (i.e., above 5), indicating overall impairment in parental reflective functioning. Her high score on the PM subscale indicates severe impairments in mentalizing, while her high score on the I&C subscale may indicate hypermentalizing or pseudomentalizing, which is also evident in her qualitative descriptions of her relationship with her son. Grace was the only participant whose PRFQ scores indicated impairments in PRF, despite other participants showing signs of low PRF in their qualitative interviews. Lastly, she endorsed one item on the ACEs (i.e., parents separated, divorced, or never together), indicating a low risk of sequelae related to childhood trauma.

Grace's representation of herself as a mother has a complex effect on her experience of PPCV and her relationship with her child. While she identifies as an attentive, emotional, and caring mother, her PPCV and impairments in mentalizing her child, as evidenced by the PRFQ, complicate the dynamics of their relationship. Her attentiveness to her son, while generally positive, may at times become intrusive or excessive. Her heightened perception of vulnerability

could contribute to an imbalance in her caregiving approach, potentially affecting her child's sense of autonomy and exploration. Grace's secure attachment style is a strength in her relationship with her child, but her impairments in mentalizing may limit her ability to accurately understand her child's thoughts and feelings. This disconnect could lead to misunderstandings or misinterpretations of her child's needs, potentially exacerbating her PPCV and further impacting their relationship.

There was evidence of Grace feeling nervous and guarded, though overall, her narrative was coherent. She could acknowledge the anxiety she feels about her son's health, perhaps because there is safety in the logic that he was in the NICU, so it makes sense to be worried about him. However, her examples were somewhat vague and lacking in detail. She did seem open to self-reflection, correcting herself in the moment, or being actively engaged with the memories she was recalling. Her affect seemed somewhat flat and anxious.

Of note, there was a quality of her seeing her son as almost vigilant, but this is cloaked by a story of superficial responsiveness and attunement between herself and her son, as well as between herself and her own mother: "He loves my company," "He takes note of everything," "I just had to shout and my mom [came and rushed me to the hospital]." I do wonder if the emotional attunement between Grace and her son, as well as Grace and her own mother, is as simple as she reports it to be. It is not realistic that every call for attention or plea for help is met with attunement and responsiveness. This comes from the idea in the attachment literature that it is generally understood that secure attachment is fostered through a balance of parental attunement and responsiveness to the child's needs and allowing for an appropriate level of independence. There is a sense of reactivity or intrusiveness in the way Grace relates to her child, which is evident in her repeated calls to the doctor whenever she "notices something strange"

with her son, as well as her insistence on providing attention to her son: “Like when he’s alone in the room, I’ll sit with him for an hour, two hours, just to watch him play. I don’t just leave him to be on his own.” Likely, there are some more difficult parts of Grace’s parent-child relationships that are too anxiety-provoking to acknowledge, especially to a stranger like myself.

By staying guarded and maintaining the narrative that she had a loving and attentive mom, that she is a loving and attentive mom, that her child is smart and lovable, and that her anxiety and worry about his health are directly related to his being in the NICU, she limits her mentalizing herself and son as whole, complicated humans. On the other hand, it may serve to keep anxiety low and maintain a basic closeness in her relationships.

Jane’s Story: The Way We Survived

Therapeutic Summary Shared with Jane

In this narrative, you described difficult circumstances around your mental health as well as the relationship with your daughter’s father. You described experiencing emotional as well as financial difficulties during your pregnancy. You shared about living apart from your daughter and how sometimes it can feel difficult to be a mother. In addition, you shared about the tragedy around your own father’s death when you were a teenager; that he did not listen to you and went into work when he wasn’t feeling well, and that your mother was initially not honest with you about his death. In both your own childhood and now in motherhood, you’re understandably living in a state of survival which can at times give way to feeling anxious. Given that you’re in therapy right now, I’m hopeful that having that space for yourself will allow you to recognize your own needs which will ultimately positively impact the relationship you have with your daughter.

Analysis

Jane's interview initially went in a different direction from what was planned. Other participants, like Jane, began their narratives by sharing some of the context of their pregnancies or even their lives before pregnancy, given a sense of pertinence to their parent-child attachment narratives. Jane began her interview by disclosing a history of financial abuse by her husband during pregnancy, mental illness, and a recent history of suicidal ideation in quite straightforward language: "And in the time after I gave birth, I was like, I was thinking if, if my life is miserable then how am I going to take care of my child... I wanted to commit suicide." Prior to delving into the semi-structured interview guide, I first took measures to ethically assess her mental health and safety, that she was adequately connected to mental health resources. She denied current suicidal ideation, denied current thoughts of self-harm, and reported that she is regularly seeing a therapist and is on medication. Given Jane's in-tact capacity for informed consent and her lack of acute risk for self-harm, I determined it was appropriate to include her as a participant in this study.

Due to her mental illness and self-reported difficulty with taking care of her daughter, Jane does not have full custody of her daughter. Notably, she is in an intensive outpatient psychotherapy program, which is the highest level of psychiatric care that any of the participants disclosed regarding their current mental health treatment. At times in the interview, Jane's speech and thought process was odd, which raises the question of whether she has other mental health diagnoses, such as a psychotic disorder, other than depression. In addition, if Jane does have a thought disorder of some kind, her responses on the ECR-R and PRFQ may be impacted to the point of unreliable outcomes.

Jane's description of her feelings toward her daughter when the baby was in the NICU compared to now is strikingly different and at times disorganized.

> I was…I was dead-like. My depression increased. I felt like I was going to lose her…I was so anxious. I wasn't myself, like I was going, I was insane…I'm seeing my baby being intubated, and I felt like I was going to die, myself…. Well, my relationship with her now… I'm really happy. We're close. It's like having a best friend, that you know, it's going to last forever. Like, I feel she's, umm, she's, uh she's everything I have in this world. She is my life. Looking at what she went through and the way she survived—the way we survived. So, and right now she's OK. She's, she misses me. But I, I just set aside—I don't really, you know. You know, when you look at your baby and, and all that comes through your mind is what she went through, what you guys went through… So, most times, I feel depressed whenever I see her.

What is consistent is Jane's feelings of depression when she is around her daughter, and it seems that her idea of being best friends with her daughter is in some ways not reality-based: first, a strong connection is difficult to maintain when spending so little time together, and second, her daughter is two years old and is not developmentally mature enough to provide Jane the support she feels she is receiving from her daughter. She went on to give an example of how her daughter shows her support.

> She saw me crying, and she was like, "Mommy, what's the problem?" So, I told her everything. She was like, OK. She knows how to talk because I was actually listening to her. So, she was like, I shouldn't worry, that everything's gonna be fine, that she's going to make me proud. Makes me whenever…everything I have… like, she's my star. She's my moon. She's my sunlight. That was something that made me love her the most.

It is evident in this excerpt that Jane struggles with realistic thinking and that her recollections of these conversations with her daughter may be quite inaccurate, indicating that she sees the mother-daughter relationship as what she wishes it was rather than what it is.

Jane's father was her primary caretaker until he died when Jane was 15 years old. She described her relationship with him as very close and that he "listened to her," except for what she sees as the most significant time in which he did not listen to her—the day he went to work despite her asking him not to, because he didn't feel well, and he ended up having a stroke at work and died. She described the relationship she had with the rest of her family as confusing and mistrustful: she recalls her mother lying to her about her father dying, that her mother even asked Jane's uncle to impersonate the father on the phone to keep up the illusion that he was alive.

> So, it was umm, I think it was a week later. Because I noticed my mom was coming more, her face looked different, the way she moved. They didn't want to tell me anything because they know I was so close to my dad, I think. So, it was a week later I got to know that my dad passed away. They were lying; they said he's just at my mom's place. They were just lying to me. So, I took my mom by surprise. She didn't know I was coming to her place, so I gave her a surprise visit. So, when I get, when I, yeah, when I got there, I said I should speak with my dad. It's like no problem, they gave me the phone. I'm going to speak with him. So, I spoke with someone. I was like… this is not my dad's voice. Like I know my dad's voice. So, I don't know. It was my, yeah, I didn't know it was my uncle. I was so, sad mad. Because I found out that was the day they were going to bury him. So that was how I knew that my dad passed away.

