Published in final edited form as:
J Spec Pediatr Nurs. 2009 October ; 14(4): 262–283. doi:10.1111/j.1744-6155.2009.00209.x.

Furthering the Understanding of Parent–Child Relationships: A Nursing Scholarship Review Series. Part 2: Grasping the Early Parenting Experience—The Insider View

Kristin F. Lutz, PhD, RN [Assistant Professor],
Oregon Health & Science University School of Nursing, Portland, Oregon, USA

Lori S. Anderson, PhD, RN [Assistant Professor],
University of Wisconsin—Madison School of Nursing, Madison, Wisconsin, USA

Susan K. Riesch, PhD, RN, FAAN [Professor],
University of Wisconsin—Madison School of Nursing, Madison, Wisconsin, USA

Karen A. Pridham, PhD, RN, FAAN [Professor Emeritus], and
University of Wisconsin—Madison School of Nursing, Madison, Wisconsin, USA

Patricia T. Becker, PhD, RN, FAAN [Professor Emeritus]
University of Wisconsin—Madison School of Nursing, Madison, Wisconsin, USA

Abstract

PURPOSE—The purpose of this integrative review is to systematically and critically synthesize nursing scholarship on parents' perspectives of the parent–child relationship during infancy.

CONCLUSION—Research has shown that the process of establishing the parent–child relationship is highly individualized and complex. Numerous barriers and facilitators influencing this relationship have been identified that are relevant to nursing.

PRACTICE IMPLICATIONS—Nurses have an important opportunity to positively affect the developing parent–infant relationship. Screening parents for depression and providing parents with resources and support are key nursing interventions supporting the parent–infant relationship.

Search terms

Nursing; object attachment; parents; parent-child relation; parent-infant relation; parenting

Parental perceptions of parenting and the parent–child relationship have been an early and ongoing focus of nursing research. Across disciplines, the impact of events that occur during infancy on child development is debated, with some arguing for the importance of early events and others against (Bornstein, 2002). Regardless of whether events in infancy are perceived as foundational or not, the parenting of infants is viewed as integral to the development and cultivation of family relationships. Further, infants depend on their parents for survival in a way unlike that of all other developmental stages, which both engages and challenges parents.

The parent–child relationship refers to the connection between parent and child and includes attributes such as closeness, influence, attachment, and investment. Our conceptualization of

Author contact: lsanderson@wisc.edu, with a copy to the Editor: roxie.foster@UCDenver.edu.

the parent–child relationship draws on Blake (1954) and Hinde (1979; Hinde & Stevenson-Hinde, 1988). Blake viewed the parent–child relationship as the context in which child development occurs, and as fundamental to optimal developmental and health outcomes for the child. Hinde's theory of relationships has a similar human ethological orientation, wherein the individual's behavior derives its meaning from the social environment.

This article is the second in a series of five articles examining the contribution of nursing research to knowledge development about the parent–child relationship (Lutz, Anderson, Pridham, Riesch, & Becker, 2009; Pridham, Lutz, Anderson, Riesch & Becker, in press; Anderson, Riesch, Pridham, Lutz, & Becker, in press; Riesch, Pridham, Lutz, Anderson, & Becker, in press). The purpose of this article is to present an integrative review of nursing research from the insider, that is, the parental perspective of parent–child relationships during infancy, discuss implications for nursing practice, identify gaps in knowledge, and recommend areas for future research. Taken together, the qualitative research reviewed in the discovery section and the mixed methods research reviewed in the assessment section provide parents' perspectives of their relationships with their infants from the vantage point of a member of the parent–child relationship. While nursing research is embedded within the context of research in other disciplines and consideration of relevant scholarly contributions from other disciplines is important, reviewing and combining evidence in nursing scholarship is integral to nursing knowledge development, facilitates evidence-based nursing practice, and is crucial in light of the rapidly growing body of nursing research (Whittemore & Knafl, 2005).

Method

For a full description of search methods, data evaluation, and data analysis, see Part 1 (Lutz, Anderson, Pridham, Riesch, & Becker, 2009) of this review series. This article is organized by research design categories based on Diers' (1979) work: Discovery Model, Assessment Model, and Intervention Model.

Results

Forty-one studies of parental perceptions of and experiences with the parent–child relationship during infancy are reviewed in this article (see Tables 1 and 2). Studies incorporated differing research approaches using qualitative and quantitative data to increase knowledge and understanding about parents' perceptions of the parent–child relationship during infancy and include families of term healthy infants and preterm infants. Reviewed investigations were conducted in Australia (4 discovery, 1 assessment), Canada (4 discovery, 1 assessment), Europe (8 discovery, 0 assessment), and the United States (14 discovery, 9 assessment).

Discovery Approach

There were 30 reports categorized as utilizing a discovery approach to knowledge development (see Table 1). All of the studies in this section used qualitative data and an interpretive approach to analysis. The studies were classified as parental perceptions and experiences with healthy, full-term infants, perceptions and experiences of parents with infants in the Neonatal Intensive Care Unit (NICU), and the transition from NICU to home.

Parental Perceptions and Experiences with Healthy, Full-Term Infants

Study of new parents with healthy, term infants was the focus of eight research reports, concentrating on mothers (Anderson & Anderson, 1987, 1990; Barclay, Everitt, Rogan, Schmied, & Wyllie, 1997; Nichols, 2004; Rogan, Schmied, Barclay, Everitt, & Wyllie, 1997), fathers (Anderson, 1996), and both mothers and fathers (Bell et al., 2007; Niska, Snyder, & Lia-Hoagberg, 1998). Five studies were conducted with first-time parents (Anderson,

1996; Barclay et al., 1997; Bell et al., 2007; Niska et al., 1998; Rogan et al., 1997). Common themes across studies concerning the parent–child relationship included the relationship as a process, the importance and influence of support, and interaction with and caregiving for the infant as facilitators of parental commitment and connection.

The parent–child relationship as a process—The developing parent–child relationship was consistently presented as an individualized process that evolves over time (Anderson, 1996; Anderson & Anderson, 1987, 1990; Barclay et al., 1997; Bell et al., 2007; Nichols, 2004; Niska et al., 1998). Bell et al. (2007) described the interconnectedness and temporality of the developing mother–infant and father–infant relationships that occur in the context of the family. Three core themes emerged in their grounded theory of early family relationships: undifferentiated unit (at week 1), highly disorganized unit (at 6 weeks), and a more integrated family unit (at 16 weeks). Findings of Barclay et al. (1997), Niska et al. (1998), and Rogan et al. (1997) underscored the magnitude of challenges that first-time mothers experience. In the process of becoming a new mother, women progressed through stages of realizing, unready, drained, aloneness, loss, and working it out, whereas, for first-time fathers the developing relationship was a process of making a commitment, becoming connected, and making room for the baby (Anderson, 1996). Whether the dissimilarities between first-time mothers and fathers result from different study methods (e.g., setting and recruitment strategies), or stem from the different maternal and paternal roles and responsibilities, or a combination, needs further examination. However, findings from Bell and colleagues (2007) on dissimilar foci for mothers (e.g., getting to know the child through their needs) and fathers (e.g., getting to know the child through their capacities) suggest unique differences between mothers' and fathers' experiences.

Anderson and Anderson (1987, 1990) examined development of a mother–twin relationship, which is set in the context of a triadic relationship between parent and twins. A complex attachment process incorporated differentiation of the infants' physical characteristics and polarization of their personalities as strategies to achieve individuation, the core category. These processes were balanced with maternal justice, defined as maternal concern to treat the twins equally and fairly, with paternal support being vital to a positive mother–twin relationship. Indeed, the important role of support for the developing parent–child relationship, whether from the co-parent (Anderson, 1996; Anderson & Anderson, 1987, 1990; Bell et al., 2007) or extended family, community, and/or others (Barclay et al., 1997; Nichols, 2004; Niska et al., 1998; Rogan et al., 1997), was a common theme across investigations.

Interaction with the infant—Another recurrent theme was the facilitative effect of interaction with the infant on the parent–child relationship. For example, engaging in caregiving activities, such as feeding, talking to, holding, playing with, and comforting the infant, as well as increasing parental commitment to the infant, promoted positive parental feelings about the parent–child relationship and increased confidence in their caregiving abilities (Anderson, 1996; Bell et al., 2007; Niska et al., 1998).

Cultural contexts—Findings from studies conducted with Mexican American mothers and fathers (Niska et al., 1998) and Cherokee mothers (Nichols, 2004) offer valuable insight into the influence of cultural context on the parent–child relationship. First-time Mexican American parents engaged in *La cuarentena*, a family ritual observed for 40 days after birth (Niska et al., 1998). Through this ritual, family support, mentoring, instruction in infant care, and assistance with household tasks are provided by grandparents and other extended family, thereby socializing new parents to parenthood and providing time to bond with their infant and gain confidence and skill in infant caregiving activities. The process of "being a Cherokee mother" (Nichols, 2004) identified cultural patterns of care among the categories of accommodating everyday infant care, accommodating health perspectives, building a care-

providing consortium, living spiritually, merging the infant into Cherokee culture, using noncoercive discipline techniques, and vigilantly watching for the natural unfolding of the infant's self. Thus, culturally based rituals such as *La cuarentena* and tribal culture and traditions provide mentoring, caregiving, socialization, and support for the parent–child relationship (Nichols, 2004; Niska et al., 1998). Studies of early parenting of healthy infants in African American, Asian, and other cultures were not found.

Perceptions and Experiences of Parents of Preterm and High-Risk Infants

Among 21 studies of parents of preterm and high-risk infants, 16 examined the parent–child relationship with mothers (Bialoskurski, Cox, & Hayes, 1999; Fenwick, Barclay, & Schmied, 2001; Flacking, Ewald, Nyqvist, & Starrin, 2006; Flacking, Ewald, & Starrin, 2007; Hayes, Stainton, & McNeil, 1993; Heermann, Wilson, & Wilhelm, 2005; Holditch-Davis & Miles, 2000; Hurst, 2001a,[b]; Jackson, Ternestedt, & Schollin, 2003; Johnson, 2007; Lasby, Newton, Sherrow, Stainton, & McNeil, 1994; Lupton & Fenwick, 2001; Neu, 2004; Nystrom & Axelsson, 2002; Oehler, Hannan, & Catlett, 1993), two with fathers (Lundqvist Hellstom Westas, & Hallstrom, 2007; Lundqvist & Jakobsson, 2003), and three with both mothers and fathers (Casteel, 1990; Fegran, Helseth, & Fagermoen, 2008; Neu, 1999) of preterm and high-risk infants. Five investigations studied specific aspects of parent–infant interaction in the NICU—breast-feeding (Flacking et al., 2006; Flacking et al., 2007) and skin-to-skin or kangaroo holding (Johnson, 2007; Neu, 1999, 2004). Common themes that emerged included the parent–child relationship as a process, vacillating emotions, the NICU as a stressful environment, and influences of interpersonal relationships and interactions.