Based on the ECR-R, her attachment-related anxiety was high while her attachment-related avoidance was relatively low, indicating an overall relatively preoccupied attachment style, though her qualitative interview showed more evidence of disorganized attachment. Based on the PRFQ, her scores on the PM and I&C were within the median range, indicating overall healthy parental reflective functioning. Her higher score of 5.3 on the CMS subscale may indicate hypermentalizing or pseudo-mentalizing, but her lower score on the PM subscale indicates a low probability of impairments in mentalizing, so these results should be interpreted cautiously. Lastly, she endorsed six items on the ACEs (i.e., caregiver was mentally ill, basic needs like food and clothing were not always met), indicating a high risk of sequelae related to childhood trauma, though no abuse was reported.

Jane's relationship with her child is unique compared to the other participants in this study in that she does not live with her child. Jane is in a place in her life where she needs to take care of herself, and for now, she does not have the ability to care for her child. Jane seemed disorganized during the interview; she stated that her daughter is her "best friend," her "whole world," and yet she could not describe her daughter in any context other than the NICU experience. In addition, she stated, "I'm really happy," but then says, "Most times I feel depressed whenever I see [my daughter]." Jane was tearful and had a somewhat dysregulated affect during the interview.

Jane's preoccupied attachment style and her tendency to hypermentalize or pseudomentalize her daughter could be contributing factors to her PPCV. Jane's past experiences of depression, financial instability, and difficulties with romantic partners have shaped her self-image and her aspirations for motherhood. She perceives herself as becoming stronger and more resilient, yet also acknowledges that her emotional state can be a source of concern when she

thinks about her daughter. This emotional turmoil may amplify her PPCV and impact the way she connects with her daughter.

In her relationship with her daughter, Jane is determined to provide a better life and to protect her from making the same mistakes she made, particularly within relationships. This intention, while well-meaning, could contribute to her PPCV and might manifest as misattuned overprotectiveness. Additionally, Jane's desire to show her daughter that she can be loved may be fueled by her own history of feeling unloved, which could be contributing to her preoccupied attachment style and her tendency to hypermentalize her child's experiences.

Jane's PPCV could be exacerbated by her physical separation from her daughter, as she may experience increased anxiety and worry about her child's well-being while they are apart. This heightened perception of vulnerability may also be influenced by her preoccupied attachment style, as her unresolved emotions and past experiences may be projected onto her child, further intensifying her concerns about her child's safety and well-being.

In both her own childhood and now in motherhood, she is preoccupied with caring for basic needs (respectively, eating and having clean clothes, seeing her child and staying alive/taking care of her mental health). This state of living in survival mode gives way to a preoccupied attachment, perhaps somewhat disorganized. Yet based on the PRFQ, her mentalization is online in some ways, which is possibly being reinforced within her therapy work where she is perhaps learning how to mentalize herself and recognize her own needs, and this is coming out in her ability to mentalize her child in a relatively healthy way, despite her narrative seeming more characteristic of someone stuck in the pre-mentalizing mode. However, there is a possibility that the results of her PRFQ are being impacted in ways that lower its validity.

Hannah's Story: He's Fine; I'm Struggling

Therapeutic Summary Shared with Hannah

In this narrative, you helped me understand your experience of being a mom to your son by sharing about the stressful weeks leading up to your son's birth, your own childhood, medical and mental health experiences, and intergenerational trauma, reproductive and otherwise. You described wanting for your son to be able to learn and explore through play, and you described how attentive you are to his well-being, but that sometimes you experience intrusive, anxious thoughts about him getting hurt or sick, or thoughts that you might be a "boring" parent. You also spoke about your relationship with your own parents, and a feeling growing up that you could never make them happy. I also noticed that you often described your son as "fine," including his stay in the NICU, and it makes me wonder to what extent you find it difficult to connect with your son's experiences of distress, perhaps in part due to the pain you already carry from experiences in your own life.

Analysis

Hannah, a first-time mother, disclosed a substantial psychological background during her interview, including autism spectrum disorder (ASD), disordered eating, sexual abuse, generalized anxiety disorder (GAD), postpartum depression (PPD), and suicidal ideation (SI). Additionally, she has a physical disability she described as a form of dwarfism, which required early and frequent medical care. The overall pregnancy experience was described as overwhelmingly negative, and Hannah described a complicated relationship with her parents, feeling she could never make them happy when she was growing up.

Hannah's mother experienced PPD after her birth and had a difficult reproductive history, such as an elective abortion, five miscarriages, and a subsequent live birth of Hannah's sister.

During Hannah's own pregnancy, she was referred to a maternal-fetal medicine specialist at 14-15 weeks due to her baby's small size. She went into labor at 30 weeks, and despite the efforts of the obstetric team to delay delivery, underwent an urgent cesarean section at 33+2 weeks because of fetal distress. It was later discovered that Hannah had undiagnosed pre-eclampsia. Her baby was in the NICU for seven weeks, a setting Hannah found unsettling due to the lights, noise, and mandatory masks. Hannah described a few instances throughout her son's infancy when she experienced a sense of terror that he was hurt or in danger.

> So, I like got up by myself from my alarm or whatever, I don't remember. And I went out and I saw that [husband] was holding Owen and sleeping on the couch. I freaked out and I fully understand that like that, this happens. Like, it never happened to me, but according to the Internet, it happens. And I just like had a complete break down and I flipped out on him. I was like this, this is completely. Whatever you need to do. Like, if you need to not sit down, if you need to be standing up with him, if we need to change the sleep schedule, whatever you need to do, you cannot fall asleep again. And it was the only time that happened, as far as I know. But I guess it also kind of falls into that, you, when you were asking for a story about like thinking Owen was hurt again, ends up being completely fine, but literally like.

Now that her son is entering toddlerhood, she seems to include him in her ideas about their relationship, as opposed to their time in the NICU when her relationship with her son was largely based on her experience, alone. She wants her son to learn and explore through play, but her intrusive, anxious thoughts about germs and potential harm act as a barrier to this goal. She also suspects her son may have neuro-divergence and is worried about being perceived as a "boring" mother. Hannah shared that she encountered stigmatizing "eugenics-type messages"

from others, specifically from her own mother, implying she should not have a child given her mental health challenges.

> So yeah, so then we go home. He does end up being sent home on that day because everything's fine. It's really not a big deal. And. He's fine. Umm. And I, you know, I develop, as expected, really bad postpartum depression that I struggled with for, like, the first year of his life and NICU PTSD as well. And so, I guess for me, like, what made it, like, hard is like, feeling like and getting, like, eugenics-type messages of like, you're sick, so, like, you're hurting your child by being sick. You know. Some of which I got, like, from my own mom, and I'm actually, I might be pregnant again. We're still a couple of days out from being able to get that, like, on a test. But like, I'm having major symptoms and the timing would be right. So. You know, like, I might be pregnant again. And I mentioned this, like, to my mom today. And she was very upset about it and very much like you shouldn't be having another child now. Like, you're not doing well, like you're struggling with your mental health like, you know, yada, yada, yada. And it's like. I understand, like, that she's my mom. And, and like, she thinks she's looking out for me. But it feels really shitty to be sharing like what should be good news and to just be getting these messages of, like, you shouldn't be having a child until there's literally nothing wrong in your entire life.

One remarkable quality of Hannah's interview was her speech which came across as pressured, and her thought process was both perseverative and circumstantial. In response to the interview questions, she consistently provided irrelevant information, but expressed that the information was important to the overall story. For reference, Hannah's response to the first question of the interview (i.e., "Could you briefly describe the experience of your baby being in

the NICU? We can start there, or around there or even before, whatever you'd like to share.") was similar in length to other participants' entire interview (e.g., Grace, Sonora, Elizabeth). Another example of her speech pattern can be seen in her response to the question "How do you remember feeling toward your son when he was in the NICU?"

> Yeah, I felt like he had the best care possible. Umm. So, like. That was good. Like, you know, like having to leave every single day was so hard. And I cried every day and every day we were back in the hospital with him. It helps that I didn't have to like, like, like that I could recover from my C-section and know that he had like this expert care, you know. But I definitely felt like I needed to be back there every day. Umm. And you sometimes feel bad about, like how much time you're able to spend there. Like you see other people spending like 24 hours there, and sometimes I would feel like really guilty because I was also getting really overwhelmed by, like, all the noises and the machines and everything like that. Since I had been in the hospital for so long. Umm, so there were a couple times where I had like total breakdowns and like my husband got me a pair of like sound excluding headphones. So that I could like try to be there and like not hear the noises and things like that. But it was like really hard to periodically—cause like I really wanted to be there like at all times for him, but I needed space from the NICU too, and it was paradoxically like a good thing in that I could sleep through the night and heal from my major abdominal surgery and know that, like my baby was taken care of. But also, it's like I didn't want him to be there being taken care of like I wanted him to be home and I would, like, give anything for that.

In this quote, Hannah seems to exhibit a circumstantial thought process, evidenced in her difficulty in getting to a direct answer to the question of how she felt toward her son; she shared

her feelings around visiting and leaving the hospital, recovering from her c-section, the medical care provided to her son, the overwhelming sensory experience of the NICU, and her wish for him to be home. In addition, she shows perseveration on her experience of interacting with the NICU (i.e., guilt, overwhelm, relief) and her difficulty in moving away from that focus and onto the focus of her relationship with the baby.

The ECR-R revealed high attachment-related anxiety and avoidance, indicating a fearful-avoidant attachment style (i.e., disorganized attachment), which may be linked to the significant trauma endorsed in the ACEs. On the ACEs, she endorsed 7 items, including emotional and physical abuse by her parents as well as sexual assault as a teenager by an adult outside of her family. Based on the PRFQ, her scores on all three subscales were within the median range, indicating overall healthy parental reflective functioning. Although she demonstrated healthy mentalizing on the PRFQ, her speech patterns may offer a different perspective on her mentalizing abilities. The discrepancy between her narrative and the self-report measure raises the possibility that her speech patterns could be more telling of her mentalizing impairments, as they may be less susceptible to conscious manipulation, such as faking good. Though the concept of faking good is not mentioned in the PRFQ literature, the strong validity of this measure and the social context with which the measure is given (i.e., the common and normal desire to be a good mom), makes faking good a possible phenomenon in the use of the PRFQ in this study.

Hannah's commitment to the narrative of being unwell could be a manifestation of her attachment style and the impact of trauma on her identity. Circumstantial thinking and repetition in her speech may serve as self-protective mechanisms or a way to maintain distance in relationships. Alternatively, or in addition, her circumstantial thinking and perseverative speech could be indicative of anxiety, especially in the re-telling of her son's NICU story, or an aspect

of her ASD. Moreover, the focus on herself, her parents, and her birth experience, rather than providing substantial detail about her son, might suggest a challenge in integrating her own experiences with her role as a mother. This emphasis could reflect her attachment style and an attempt to understand and make sense of her past. Similar to Jane seen earlier, Hannah's lack of a strong relationship with her son, or even her ability to see him as a full human at this time, is likely linked to being overwhelmed by her own mental health difficulties and past attachment trauma.

Hannah's representation of herself as a mother and her experience of PPCV are shaped by her personal background, academic knowledge, experiences as a new parent, and her own attachment style and trauma history. She has a fearful-avoidant attachment style, impaired mentalization, and a history of trauma, which contribute to her PPCV and her relationship with her child.

Before becoming a mother, Hannah desired to be a young parent and have her children close together in age, possibly influenced by her own family dynamics. Her background in studying children and child development, including the work of Piaget and other theorists, provided her with a strong foundation for approaching motherhood with confidence and a clear understanding of what she wanted for her child. She aimed to be a different type of parent than her own, who raised her in an authoritarian household.

Despite her confidence in her knowledge of child development, Hannah struggles with conflicting thoughts about her ability as a mother. She worries about not being as playful or impulsive as her husband, which may affect her relationship with her child. However, there are signs of a positive bond between Hannah and her child, such as her son smiling and seeking physical affection from her.

Classification Difficulties

It is important to reflect on certain discrepancies seen between the qualitative manifestations of parental reflective functioning in the interviews versus results of the PRFQ, since this discrepancy was seen in several of the participants' data. PRFQ as a screening tool may not be sensitive enough to distinguish between impairments in general RF and impairments in RF related to trauma (Berthelot et al., 2015; Luyten et al., 2017), which in the present study may explain the discrepancy seen in the manifestations of poor RF in the interviews of mothers (i.e., Jane, Sonora, and Hannah) with trauma whose PRFQ scores indicated healthy PRF. Interestingly, Grace did not endorse trauma on the ACEs and her PRFQ outcome of impairments in RF more accurately reflected impairments in RF seen in her interview. Therefore, the evidence of impaired PRF in the interviews of Jane, Sonora, and Hannah may be more indicative of their trauma histories than their general RF capacities.

After analysis was nearly complete, I became aware of another pattern in the data that was notable. A pattern was seen among some of the interviews, namely, the first three participants (Grace, Jane, and Sonora), who were also the only women of color who participated in this study. Based on my interpretation, their narratives shared a similar disconnect between the hermeneutics of restoration and demystification as well as between the ECR-R and PRFQ scores and my subjective experience of their attachment patterns and mentalizing ability in their interviews. In comparison, participants 4-7 (Madeline, Amanda, Elizabeth, and Kelly) had fairly secure attachments, capacity to mentalize and reflect, described their babies in more balanced ways (not idealizing or devaluing), and their PRFQ and ECR-R scores seem to be reflected in their narratives. For Grace, Jane, and Sonora, their PRFQ and ECR-R scores were somewhat surprising because they were discrepant from what was reflected in their narratives. While this is

a small sample, It feels important to mention that while I was categorizing participants' narratives in preparation to write this analysis, I had a difficult time with these three participants, feeling unsure if I should lean more heavily on their narrative quality versus their questionnaire results given the discrepancies between the data.

Intersections of race, socioeconomic class, and potential availability of resources that could affect attachment experiences for these participants, in the context of their stories being interpreted by me, a White woman with my own intersecting identities, could play a role in my interpretation of the subjective and objective experiences of these three participants. Another potential explanation of the disconnect in these narratives is the participants' perception of me. Perhaps the telling of their stories were influenced by my identity as a White woman with relatively high SES (considering the participants were aware of my pursual of a doctoral degree) and their conscious or unconscious need to construct a certain kind of narrative. In addition, my position as a healthcare professional may have contributed to an additional sense of anxiety for participants about needing to present as a good mother. One layer to that researcher-participant dynamic could be the participant's fear of Child Protective Services being called on them, given the realistic tendency for Black mothers and parents to be flagged by these systems much more frequently than White parents (Roberts, 2014). In that case, competing narratives from participants can come across as disorganized, disconnected, or lacking in depth and detail. In addition, research has shown that in Black and brown families, what could appear as attachment insecurity could be a means of protection of the parent-child relationship (Stern et al., 2021). My asking the participants about their child's NICU experience, which could evoke associations with medical systems, and then asking about their attachment could have impacted participants' need for protection around their attachment narratives.

Chapter V

Discussion

The focus of this research was to better understand the unique experiences of mothers who have had a baby in the NICU and who, though now have their healthy child home with them, still endorse worry about their child's health to the level of meeting criteria for Parental Perception of Child Vulnerability. The analysis of their narratives took into consideration their histories of attachment patterns, any adverse childhood experiences of their own, and their current capacity for parental reflective functioning in relation to their child. Eight mothers participated in this study. These women varied across race, socioeconomic status, educational attainment, reproductive histories, and length of time that their baby stayed in the NICU. All participants were married, though one participant was separated from her husband.