The parent–child relationship as a process—As seen with parents and healthy infants, the developing parent–child relationship between parents and preterm and high-risk infants was an individualized process evolving over time (Bialoskurski et al., 1999; Flacking et al., 2006; Heermann et al., 2005; Jackson et al., 2003; Lundqvist et al., 2007). In the NICU, particularly in the early days post birth, many parents experience feelings of disconnection and separation from their infants and the outside world (Flacking et al., 2006; Hayes et al., 1993; Heermann et al., 2005; Jackson et al., 2003; Lundqvist & Jakobsson, 2003; Lundqvist et al., 2007; Nystrom & Axelsson, 2002). For families of preterm and high-risk infants, numerous factors were identified as adversely affecting the parent–child relationship, including: the health status of the child or mother (Bialoskurski et al., 1999; Holditch-Davis & Miles, 2000; Lundqvist et al., 2007); parents' inability to hold, touch, or care for their infant and the infant's appearance (Holditch-Davis & Miles, 2000; Jackson et al., 2003); parent concerns about infant outcomes (Bialoskurski et al., 1999; Holditch-Davis & Miles, 2000); medical interventions and treatments, and environmental factors (Bialoskurski et al., 1999; Holditch-Davis & Miles, 2000; Neu, 2004); and poor quality of care or problematic interactions and communication with staff (Bialoskurski et al., 1999; Fenwick et al., 2001; Hayes et al., 1993; Holditch-Davis & Miles, 2000; Hurst, 2001b; Lupton & Fenwick, 2001). Factors reported as facilitating the parent–child relationship included positive feelings for the baby, the infant being wanted, seeing the baby at birth or soon after, as well as physical contact with the infant and involvement in caregiving (Bialoskurski et al., 1999; Fegran et al., 2008; Johnson, 2007; Neu, 2004). The temporal nature of the attachment process was also evident in the reviewed studies, with reported gains in parents' knowledge, confidence, and connection with their infants over time (Bialoskurski et al., 1999; Casteel, 1990; Fegran et al., 2008; Flacking et al., 2006; Heermann et al., 2005; Hurst, 2001a,b; Jackson et al., 2003; Oehler et al., 1993).

Vacillating emotions—The reviewed research demonstrates that the birth of a preterm or high-risk infant evokes myriad powerful emotions that vacillate and change across time and in response to the presence of numerous stressors (Casteel, 1990; Flacking et al., 2006; Heermann et al., 2005; Holditch-Davis & Miles, 2000; Hurst, 2001a,b; Lundqvist & Jakobsson,

2003; Nystrom & Axelsson, 2002). In many studies, parents reported negative emotions such as anxiety, stress, helplessness, powerlessness, lacking control, guilt, disappointment, loneliness, isolation, sadness, loss, grief, and despair (Casteel, 1990; Flacking et al., 2006; Heermann et al., 2005; Holditch-Davis & Miles, 2000; Hurst, 2001a,b; Lundqvist & Jakobsson, 2003; Nystrom & Axelsson, 2002). Fear and worry about the infant's immediate and long-term health was another commonly reported parental emotion (Casteel, 1990; Holditch-Davis & Miles, 2000; Hurst, 2001a,b; Lundqvist & Jakobsson, 2003; Lundqvist et al., 2007). But positive emotions were also frequent among parents. Parents reported feeling love, amazement, happiness, security, satisfaction, well-being, closeness, and relief (Casteel, 1990; Hurst, 2001a,b; Lasby et al., 1994; Nystrom & Axelsson, 2002; Oehler et al., 1993). In general, parents' positive feelings and their confidence in caregiving abilities and in knowing their children increased over time.

The NICU as a stressful environment—The NICU presents an extraordinary and highly technological context that differs substantially from the context of an uncomplicated delivery of a healthy, term infant. The stressful NICU environment with its unfamiliar sights and sounds, along with separation of parent and infant, may adversely affect the developing parent–infant relationship (Flacking et al., 2006; Holditch-Davis & Miles, 2000; Johnson, 2007; Lupton & Fenwick, 2001; Neu, 1999, 2004; Nystrom & Axelsson, 2002). Evidence suggests that even parents of full-term infants with a relatively short NICU stay find their infant's NICU admission, separation from their infant, and the NICU environment to be challenging and often traumatic (Nystrom & Axelsson, 2002). Allocation of nursing staff resources, lack of privacy, and the quality of care are other environmental factors found to be concerning to families in the NICU (Bialoskurski et al., 1999; Holditch-Davis & Miles, 2000; Hurst, 2001a,b). However, environmental conditions are not the only factors influencing families and the parent–child relationship; interpersonal relationships also are reported as important.

The influence of interpersonal relationships—A key finding in many of the reviewed studies is the importance of interpersonal relationships between nurses and other health professionals and mothers and fathers (Bialoskurski et al., 1999; Fegran et al., 2008; Fenwick et al., 2001; Flacking et al., 2006; Holditch-Davis & Miles, 2000; Lasby et al., 1994; Lupton & Fenwick, 2001). Indeed, within the context of the NICU, the support and guidance of nurses are important facilitators of the parent–child relationship. Nurses often influence parents' decisions to engage in and become comfortable with infant caregiving tasks such as breast-feeding (Flacking et al., 2006; Flacking et al., 2007) and skin-to-skin holding (Fegran et al., 2008; Johnson, 2007; Neu, 1999, 2004). But nurses also may engage in unsupportive behaviors, such as providing inadequate information and communication, restricting access to infants, and engaging in unhelpful or judgmental relationships with parents (Fenwick et al., 2001; Heermann et al., 2005; Holditch-Davis & Miles, 2000; Hurst, 2001a,b; Lupton & Fenwick, 2001). Such behaviors may adversely affect the developing parent–child relationship by causing frustration, anger, and resentment among parents (Fenwick et al., 2001; Flacking et al., 2006; Hurst, 2001a,b; Lasby et al., 1994; Lupton & Fenwick, 2001), leading them to seek confirmation of their parental expertise and role (Jackson et al., 2003; Lasby et al., 1994). At other times, parents may speak out to challenge staff or hospital policies (Fenwick et al., 2001; Hurst, 2001a,b; Lupton & Fenwick, 2001). However, some parents may not request help or communicate their needs for various reasons, such as not wanting to bother nurses, perceiving staffing to be inadequate, or fearing negative repercussions (Fenwick et al., 2001; Hurst, 2001a,b; Johnson, 2007; Lupton & Fenwick, 2001; Neu, 2004). Bialoskurski et al. (1999) posit that the attachment process between parent and child is altered in the NICU from a dyadic relationship to a triadic relationship that incorporates the nurse.