The research questions this study sought to answer were: 1) How do the attachment narratives of NICU mothers who currently meet criteria for PPCV impact their narratives about their child and their relationship with their child? 2) What effect does the individual's representation of herself as a mother have on her experience of PPCV and her relationship with her child? From the results of the interviews as well as the self-report questionnaires, three categories emerged from the data which captured the experiences of this group of mothers: a) healthy mentalizing in the context of intergenerational attachment trauma, b) healthy mentalizing in the context of intergenerational attachment security, and c) impairments in mentalizing. The individual narratives within these categories, as well as the similarities among them, answered the original research questions about how mothers who have had a baby in the NICU and who are still experiencing excessive worry about their child's health, despite the child being objectively healthy, consciously and unconsciously make meaning of motherhood and their

relationship with their children through the lens of their attachment and trauma histories. I present an overview of the findings, a discussion of the results in the context of the literature, clinical implications, limitations the study, and domains for future research.

Overview of Significant Findings

First, it is important to reiterate that despite the differences in the participants' trauma histories, reflective functioning capacities, and attachment patterns, all eight participants met the criteria for PPCV as measured in pre-screening using Forsyth et al.'s (1996) Child Vulnerability Scale. Therefore, the findings of this study speak to the complexity of PPCV and its variety of presentations. Next, it is important to consider these findings with an understanding that the self-report measures completed by the participants better reflect their intended state of mind, while the interview material may better reflect complex states of mind—intended, conscious, and unconscious. In addition, this distinction can be helpful for considerations of practice and emerging theory related to PPCV.

Overall, the findings suggest that the mothers in this study shared a sense of anxiety about their child's health in relation to the child's prior NICU hospitalization, and this sense of anxiety, or perception of child vulnerability, is informed by the mothers' childhood trauma histories and, to some extent, attachment organization. Mothers with trauma histories who exhibited relatively secure attachment styles were more capable of mentalizing their child. However, the ECR-R, in its function as a measure of adult-to-adult attachment patterns, may explain why several participants' ECR-R scores reflected secure attachment despite anxiety within the parent-child relationship (Bernier & Matte-Gagne´, 2011). Furthermore, for these participants, a secure pattern of attachment to their partners or other significant adults in their lives could serve as a protective factor in navigating their experience of parental anxiety. Based

on the results of this study, mothers with greater mentalizing capacities showed more self-reflection when speaking about experiences related to PPCV. For example, mothers with more optimal levels of reflective functioning were more likely to incorporate their own history of anxiety, depression, and childhood trauma in making sense of their worries about their children (whom they can now identify as healthy, despite their illness as newborns) as opposed to mothers with impairments in mentalizing who held more rigidly to the connection between their worrying as a parent and their child's past NICU hospitalization. Reflective functioning, as a general construct, is the ability to "look at oneself from the outside and at others from the inside" (Luyten et al., 2017, p. 175). In this study, mothers who could a) empathize with their child's inner experiences as separate from their own, and b) speak to their own childhood attachment injuries with self-reflection and curiosity, showed greater appreciation for the multitude of contributors to their experiences of PPCV, allowing for less of the burden to fall solely on the child's NICU hospitalization as an explanation for the mother's worry, hypervigilance, or intrusiveness.

In terms of the participants' lived experiences, many expressed difficulties with their own mental health, particularly anxiety and depression. Some participants described struggles with forming close bonds with their children, especially during the postpartum period when their baby was in the NICU; some mothers attributed the lack of bonding to postpartum depression, some to their fear of feeling too close to a baby who may not survive, and some mothers seemed to be significantly impacted by their own attachment history, whether that was in the context of losing their own parent, being abandoned by a partner, or modeling after parents who were, themselves, hypervigilant, preoccupied, or anxious. These findings suggest that intergenerational models of attachment play a significant role in parental reflective functioning and mentalizing, and that

addressing childhood trauma and promoting secure attachment can facilitate healthy parental reflective functioning and mentalizing in parents.

All 8 participants spoke to the difficulty of forming a relationship with their baby during the NICU stay, out of fear, intimidation, sadness, postpartum depression, or uncertainty.

Table 3

Mother-Baby Relationship During NICU

Pseudonym	Quote
Grace	*I was feeling bad and scared at the same time and it very emotional, hard for me to manage.*
Jane	*I was…I was dead-like. My depression increased. I felt like I was going to lose her…I was so anxious. I wasn't myself, like I was going, I was insane…I'm seeing my baby being intubated, and I felt like I was going to die, myself.*
Sonora	*I was worried…it was pathetic. For me to see such a very young baby like that, having to go through all of that. And it was, it was kind of, I thought she wasn't going to survive. She was so small. And then she just—I felt she wasn't going to, like, make it.*
Madeline	*I had pretty severe postpartum depression and I didn't really do anything about it until—they came home in July—it was probably like September…. So I was having a really rough time. I felt like I wasn't their mom…. Umm, so I loved the babies, and I wanted them to come home, but I was not doing well.*
Amanda	*So, he, he had, you know, a tough, I mean, his first day was, was tough and I was having a tough time. I was out of it.*
Elizabeth	*Regret. Like I felt regret. I wanted to apologize to her that I felt I wasn't strong enough to keep her out of the NICU like and I felt guilty, guilty, was a big one…. I kept thinking, like, like let's be attached, where's our attachment? Where is that magical feeling? Because you know, I, I didn't feel it right away…. I definitely felt detached and scared a lot and was very. Anxiety. Just kept wanting more of an attachment than I had, I guess.*
Kelly	*I loved him right away. At the very beginning, I was very scared. So like, I felt, it felt very vulnerable to, to feel too deeply. Um, and it's weird, I, I guess I didn't feel like what some I feel like some moms describe of like,*

	overwhelming love cause like I felt like I didn't…this was a person I didn't know.
Hannah	*There was nothing that I could really point to as like a reason why he ended up being born so early and ended up in the NICU like there wasn't anything clear of like, this is like what happened. Umm, but the fact that he was there for so long was so hard on me.*

Still, several participants spoke to the increased closeness in the mother-child relationship over time after the NICU stay.

Table 4

Improvement in Mother-Baby Relationship After NICU

Pseudonym	Quote
Madeline	*Yeah, it's great. I love it. I—it's good that I go to work and get a little break from them because they are a lot of work, but, um if, like really, if I could—I spend all my time other than that with them because I just love it so much.*
Amanda	*I love him so much. He is my, my entire heart and everything. And I've never loved anybody or anything so much as I love Roan. I love him so much. Um, sometimes he drives me absolutely nuts when I am with him because he is always constantly into stuff and always going. Like he has more energy than any human should have. Um, and then I miss him when I'm not with him.*
Elizabeth	*She is the light of my life! She's my crazy fun little girl. Umm she is in preschool. She does have a speech delay and has some hearing loss, which they believe could have been caused from some antibiotics at birth in the NICU. They're not sure. I love her. She's a daddy's girl, though, too, so but she's sweet and intelligent and interesting and creative. She's so freaking creative. Like she just sits there and comes up with all these elaborate stories involving Hot Wheels cars and her Barbies.*
Kelly	*Wonderful. He is amazing. He, he's very bonded to both my husband and I, but he's definitely a bit of a mama's boy. We, we have a lot of fun together…. We play and he's very chatty. Umm. And he is. He's. I'm very proud of him. He's been through a lot and he is, he's pretty incredible.*

On the other hand, some mothers are still struggling with their relationship to their child, and this was evident in one or more mediums, including the qualitative narratives, the self-report

ratings of attachment anxiety and/or avoidance on the ECR-R, as well as the PRFQ. Difficulties came in the form of intrusiveness, hypermentalizing, hypervigilance, and the participants basing their current relationship with their child on time spent in the NICU.

Table 5

Continued Difficulties with Mother-Baby Relationship After NICU

Pseudonym	Quote
Grace	*I'm always attentive and alert to what he's doing, like I'm reading any signs he's giving me that he might not be well. I'm always conscious about his health generally…. He's generally healthy, but I am worried about him. I just get worried.*
Jane	*Well, my relationship with her now… I'm really happy. We're close. It's like having a best friend, that you know, it's going to last forever. Like, I feel she's, umm, she's, uh she's everything I have in this world. She is my life. Looking at what she went through and the way she survived—the way we survived. So, and right now she's OK. She's, she misses me. But I, I just set aside—I don't really, you know. You know, when you look at your baby and, and all that comes through your mind is what she went through, what you guys went through. So, most times I feel depressed whenever I see her.*
Sonora	*And I've grown to, you know, really love her more because I'm remembering all that she went through three years ago. She's three years old. And I don't think I would want to like, you know, treat her badly or make her feel less of a human. So, my relationship with her is good.*
Hannah	*It's hard because whenever I—mentally I'm struggling. So, like the whole time when I had the postpartum depression and then still now like I, you know, even before that like I have a generalized anxiety diagnosis that I take medications for. Umm so whatever I. And like struggling. It feels like, like those like eugenics-type noises like come into your head and it's like you're like hurting your kid because you're sick or like your kid would be better off without you. Like, like I've had, like, suicidal ideation, but never anything that I would act on because the thing that comes up constantly is like, but then your son wouldn't have you.*

Participants who reported secure attachment styles tended to show healthier parental reflective functioning and mentalizing, while those with insecure attachment styles, such as preoccupied or fearful-avoidant (disorganized), tended to show more impairments in mentalizing

based on their qualitative narratives, though those impairments were not necessarily reflected on the PRFQ. The discrepancy between the qualitative narratives illustrating impairments in mentalizing (i.e., Grace, Jane, Sonora, and Hannah) and the PRFQ data that did not reflect those impairments (i.e., Jane, Sonora, and Hannah) could be impacted by several factors. First, this discrepancy was present in three cases, and Jane's PRFQ, while not significant for pre-mentalizing states, showed evidence of hypermentalization or pseudomentalization. A discrepancy found in 2 or 3 participants is too small of a sample to notice a pattern. Another possible explanation of the discrepancy could be, in part, due to the good face validity of the PRFQ. One limitation of good face validity in a measure is if the respondent knows what information we are looking for, they might try to fit their answers to what they think we want (e.g., faking good). In this study, some participants even shared aloud their reactions to the questions on the PRFQ, indicating that they knew what the answer "should" be. For example, we can see this in Hannah's reaction to the question as she was filling out the PRFQ.

> My child sometimes gets sick to keep me from doing what I want to do. No? No. I fully understand that it's not intentional, ever. But it's still sometimes really sucks…. So, this past Friday, like I mentioned earlier, my son was sick…. He's basically just screaming for like 3 hours straight, but he doesn't have a fever. Like nothing like that. So, my husband cancels [our plans]. Umm. And I felt like really, really shitty and like I was mad, and my husband was like, are you mad at Owen? I was like, no, I'm not mad at Owen, like, it's not Owen's fault, like, but it's still like, I'm still mad.

It may be the case that the questions on the PRFQ are worded in such a way that respondents already have some familiarity with what responses would be socially or culturally acceptable. Therefore, in this study, the PRFQ may have been less sensitive to picking up on

impairments in reflective functioning compared to the nuances found within the qualitative narratives.

In addressing the second research question, the results of this study suggest that the mothers' representations of themselves as caregivers are complex and multifaceted, and they have a significant impact on their experience of PPCV and their relationship with their child. The mothers in this study varied in terms of their attachment styles, adverse childhood experiences, and their current capacity for parental reflective functioning in relation to their child. However, several themes emerged from their narratives.

Firstly, mothers who perceive themselves as caring, attentive, and emotional may experience challenges in balancing their attentiveness with their child's need for autonomy and exploration. This imbalance could potentially affect their relationship with their child. For example, if a mother's attentiveness becomes excessive or intrusive, it may limit her child's ability to explore, potentially impacting their sense of agency and independence. As seen in VCS, this could lead to the child feeling resentful or experiencing behavioral issues (Forsyth, 2009; Schmitz, 2019). Additionally, a mother's heightened perception of her child's vulnerability may lead to overprotectiveness or anxiety and an overreliance on attention to the child as a parenting strategy, potentially restricting the child's ability to engage in new experiences or take age-appropriate risks. This finding highlights the importance of developing strategies to better balance attentiveness and autonomy in parenting.

Next, mothers who have a history of trauma or a fearful-avoidant attachment style may experience conflicting thoughts about their parenting abilities, which could exacerbate their PPCV. These mothers may struggle with their sense of self as a caregiver, oscillating between perceiving themselves as good mothers and feeling inadequate in comparison to others.

Lastly, mothers who strive to be a parent who prioritizes emotional well-being and foster a secure attachment may be more resilient to the effects of PPCV. These mothers emphasize emotional expression and regulation and provide their children with the tools necessary for coping with life's challenges. They focus on understanding their child's developmental needs and ensuring their expectations are appropriate for their child's capabilities while still allowing their child to face challenges and struggles.

The results of this study suggest that the mothers' representations of themselves as caregivers play a significant role in their experience of PPCV and their relationship with their children. The findings highlight the importance of developing strategies to better balance attentiveness and autonomy in parenting, as well as the urgency to address the mental health needs of mothers, particularly NICU mothers, who have experienced trauma or depression. Ultimately, fostering emotional well-being and a secure attachment may help mitigate the effects of PPCV and nurture a healthy relationship between mothers and their children.

Discussion of Findings in the Context of the Literature

The findings of this study align with and expand upon the literature on Vulnerable Child Syndrome and how maternal attachment styles, reflective functioning, and childhood trauma history play a role in the larger context of the mother-child relationship for NICU families. In this study, all participants had babies in the NICU, and many of them described feelings of anxiety, overprotection, and vigilance about their child's health and well-being. For example, participants who had experienced childhood trauma or had preoccupied attachment styles may be more likely to develop a heightened sense of their child's vulnerability and may be more prone to anxiety and overprotection. On the other hand, participants with secure attachment styles may be better equipped to balance their concerns for their child's health and development with their

child's need for independence and exploration. It's also notable that while all of these mothers endorsed a sense of anxiety about their child's health, and several of them recalled their own mothers to be anxious or hypervigilant, most of the participants in this study exhibited low levels of attachment anxiety and avoidance on the ECR-R, which perhaps speaks to the somewhat fluid nature of attachment style. For example, participants who are in supportive marriages or have been in ongoing psychotherapy, may have developed a more secure attachment orientation because of the corrective emotional experiences (Alexander & French, 1946) felt in these relationships.

Research has shown that PPCV relies on the parents' perception of past events in their child's life rather than the child's present health status (Pearson & Boyce, 2004). However, there is only limited existing research on the variability in the development of PPCV (Duncan & Caughy, 2009). As discussed, this finding was confirmed in my results: all the parents in my study met criteria for PPCV, and their worries about their children were grounded in the memories and experience of fear brought on by the early instability of their baby's health. The findings of my study extend this understanding of PPCV by adding that mothers with healthy parental reflective functioning, despite their own trauma histories (e.g., in the cases of Amanda and Elizabeth) or childhood attachment injuries (e.g., in the cases of Madeline, Amanda, and Elizabeth), can and do grow their relationship with their child beyond their perception of past events of the NICU, though it takes some time. All of the participants with impairments in mentalizing, except for Grace, endorsed multiple items on the ACEs; two of these participants were the only ones whose ECR-R scores showed insecure or disorganized attachment (Jane and Hannah, respectively). All participants with impairments in mentalizing focused their descriptions of their current relationship with their child either on the trauma of the NICU itself

or on other interpersonal traumas in their life (e.g., Hannah, who disclosed a history of sexual assault, Jane, who disclosed domestic partner violence), rarely focusing on their child's present health status or abilities.