Going from the NICU to home—Several reviewed studies focused on families' preparing to go home from the NICU or caring for their preterm or high-risk infant at home after NICU hospitalization (Flacking et al., 2007; Hayes et al., 1993). Other studies compared parental perceptions and experiences in the NICU and at home (Casteel, 1990; Jackson et al., 2003). As described by Jackson et al. (2003), a shift in the parent–child relationship is often experienced when the child is discharged from the NICU, with differences in perceptions between mothers and fathers. Parents felt unprepared, insecure, and had mixed feelings at discharge, but described increased confidence and adjustment at 6 months. At 18 months, parents expressed a feeling of relationship with the infant and a view of a more stable family life. Flacking and colleagues (2007) described the complex, pendular process of mothering a preterm infant as influenced by the disparity between the focus of the hospital on saving the infant's life and growing, and the home, where the focus is on the relationship. Similarly, in a case study, Hayes et al. (1993) found uncertainty, experiencing the baby as powerful, striving to gain acceptance from the baby, blurred boundaries, and being alone and vulnerable as meaningful in a mother's experience preparing to care for her infant at home. Casteel (1990) found that mothers and fathers expressed more negative feelings during hospitalization than afterwards, with more positive feelings expressed at home following discharge. The proportion of their total cognitive responses also increased after discharge, suggesting increased knowledge. Neu (2004) discovered that mothers who switched from kangaroo holding to blanket holding post discharge experienced more anxiety about holding their fragile infant than those who continued kangaroo holding at home. The main factor that influenced mothers who chose to use the kangaroo hold both in the hospital and at home was the perceived benefit of close contact with the infant. Overall, these studies document the parental stress involved in bringing an infant home from the NICU, a transition requiring an increase in parental responsibility that may challenge parental confidence.

Summary—Evidence from reviewed studies enhances understanding of the insider perspective of the parent–child relationship. Whether under normal or extraordinary circumstances, development of the parent–child relationship is a process influenced by a variety of factors, including infant and parent factors, as well as factors external to the parent–child relationship, such as environment and support. While qualitative findings are not designed to be generalizable, these qualitative data provide important information about parents' subjective experiences and the meaning of their experiences as interpreted and constructed by parents. Such contextual information is essential to knowledge development about the parent–child relationship and may not be readily acquired with other research approaches.

Assessment Approach

The 11 remaining studies used an assessment approach to knowledge development in that data were collected primarily using self-report measures of specific constructs such as parental stress (see Table 2). These studies were categorized as focusing on parental perceptions and experiences, namely parenting stress, worry, satisfaction, and support or attachment and attachment correlates.

Parental Perceptions of the Parent–Child Relationship and Stress, Worry, Satisfaction, and Support

The association between the parent–child relationship and parents' stress, worry, satisfaction, and support was the focus of four studies conducted with mothers (Horowitz & Damato, 1999; Miles, Burchinal, Holditch-Davis, Brunssen, & Wilson, 2002; Miles, Wilson, & Docherty, 1999; Thoyre, 2000).

The mothering role and mothers' relationships with their infants, spouses, and other children were found to be significant sources of maternal postpartum satisfaction, though the partner

relationship was also considered a source of stress in a study conducted with a diverse sample of low-risk postpartum mothers (Horowitz & Damato, 1999). In a report of a mixed method study of the experiences of African American mothers of hospitalized high-risk and preterm infants, Miles et al. (1999) described establishing a relationship with the infant and seeking support as important qualitative themes. Mothers worried about when the baby could go home, and their greatest source of stress was separation from the infant. They reported high levels of support from nurses and ranked support from the healthcare team highest on the support satisfaction instrument. In another investigation (Miles et al., 2002), stress associated with the appearance of their infants and their altered parental role, worry about their infants' health problems, and perceived support from nursing and the healthcare team were reported by all mothers in a study of perceptions of Black and White mothers of high-risk and preterm infants. Although Black mothers were more stressed by the sights and sounds of the hospital environment than White mothers, suggesting possible differences in cultural/ethnic groups, their reported stress levels were only moderate. Educational level also influenced mothers' worry, with mothers with less education expressing more worry about their infants than mothers with more education.

Among low-risk postpartum mothers, additional sources of postpartum stress included lifestyle adjustments leading to unmet personal needs, new roles, childcare tasks, daycare tasks, and financial concerns. Parenting tasks were considered a source of both stress and satisfaction (Horowitz & Damato, 1999). An important parenting task, feeding, was the emphasis of an investigation exploring the perceptions of mothers of very low birth weight infants about feeding, maternal role, and efficacy in terms of co-regulation (i.e., views of the role of mother vis-à-vis infant in feeding; Thoyre, 2000). Mothers who were older or had infants who were younger at birth, in the NICU for a longer duration, or on oxygen for more days, scored higher on the co-regulation measure. Thus, those mothers perceived both themselves and their infants to have important roles in the feeding process. In contrast, mothers with low co-regulatory scores may have desired infant participation in feeding, but they did not consider it to be required.