The literature on maternal sensitivity and mentalization has shown these constructs to be influenced by infant characteristics such as preterm birth. For example, Vaccaro and colleagues (2021) found that maternal sensitivity differed significantly between mothers of pre-term infants and full-term infants who were nine months of age. In this study, lower sensitivity was defined as lower responsiveness to cues of nondistress, lower positive regard, and higher levels of intrusiveness. The infants' temperament could not account for the differences in maternal sensitivity; the researchers found that preterm status and socioeconomic risk, which was a composite variable of maternal education and annual household income, correlated with lower levels of maternal sensitivity (Vaccaro et al., 2021). My study's findings confirmed the risk for some NICU mothers of mentalizing their child too narrowly, emphasizing the child's vulnerability, and ultimately excluding the child and their needs from their attachment narratives; this was seen in the cases of Grace, Jane, Sonora, and Hannah.

Horwitz et al.'s (2015b) article was the first published piece of literature that provided a theoretical model for the development of PPCV in mothers of preterm infants. To reiterate, the trauma-based model proposes that the three key factors influencing maternal perceptions of child vulnerability in their premature infants are (a) maternal psychosocial characteristics, (b) social support, and (c) maternal responses to the trauma of a preterm birth, which shows that elevated depression, anxiety, and trauma symptoms are related to a higher risk of PPCV (Horwitz et al., 2015a; Horwitz et al., 2015b). My findings confirm the impact of maternal psychosocial characteristics and maternal responses to the preterm birth on PPCV, adding nuance to the

existing literature and providing information on the variability of the PPCV phenomenon in NICU mothers. First, all but one participant (Kelly) endorsed childhood adverse experiences, with several participants endorsing the presence of an adult with mental illness in their household when they were children (Jane, Amanda, Elizabeth, and Hannah). Importantly, Kelly, who was the only participant to deny all ACEs, and who showed healthy mentalizing capacity and low levels of attachment anxiety and avoidance, may have experienced an increased risk for PPCV because of the unique experience of her child being hospitalized in the PICU for nearly a month, unexpectedly and after he was already home from the NICU. Although Kelly's son is now healthy, his PICU hospitalization may have exacerbated Kelly's worry about her child, despite her lack of maternal psychosocial risk factors for PPCV. Horwitz and colleagues (2015b) also identified that elevated depression, anxiety, and trauma symptoms related to preterm birth are related to a higher risk of PPCV. My study did not include specific measures for depression, anxiety, other potential DSM-V diagnoses, or current trauma symptoms. However, several participants endorsed postpartum depression, and all participants endorsed anxiety related to the NICU hospitalizations of their babies.

What Horwitz et al.'s (2015a, 2015b) research and related VCS and PPCV research has been missing, however, is how PPCV is inherently a maternal representation of her child as uniquely vulnerable and how that maternal representation impacts the parent-child relationship, particularly after the initial trauma of the NICU has passed and the baby is home. My research study has allowed for an understanding of how the mother's attachment narrative, carried from her own childhood and into parenthood, shapes her traumatic response to her child's birth and how that traumatic response impacts PPCV and is ultimately played out in the parent-child relationship. The relationships participants recalled having with their own caregivers as children

consistently played a role in their narratives about who they are and who they want to be as mothers and how intertwined their inner experiences are with the imagined inner experiences of their children. For some participants, this meant unlearning emotional blind spots or patterns of misattunement between mother and child that they experienced with their own parents. For some participants, keeping in mind who their parents were for them, as children, has helped in modeling parenting behaviors of attunement and sensitivity.

Parents develop internal working models that they use, consciously or unconsciously, as a foundation from which to parent their own children (Bowlby, 1977; Barr, 2014). Maternal re-imagining of one's own childhood, and more importantly, one's own mother, helps a mother to mentalize the needs of her infant and provide the baby with care (Fonagy et al., 1991, 2002; Zdolska-Wawrzkiewicz et al., 2020). For some participants, this re-imagining was more superficial (e.g., for Grace and Sonora, who recalled their mothers as caring and loving but had difficulty in elaborating on examples of the relationships). For some participants, the re-imagining was somewhat fragile but meaningful (e.g., for Elizabeth, who was committed to representing her relationship with her mother as all good and at the same time could recall specific memories of her mother's caring nature, and for Amanda, whose tender, though ephemeral, memories of her grandmother during toddlerhood reflected the kind of love she wants for her child). For others, re-imagining of their models for motherhood was complex, flexible, and self-reflective (e.g., for Madeline and Kelly, though their feelings about their mothers had many differences). Still, for some, the internal working model of motherhood was disorganized or shattered, which was reflected in Jane and Hannah's narratives, as well as in their levels of attachment anxiety and difficulty with mentalizing their children. Based on the findings of this study, maternal re-imagining was empowering for the participants in thinking about themselves

as mothers and positively impacted maternal reflective functioning of their child when participants were able to conjure up specific memories or images, especially when they could be curious and flexible in making sense of those memories.

According to Shaw et al. (2021), psychological distress can impact a mother's ability to form positive expectations of their infant while the baby is in the NICU and actualize positive attachment representations. This was certainly seen in my findings (e.g., Sonora described her expectation for the baby to be "beautiful" but lacked any other details, which one could argue is lacking). All the participants had difficulty actualizing positive attachment representations, at least initially. Researchers have shown the relationship between parental posttraumatic stress symptoms and inhibited attachment and bonding in NICU parent-child relationships, evidencing either difficulty with maternal engagement or interaction (Parfitt & Ayers, 2009; Seng et al., 2013) or high maternal arousal that precipitates heightened maternal engagement (Borghini et al., 2006). The combination of overprotective and overly permissive or indulgent parenting is a precursor for VCS (Horwitz et al., 2015b). Relatedly, PPCV in NICU parents can be understood as a sequela of interpersonal trauma (Lean et al., 2018) or "the threatened loss of a child," as termed by Green and Solnit (1964, p. 58). The current research study not only confirms the experience of "the threatened loss of the child," but also, for some participants, the loss of the idealized child or the child the participant thought they would have. For some participants, they experienced a loss of the kind of motherhood experience they thought they would have. Therefore, my findings both confirm and extend the literature.

Some literature has suggested that parents with anxious attachment styles, particularly those displaying post-traumatic stress symptoms, may be inclined to overprotective parenting behaviors as a result of difficulty with determining signals of safety and danger (Jovanovic et al.,

2005). Some participants provided multiple examples of this difficulty with determining signals of safety and danger in day-to-day life (e.g., Sonora, Grace, and Hannah). For other participants, this difficulty of determining signs of danger was more prevalent during times when the child was sick with a cold, gastrointestinal upset, or showed what the mothers saw as a delay in developmental milestones (e.g., for Madeline, Amanda, and Elizabeth). Other literature has suggested that parents may avoid or delay the development of a close bond with their premature baby over the conscious or unconscious fear that the baby will die or have future health problems, making the emotional investment of a close bond difficult (Haward et al., 2020). Both Kelly and Elizabeth spoke directly to this experience. These findings provide valuable insights into understanding parents with VCS as a reaction to the threatened loss of their child, the idealized child, and the idealized motherhood experience.

Limitations and Future Research

This study comes with limitations regarding generalizability, researcher bias, and researcher reflexivity. The findings from this study may not be generalizable to the phenomenon of mother-child relationships within NICU families who meet criteria for PPCV due to the somewhat narrow participant demographics in terms of geographic location, socioeconomic status, racial and ethnic backgrounds, and other demographics that were not collected such as religious backgrounds and sexual orientations (Levitt, 2021), all of which could potentially lead to variations in the phenomenon. In addition, the disability/ability status and medical histories of the mothers were not taken into consideration for this study, which may be particularly relevant in exploring the mother-child relationship for families with significant interactions with medical settings. On a similar note, cultural backgrounds, values, and religion play a role in coping, resiliency, and grief (See Bina, 2008; Mann et al., 2008), which can impact the experience of the

mother-child relationship for NICU parents (Barr, 2011; Brelsford et al., 2020). This field of research would benefit from future studies that focus on cultural practices and values that inform the parent-child relationship and early attachment relationships of NICU parents who meet criteria for VCS.

Although this study and its related concepts have a wide range of support from the literature, the qualitative nature of the study creates a limitation in that no clear associations can be made among attachment, PPCV, and the parent-child relationship. The goal of the study, instead, was to utilize attachment theory as a framework for understanding NICU mothers' representations of their child and their relationships with their children. Additionally, future studies could use a longitudinal design to investigate the long-term impact of intergenerational attachment trauma on mother-child relationships.

In addition, the data analytic method, specifically the hermeneutics of demystification, can be prone to researcher bias since it necessitates the researcher's analysis of latent material within the interview. However, the study sought to lessen the risks associated with this limitation by eliciting feedback from the participants on their interviews and the subsequent analysis, as well as the utilization of peer debriefers.

My position as an outsider (e.g., in terms of race, education level, non-parent) in this study may have presented some limitations pertaining to the establishment of rapport with the participants, which may have impacted the interview process and data collection. This consideration is particularly relevant to my experience of analyzing and categorizing the narrative and self-report data of Grace, Jane, and Sonora, who were the only three women of color in the study. In addition, my lack of personal resonance with the participants' experiences could have had an impact on my data analysis. Yet, my experience of having worked with NICU

parents and newborns, as well as my experience as a clinician who has worked with parents and their babies in a psychotherapeutic setting, may have counteracted some of the limitations of my outsider status.

Several considerations for future research came to my awareness as I was working through this project. First, what impact might the COVID-19 pandemic have had on VCS? Vigilance about avoiding illness was part of the zeitgeist during the peaks of the COVID-19 pandemic, especially for individuals at high risk (e.g., parents of immunosuppressed, premature infants). Given the global context of taking extra precautions in combating our vulnerability for illness at the time, the concept of a NICU mother worrying about her child's health during the COVID-19 pandemic might have a different meaning compared to the pre-pandemic era. More than one participant, for example, expressed worry about their baby contracting COVID. Though, in some instances, COVID-related worry seen in these participants could still be differentiated from the cultural norms of COVID-related worries. For example, the following quote from Elizabeth shows a level of COVID-related worry that goes beyond cultural norms, given the idea that her child would be "one of the first children who have it."

> She was just one and a couple months when COVID started. And she had been on oxygen when she was young, and she had a lung infection in the NICU…. She had a cold, I think about three or four months after COVID started…. I was like, this is COVID. It's gonna. It's gonna hurt her. She's gonna be one of the first children who have it and gonna have to be hospitalized.

Besides COVID creating some blurriness around what levels of anxiety might be considered normal in a NICU parent, COVID also may have impacted the way in which parents interacted with the healthcare system. For some mothers in this study, the risk of COVID

deterred them from taking their babies to the ER during times when they otherwise felt the need to do so and opted to utilize the doctor on call instead. This context also provided some information about parents' decision-making around taking their infants to the ER, which is an interesting area for further research.

Implications for Theory, Research, and Practice

The current theoretical framework in which VCS and PPCV are discussed in the literature is Horwitz et al.'s (2015b) Trauma-Based Model, which focuses on parental anxiety and how it manifests in behaviors like parental overprotection (Hoge et al., 2021). Horwitz et al.'s (2015b) model is well-suited for therapeutic frameworks employing interventions such as trauma psychoeducation and cognitive restructuring (Hoge et al., 2021; Horwitz et al., 2015b). However, this theory falls short of providing a comprehensive explanation for understanding the impact of interpersonal and attachment trauma on the mother's experience of the parent-child relationship. In other words, while this framework effectively addresses PPCV symptoms in parent-child relationships, it overlooks the mothers' attachment history and how it plays out in PPCV. Investigating PPCV in NICU families through psychoanalytic and psychodynamic theories could offer valuable insights into its underlying dynamics. For instance, assessing parents' capacity to mentalize their child using reflective functioning measurements (Fonagy et al., 1991; Slade, 2005) may enhance the understanding of parent-child relationships and attachment security for those who meet the criteria for PPCV. This study broadens existing theories by integrating internal working models of motherhood, attachment security, reflective functioning, and trauma history into the comprehension of NICU mothers' perceptions of parent-child relationships. The findings of this study promote future theoretical research to more precisely identify the intricate mental and emotional processes underpinning PPCV.

The findings of my study provide insight into how internal working models of motherhood play out in a mother's relationship with her own baby. Furthermore, by focusing on NICU mothers who meet criteria for PPCV, these narratives contribute to the broader literature on VCS and PPCV, NICU parent experiences, and the way in which attachment styles may interact with a mother's threatened loss of her child. Further investigation is needed to understand these families' experiences after leaving the NICU and navigating their first years together (Adama et al., 2015). In addition, this study fills a gap in the NICU literature by focusing on parents of children between the ages of 1 and 4 years old as opposed to babies under one years old (Lean et al., 2018).

The clinical implications of this study are potentially significant, as the findings suggest that interventions aimed at improving parental reflective functioning and addressing intergenerational attachment trauma may be effective in addressing symptoms of PPCV in mothers who have had a baby in the NICU. Clinicians working with this population may consider using interventions such as attachment-based psychotherapy (Diamond et al., 2012) or mentalization-based therapy (Fonagy et al., 2002) to address these issues. The findings of this study support the clinical use of tools already used in the practice of parent-baby bonding, such as Video Interaction Guidance (Kennedy & Underdown, 2018), microanalysis video feedback (Beebe, 2003, 2005; Cohen & Beebe, 2002) and Wait, Watch, Wonder (Muir et al., 1999). Several studies have observed a 25% higher rate of PPCV in NICU parents compared to community-based samples, with one investigation noting that 44%-47% of NICU parents perceived their babies as ill, despite medical professionals determining the infants were healthy (Culley et al., 1989; Hoge et al., 2021; Malin et al., 2019; Perrin et al., 1989). As the prevalence of infants surviving and being discharged from the NICU increases, it is crucial to expand

relevant research to better comprehend the experiences of NICU families (Harrison & Goodman, 2015).

Considering the evidence from studies like Horwitz et al.'s (2015a) RCT on manualized trauma-focused cognitive behavioral therapy for preventing PPCV in parents of premature infants and its clinical implications, it is essential to understand the parent-child relationship when addressing NICU mothers' responses to their babies' hospitalization-related trauma. The findings of my study promote the application of attachment theory, specifically the concept of internal working models of attachment (Bowlby, 1969; Bretherton, 1990; Rosenblum et al., 2002), as a framework for providing psychotherapy to NICU mothers at risk for or displaying PPCV symptoms. The findings of my study have implications for the importance of helping mothers to reimagine their own mothers and thereby constructing a healthier, more balanced representation of themselves as mothers as a way to reduce PPCV. Employing attachment theory, as well as mentalization-based techniques, in clinical cases of PPCV can help enhance attachment security and foster healthier parent-child relationships, which can ultimately contribute to the child’s improved social and emotional well-being (Crowell & Treboux, 1995; Main et al., 1985; Sroufe, 1979; Waters et al., 1995).

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Appendices

Appendix A: Pre-Screener

1) Are you the mother of a child who was hospitalized in a neonatal intensive care unit for at least 4 days?

2) Is the child who was in the NICU now between the ages of 1 and 4 years old?

3) Are you 18 years or older?

4) Can you read, write, and speak English?

5) Do you have access to the internet?

6) Have you graduated from high school or obtained your GED?

If your questions to these six questions are yes, then please continue.

Appendix B: Child Vulnerability Scale (Forsyth et al., 1996)

Appendix C: Automatic Qualtrics Window After Completing Child Vulnerability Scale (Appendix B)

If screener (Child Vulnerability Scale) is negative

You do not meet the criteria for this study, but we thank you for your interest. If you are the caregiver of an infant or toddler and are having any difficulties managing parenthood or your mental health, you can find support and resources through Postpartum Support International.