Attachment and Correlates of Attachment

Attachment and factors affecting parent–infant attachment have been another important focus of scholarship using an assessment model. Seven reports of studies examining the role of parental experience, risk status, and other factors on parent–infant attachment were reviewed (Damato, 2004; Ferketich & Mercer, 1995; Fuller, 1990; Mercer & Ferketich, 1990, 1994; Müller, 1996; Sullivan, 1999). Of these, four studies were of mothers (Damato, 2004; Fuller, 1990; Mercer & Ferketich, 1994; Müller, 1996), two were of fathers (Ferketich & Mercer, 1995; Sullivan, 1999), and one included both mothers and fathers (Mercer & Ferketich, 1990).

For mothers of healthy, full-term, singleton infants, studies found maternal–fetal attachment to be positively related to mother–infant postpartum attachment and interaction (Fuller, 1990; Müller, 1996). In a study designed to test a model predicting parent–infant attachment and examine differences between mothers and fathers experiencing high- and low-risk pregnancies (Mercer & Ferketich, 1990), high-risk mothers scored higher than low-risk mothers on maternal attachment, but only in the early postpartum period, while high- and low-risk fathers' attachment scores did not differ. Whereas parental competence was a major predictor of parental attachment for high- and low-risk mothers and fathers (Mercer & Ferketich, 1990), no significant differences in maternal–infant attachment were found between inexperienced and experienced mothers (Mercer & Ferketich, 1994), suggesting that parental experience and sense of competence may not occur concurrently.

In a study conducted with fathers (Ferketich & Mercer, 1995), paternal–infant attachment of experienced and inexperienced fathers was compared over time. Fetal attachment was a major predictor of attachment at postpartum, 1, and 4 months for experienced fathers, but only at postpartum and 1 month for inexperienced fathers. Of interest, depression and paternal competence were major predictors of father–infant attachment for experienced and inexperienced fathers at all test periods (Ferketich & Mercer, 1995). However, for fathers of preterm infants (Sullivan, 1999), the earlier a father held his baby, the sooner he reported feelings of love for the infant. Although paternal perceptions of how difficult their infants were increased after discharge, fathers' anxiety and concern for their infants decreased over time, perhaps suggesting that caregiving competency and familiarity increased for the fathers as they gained experience and their fragile preterm infants matured. Lastly, for mothers of twins, a significant correlation was found between prenatal and postnatal attachment (Damato, 2004). Postpartum depression, cesarean delivery, and NICU admission further influenced the relationship between pre- and postnatal attachment. Though pre- and postnatal attachment were correlated, maternal depression related only to postnatal attachment. Women with greater prenatal attachment and less postnatal depression reported greater postnatal attachment to their twins. These findings highlight the positive relationship between fetal and postpartum attachment and the potential adverse influence of postpartum depressive symptoms on the parent–child relationship, which were also seen in the studies of singleton mothers.

Parenting tasks were shown to be a source of both stress and satisfaction, demonstrating the complexity of the attachment process.

Summary—Reviewed studies examined factors influencing the parent–child relationship in terms of the stress, worry, satisfaction, and support, and the construct of attachment. Parenting tasks were shown to be a source of both stress and satisfaction, demonstrating the complexity of the attachment process. Investigators have compared predictors of attachment for mothers and fathers, examined the relationship between maternal–fetal attachment and maternal–infant attachment, and examined correlates of postbirth maternal–twin attachment. Variables associated with paternal–infant attachment have been studied, but to a lesser degree. Evidence that cesarean delivery, NICU admission, postpartum depression in mothers and fathers, first-time holding one's infant, prenatal attachment, and parental competence affect parent–infant attachment, while parental experience and risk status do not, support the assertion that attachment may be influenced by many variables, in a variety of ways, some yet to be explored (Müller, 1996).

Conclusions

Theoretical perspectives—Theoretical perspectives and models provide guidance in selecting potential variables for studies involving the parent–child relationship and facilitate building a body of knowledge that can make a significant contribution to nursing science. Not all of the studies reviewed explicitly described a theory or conceptual framework (see Tables 1 and 2). While most of the discovery studies described explicit theoretical approaches, including phenomenological hermeneutics, grounded theory, and discourse analysis, not all studies provided information about the use of a theoretically driven method. For assessment model studies, theoretical perspectives specified included attachment theory, general systems framework, stress framework, family systems theory, Roy's adaptation model, and a working model of feeding derived from attachment theory. Further work building on these theoretical perspectives will facilitate the translation of research findings into clinical practice (Becker, 2005;Braithwaite, 2003).

Study methods—Many studies classified as using a discovery approach provided adequate description of the research methods (Fenwick et al., 2001; Flacking et al., 2006; Hurst,

2001a,b; Lundqvist & Jakobsson, 2003; Lundqvist et al., 2007; Nichols, 2004; Nystrom & Axelsson, 2002). Other reports, however, presented limited description of their research methods, particularly about sampling procedures and analytic techniques, providing limited evidence of rigorous study methodology (e.g., Holditch-Davis & Miles, 2000; Lupton & Fenwick, 2001). It was not evident whether the limited description of study methods was a result of limited rigor or publication limitations, particularly because both of these articles provided ample thick, rich data, which are considered an important component of high-quality interpretive studies. For some reports, sparse data or thin descriptions were presented, which provide little evidence to support conclusions and make it difficult for readers to evaluate the conclusions. Notable exceptions include the thick, rich data and interpretive statements presented in a number of reports (Bell et al., 2007; Fenwick et al., 2001; Flacking et al., 2006; Holditch-Davis & Miles, 2000; Hurst, 2001a,b; Lundqvist & Jakobsson, 2003; Lundqvist et al., 2007; Lupton & Fenwick, 2001).