Website: www.postpartumsupportinternational.com

PSI HelpLine: 1-800-944-4773

If screener (Child Vulnerability Scale) is positive

Thank you for your responses. You meet the criteria to participate in this study*. If you would like to participate, please provide your email address for the Principal Investigator of the study, Nicole Elimelech Maleh, M.Ed., to contact you and schedule a 60-minute interview about your relationship with your child. In the email, you will also be provided with an Informed Consent form and a link to a demographics questionnaire to complete.

Email Address: _____

*The responses provided indicate that you may be experiencing what is called *parental perception of child vulnerability*. This is when a parent has persistent beliefs that their child might be at a heightened risk for poor health compared to other children, despite feedback from health providers that the child is healthy. If you choose to, sharing this information with a trusted professional, such as your child's pediatrician, your family doctor, or a mental health

professional, can be a helpful step in seeking support. You can also find support and resources through Postpartum Support International.

Website: www.postpartumsupportinternational.com

PSI HelpLine: 1-800-944-4773

You are not obligated to participate in this study nor provide your contact information. If you are not interested in participating in this study, but you are the caregiver of an infant or toddler and are having any difficulties managing parenthood or your mental health, you can find support and resources through Postpartum Support International.

Website: www.postpartumsupportinternational.com

PSI HelpLine: 1-800-944-4773

Appendix D: Demographic Questionnaire

1) Age: _____

2) Gender: _____

3) Sexual orientation: _____

4) Relationship status
a. Single
b. Married
c. Divorced
d. Widowed
e. In a monogamous relationship
f. In an open relationship
g. Other: _____

5) Racial/ethnic identity: _____

6) Highest education
a. GED
b. High school
c. Some college
d. College degree
e. Some graduate school
f. Graduate degree

7) Current Occupation: _____

8) Household income in the last 12 months
a. Below $10,000
b. $10,000 to $25,000
c. $25,000 to $50,000
d. $50,000 to $100,000
e. Above $100,000

9) Was this your first pregnancy?
a. Yes
b. No

10) Was this the first baby of yours who has been in the NICU?
a. Yes
b. No

11) Have you ever experienced pregnancy loss?
a. Yes
b. No

12) Did you use assisted reproductive technology for this pregnancy (e.g., IVF)?
a. Yes
b. No

13) How many children do you have: _____
    a. What are their ages? _____

14) Country/State of current residence: _____

15) Country/State of child's birth: _____

16) Country/State of child's NICU hospitalization: _____

17) How long did your child stay in the NICU? _____

18) How old is your NICU child now?

19) Who were you raised by?

20) Please provide your email address:

Appendix E: Semi-structured Interview Questions

Thank you again for agreeing to participate. Just to tell you a little about myself, I am a student working on my Ph.D. in counseling psychology. I am training to become a therapist and a researcher. I am interested in studying sociocultural identities, parent-child relationships, as well as parent and infant mental health in a way that values people's stories and experiences. I worked in labor and delivery, postpartum units, and in the NICU for three years as a newborn technician.

1) Briefly describe the experience of your baby being in the NICU.

    a. How do you remember feeling toward your baby when they were in the NICU?

2) What is your relationship like now with your baby/child?

    a. Could you tell me a brief story or recent memory that captures how your relationship is with your baby/child?

3) How would you describe your baby/child?

    a. Can you tell me a brief story or example that illustrates the qualities you just described?

4) Tell me about a time when you were scared your baby/child was hurt or ill, once they were out of the NICU, and how you dealt with it.

5) How would you describe yourself as a mother now?

    a. Can you provide me with a story or memory that would illustrate this?

Thank you for letting me in on what life was like in the NICU and how things are going with you and your baby/child. Now I would like to ask about your own childhood experiences.

6) Can you tell me a little bit about who raised you?

a. What was your mother (or primary caregiver) like? Could you describe her (them) to me?

7) If you can, think back to when you were very young. What was your relationship like with your mother? (or primary care giver—grandmother, father, etc.)

a. Could you tell me a brief story or memory that captures how your relationship was with your mother (or primary care giver)?

8) Can you tell me about a time when you were ill or physically injured as a child?

a. Do you remember seeking out comfort from your mother? (or primary care giver)

b. Do you remember how your mother (or primary care giver) would treat you when you were ill or physically injured?

Thank you for sharing this information about yourself when you were younger. Now I would like to ask a little bit about your pregnancy.

9) Can you tell me how you felt emotionally and physically when you were pregnant?

10) What ideas did you have about your baby before they were born?

11) What ideas did you have about yourself, as a mother, before your baby was born?

12) How has the relationship between you and your mother (or primary care giver) when you were a young child influenced your relationship with your baby/child, if at all?

Appendix F: Experiences in Close Relationships-Revised (ECR-R) Questionnaire (Fraley et al., 2000)

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item-response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology, 78*(2), 350-365. https://doi.org/10.1037//0022-3514.78.2.350

Appendix G: Parental Reflective Functioning Questionnaire (Luyten et al., 2017)

Listed below are a number of statements concerning you and your child. Read each item and decide whether you agree or disagree and to what extent.

Use the following rating scale, with 7 if you strongly agree, and 1 if you strongly disagree. The midpoint, if you are neutral or undecided, is 4.

Strongly Disagree	1	2	3	4	5	6	7 Strongly Agree

1. ____ The only time I'm certain my child loves me is when he or she is smiling at me.
2. ____ I always know what my child wants.
3. ____ I like to think about the reasons behind the way my child behaves and feels.
4. ____ My child cries around strangers to embarrass me.
5. ____ I can completely read my child's mind.
6. ____ I wonder a lot about what my child is thinking and feeling.
7. ____ I find it hard to actively participate in make believe play with my child.
8. ____ I can always predict what my child will do.
9. ____ I am often curious to find out how my child feels.
10. ____ My child sometimes gets sick to keep me from doing what I want to do.
11. ____I can sometimes misunderstand the reactions of my child.
12. ____ I try to see situations through the eyes of my child.
13. ____ When my child is fussy, he or she does that just to annoy me.
14. ____ I always know why I do what I do to my child.

15. ____ I try to understand the reasons why my child misbehaves.

16. ____ Often, my child's behavior is too confusing to bother figuring out.

17. ____ I always know why my child acts the way he or she does.

18. ____ I believe there is no point in trying to guess what my child feels.

Appendix H: Adverse Childhood Experiences Questionnaire (Felitti et al., 1998)

Appendix I: Seton Hall University Institutional Review Board Approval

SETON HALL UNIVERSITY
1 8 5 6

August 23, 2022

Nicole Elimelech Maleh
Seton Hall University

Re: 2022-364

Dear Nicole

At its Summer meeting, the Research Ethics Committee of the Seton Hall University Institutional Review Board reviewed and approved your research proposal entitled, "Scared to Lose You: Attachment Narratives of Mothers Post-Neonatal Hospitalization" submitted. This memo serves as official notice of the aforementioned study's approval. Enclosed for your records are the stamped original Consent Form and recruitment flyer. You can make copies of these forms for your use.

The Institutional Review Board approval of your research is valid for a one-year period from the date of this letter. During this time, any changes to the research protocol, informed consent form or study team must be reviewed and approved by the IRB prior to their implementation.

You will receive a communication from the Institutional Review Board at least 1 month prior to your expiration date requesting that you submit an Annual Progress Report to keep the study active, or a Final Review of Human Subjects Research form to close the study. In all future correspondence with the Institutional Review Board, please reference the ID# listed above.

Thank you for your cooperation.

Sincerely,

Mara C. Podvey, PhD, OTR
Associate Professor
Co-Chair, Institutional Review Board

Phyllis Hansell, EdD, RN, DNAP, FAAN
Professor
Co-Chair, Institutional Review Board

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