Among assessment model studies, sampling issues, particularly use of convenience and homogeneous samples, minimal sample description, and small sample size, were common, significantly limiting generalizability of the findings. A number of different measures reported to be valid and reliable were used to assess the parent–infant relationship and factors such as parental depression, feelings, symptoms, and attachment (see Table 2). Although several studies used longitudinal designs (Ferketich & Mercer, 1995;Mercer & Ferketich, 1990, 1994;Sullivan, 1999), most were cross sectional. The limitation of cross-sectional studies is that they often use a single data collection point, which constrains knowledge development about the trajectory and dynamics of early parent–child relationships. Finally, as this integrative review focused on studies of the parent–child relationship during infancy from the perspective of parents, intervention studies were excluded from this article. However, interventional studies conducted by such notable nurse scientists as Bernadette Melnyk, Harriet Kitzman, and others have made significant contributions to knowledge development about the early parent–child relationship and were included in other parts of this integrative review series.

Study foci—Compelling evidence emerged from this review about parents' perceptions of the influence of nurses on the developing parent–infant relationship, particularly in the NICU (Bialoskurski et al., 1999; Fenwick et al., 2001; Heermann et al., 2005; Hurst, 2001a,b; Jackson et al., 2003; Lupton & Fenwick, 2001). The favorable and adverse effects of nurses' behaviors and actions underscore the importance of parent–health professional relationships and call for further investigation of the dynamics of parent–nurse relationships. It is apparent that communication between professionals and parents is often problematic. Clearly, current studies are needed to develop and test informational and support interventions with both parents and professionals. Research on the parent–child relationship after NICU discharge is also needed.

Though interest in fathers' perceptions, experiences, and relationships has been growing, mothers were the primary participants in most investigations. While mothers are still most often the primary caregivers within families, fathers fulfill an important role in infant caregiving, have an independent relationship with their child, and are an important source of support for mothers. Thus, more attention is warranted to the experiences and needs of fathers.

Finally, though reviewed studies were from different countries, study participants were primarily White, middle class, and often married, with several noteworthy exceptions (Bialoskurski et al., 1999; Holditch-Davis & Miles, 2000; Horowitz & Damato, 1999; Hurst, 2001a,[b]; Johnson, 2007; Nichols, 2004; Niska et al., 1998; Oehler et al., 1993). Future research needs to study parent–child relationships within diverse cultures, ethnicities, and family structures. Conducting studies with more diverse samples from at-risk and understudied populations will help develop a more comprehensive knowledge base that explores the

complexity of transactional systems and processes, providing generalizable evidence for nursing practice that supports the parent–child relationship within our increasingly diverse, multicultural world. Because of ongoing social and demographic changes, healthcare systems transformations, and widespread adoption of new medical technologies, the dynamics of the early parent–child relationship are not stable phenomena, but rather are affected by diverse conditions and evolving contexts. Therefore, discovery and assessment model research examining parents' perceptions and experiences will continue to be necessary to advance the scientific basis for nursing practice with infants and parents.

Limitations

This review of nursing research on parent–child relationships was limited to discovery and assessment model studies of infants with adult parents. The number of studies identified was limited by the search terms, for example, the use of the term *nursing* and the inclusion and exclusion criteria applied. Because of the broad search terms used, some studies may not have been identified and inadvertently excluded from this review. Future reviews of nursing scholarship on related topics such as parental role development, parental satisfaction and self-efficacy, interventions promoting parenting skills, and measurement instruments, will further highlight the state of nursing science on parenting, uncover significant gaps in knowledge, and identify areas for inquiry.

How Do I Apply This Evidence to Nursing Practice

The evidence reviewed clearly demonstrates the important effect nurses have on the developing parent–infant relationship. For parents of infants born preterm or critically ill, sensitivity to parents' emotional vulnerability, ambivalence about their relationships with their infants, fear for their infants' survival, and lack of knowledge about infant care is important. However, even among families with term, healthy infants, parents may experience distress, lack of support, lack of infant caregiving skill or knowledge, isolation, and changes in their relationship with their partners. Although research is needed to test nursing interventions that support the parent–child relationship, the existing evidence supports some actions that are easily implemented.

Clear and direct communication as well as encouragement and support for parents' active involvement in their infants' care will demonstrate respect for the parents' important role. Conveying concern, inquiring about emotional state, and offering parents the opportunity to express their feelings and opinions are other important nursing interventions. Such actions also establish a welcoming and collaborative environment essential for family-centered care.

The research confirms that parent–infant attachment is affected by many factors, including parental competence and feelings of self-efficacy. Interventions that foster a sense of competence in infant caregiving will also help promote parental self-efficacy. Thus, the emphasis on providing instruction and guidance regarding routine infant caregiving activities like feeding, bathing, diapering, and kangaroo care, as well as providing information about infant growth, development, and behavior continue to be important nursing interventions for new parents. Although it may be a challenge in terms of staff time, allowing ample time for parents' questions will help to ensure that parents learn important caregiving skills. Providing written information, including when and how to contact healthcare providers, that parents can refer to at home, is one approach to helping them feel comfortable and better prepared to care for their infants after hospital discharge.

The findings of these nursing research studies are an important reminder that mothers' and fathers' responses and perceptions as new parents differ, and care that is sensitive to their unique needs is needed. Cultural contexts and other important factors such as available

social support are also important considerations when planning and providing care to new families.

Screening parents for depression in the hospital postpartum unit or NICU and at postpartum check-ups, well-baby appointments, and home visits, and linking parents with depressive symptomatology to mental health resources through referral and support are nursing interventions that may be vital to the well-being of parents, infants, and the parent–infant relationship. Finally, results of this review suggest that these important nursing interventions should not be overlooked when nurses are busy or when parents seem confident or experienced because parents may not necessarily share their concerns or feelings of uncertainty with their healthcare providers.

Acknowledgments

We would like to acknowledge Kirstin C. Monroe, RN, MS, CPNP, American Family Children's Hospital, Pediatric Orthopedic Surgery Clinic, Madison, Wisconsin, and Katherine A. Logee, RN, MS, CPNP, CNE, Catholic Healthcare West System, Sacramento, California, for their assistance.

References

Anderson A, Anderson B. Mothers' beginning relationship with twins. Birth 1987;14(2):94–98. [PubMed: 3663310]

Anderson A, Anderson B. Toward a substantive theory of mother-twin attachment. MCN: The American Journal of Maternal Child Nursing 1990;15(6):373–377. [PubMed: 2124321]

Anderson AM. The father-infant relationship: Becoming connected. Journal of the Society of Pediatric Nurses 1996;1(2):83–92. [PubMed: 8933480]

Anderson LS, Riesch SK, Pridham K, Lutz KF, Becker PT. Furthering the understanding of parent–child relationships: A nursing scholarship review series. Part 4: Relationships at risk. Journal for Specialists in Pediatric Nursing. in press.

Barclay L, Everitt L, Rogan F, Schmied V, Wyllie A. Becoming a mother—An analysis of women's experience of early motherhood. Journal of Advanced Nursing 1997;25(4):719–728. [PubMed: 9104667]

Barnard, KM.; Eyres, S.; Lobo, M.; Snyder, C. An ecological paradigm for assessment and intervention. In: Brazelton, TB.; Lester, BM., editors. New approaches to developmental screening of infants: Proceedings of the Fifth Johnson & Johnson Pediatric Round Table. New York: Elsevier; 1983. p. 199-218.

Barrera, M. Social support in the adjustment of pregnant adolescents. In: Gottlieb, BH., editor. Social networks and social support. Beverly Hills, CA: Sage; 1981. p. 87-89.

Becker PT. Conceptual frameworks: Issues for manuscript review and the dissemination of research findings. Research in Nursing & Health 2005;28(5):363–364. [PubMed: 16163681]

Bell, L.; Goulet, C.; St-Cyr Tribble, D.; Paul, D. The Parent-Infant Relationship Interview. Université de Sherbrooke; Montréal, Canada: 2000. Unpublished manuscript

Bell L, Goulet C, St-Cyr Tribble D, Paul D, Boisclair A, Tronick EZ. Mothers' and fathers' views of the interdependence of their relationships with their infant: A systems perspective on early family relationships. Journal of Family Nursing 2007;13(2):179–200. [PubMed: 17452602]

Bialoskurski M, Cox CL, Hayes JA. The nature of attachment in a neonatal intensive care unit. Journal of Perinatal and Neonatal Nursing 1999;13(1):66–77. [PubMed: 10633666]

Blake, FG. The child, his parents and the nurse. Philadelphia: J.B. Lippincott; 1954.

Bornstein, MH. Parenting infants. In: Bornstein, MH., editor. Handbook of parenting. 2. Vol. 1. Mahwah, NJ: Lawrence Erlbaum Associates, Inc; 2002. p. 3-43.

Braithwaite, CA. Selection of a conceptual model/framework for guiding research interventions; Internet Journal of Advanced Nursing Practice. 2003. p. 38-50.Retrieved June 15, 2009, from http://www.ispub.com/journal/the_internet_journal_of_advanced_nursing_practice/

volume_6_number_1_3/article/selection_of_a_conceptual_model_framework_for_guiding_research_interventions.html

Brazy JE, Eckerman CO, Oehler JM, Goldstein RF, O'Rand AM. Nursery Neurobiolgic Risk Score: Important factor in predicting outcome in very low birth weight infants. Journal of Pediatrics 1991;188:783–792. [PubMed: 2019935]

Broussard, ER.; Hartner, MS. Further considerations regarding maternal perception of the first born. In: Hellmuth, J., editor. Exceptional infant: Studies in abnormalities. Vol. 2. New York: Brunner Mazel; 1971. p. 432-449.

Casteel JK. Affects and cognitions of mothers and fathers of preterm infants. Maternal Child Nursing Journal 1990;19(3):211–220. [PubMed: 2136576]

Catlett A, Miles MS, Holditch-Davis D. Maternal perception of illness severity in premature infants. Neonatal Network 1994;13(2):45–49. [PubMed: 8139521]

Cox, JL. Postnatal depression. Edinburgh, Scotland: Churchill Livingston; 1986.

Cranley MS. Development of a tool for the measurement of maternal attachment during pregnancy. Nursing Research 1981;30:281–284. [PubMed: 6912989]

Damato EG. Prenatal attachment and other correlates of postnatal maternal attachment to twins. Advances in Neonatal Care 2004;4(5):274–291. [PubMed: 15517522]

Davies, AR.; Ware, JE, Jr. Measuring health perceptions in the health insurance experiment. Santa Monica, CA: Rand; 1981.

Derogatis, LR. SCL-90-R administration, scoring and procedures manual. Vol. 1. Baltimore, MD: Clinical Psychometric Research; 1977.

Derogatis, LR. Brief symptom inventory. Riderwood, MD: Clinical Psychometric Research, Inc; 1988.

Diers, D. Research in nursing practice. Philadelphia, PA: J.B. Lippincott; 1979.

Fegran L, Helseth S, Fagermoen MS. A comparison of mothers' and fathers' experiences of the attachment process in a neonatal intensive care unit. Journal of Clinical Nursing 2008;17:810–816. [PubMed: 18279284]

Fenwick J, Barclay L, Schmied V. Struggling to mother: A consequence of inhibitive nursing interactions in the neonatal nursery. Journal of Perinatal & Neonatal Nursing 2001;15(2):49–64. [PubMed: 12095028]

Ferketich SL, Mercer RT. Paternal-infant attachment of experienced and inexperienced fathers during infancy. Nursing Research 1995;44(1):31–37. [PubMed: 7862543]

Flacking R, Ewald U, Nyqvist KH, Starrin B. Trustful bonds: A key to "becoming a mother" and to reciprocal breastfeeding. Stories of mothers of very preterm infants at a neonatal unit. Social Science and Medicine 2006;62:70–80. [PubMed: 15992983]

Flacking R, Ewald U, Starrin B. "I wanted to do a good job": Experiences of "becoming a mother" and breastfeeding in mothers of very preterm infants after discharge from a neonatal unit. Social Science and Medicine 2007;64:2405–2416. [PubMed: 17428597]

Fuller JR. Early patterns of maternal attachment. Health Care for Women International 1990;11(4):433–446. [PubMed: 2228815]

Funke-Furber, JT. Unpublished thesis. University of Alberta; 1978. Reliability and validity testing of indicators of maternal adaptive behavior.

Gibaud-Wallston, J.; Wandersman, LP. Development and utility of the parenting sense of competence scale. Paper presented at the American Psychological Association Meeting; Toronto, Canada. 1978.

Hayes N, Stainton C, McNeil D. Caring for a chronically ill infant: A paradigm case of maternal rehearsal in the neonatal intensive care unit. Journal of Pediatric Nursing 1993;6(6):355–360. [PubMed: 8133433]

Heermann JA, Wilson ME, Wilhelm PA. Mothers in the NICU: Outsider to partner. Pediatric Nursing 2005;31(3):176–181. [PubMed: 16060580]

Hinde, RA. Towards understanding relationships. London: Academic Press; 1979.

Hinde, RA.; Stevenson-Hinde, J. Relationships within families: Mutual influences. Oxford: Oxford University Press; 1988.

Hobel CJ, Youkeles L, Forsythe A. Prenatal and intrapartum high-risk screening. American Journal of Obstetrics and Gynecology 1979;135:1051–1056. [PubMed: 517589]

Holditch-Davis D, Miles MS. Mothers' stories about their experiences in the neonatal intensive care unit. Neonatal Network 2000;19(3):13–21. [PubMed: 11949060]

Horowitz, JA.; Callaghan, J. Mothers' information tool. 1990. Unpublished manuscript

Horowitz JA, Damato EG. Mothers' perceptions of postpartum stress and satisfaction. JOGNN: Journal of Obstetric, Gynecologic, & Neonatal Nursing 1999;28(6):595–605.

Hurst I. Mothers' strategies to meet their needs in the newborn intensive care nursery. Journal of Perinatal & Neonatal Nursing 2001a;15(2):65–82. [PubMed: 12095029]

Hurst I. Vigilant watching over: Mothers' actions to safeguard their premature babies in the newborn intensive care nursery. Journal of Perinatal & Neonatal Nursing 2001b;15(3):39–57. [PubMed: 11785577]

Jackson K, Ternestedt B, Schollin J. From alienation to familiarity: Experiences of mothers and fathers of preterm infants. Journal of Advanced Nursing 2003;43(2):120–129. [PubMed: 12834369]

Johnson AN. The maternal experience of kangaroo holding. JOGNN: Journal of Obstetric, Gynecologic, & Neonatal Nursing 2007;36(6):568–573.

Lasby K, Newton S, Sherrow T, Stainton MC, McNeil D. Maternal work in the NICU: A case study of an "NICU-experienced" mother. Issues in Comprehensive Pediatric Nursing 1994;17(3):147–160. [PubMed: 7759320]

Leifer M. Psychological changes accompanying pregnancy and motherhood. Genetic Psychology Monographs 1977;93:55–96. [PubMed: 849833]

Levy-Shiff R, Sharir H, Mogilner MB. Mother-and-father-preterm infant relationship in the hospital preterm nursery. Child Development 1989;60:93–102. [PubMed: 2702878]

Locke HJ, Wallace KM. Short marital-adjustment and prediction tests: Their reliability and validity. Marriage and Family Living 1959;21(3):251–255.

Lundqvist P, Hellstom Westas L, Hallstrom I. From distance toward proximity: Fathers' lived experience of caring for their preterm infants. Journal of Pediatric Nursing 2007;22(6):490–497. [PubMed: 18036470]

Lundqvist P, Jakobsson L. Swedish men's experiences of becoming fathers to their preterm infants. Neonatal Network 2003;22(6):25–31. [PubMed: 14700179]

Lupton D, Fenwick J. "They've forgotten that I'm the mum": Constructing and practising motherhood in special care nurseries. Social Science & Medicine 2001;53(8):1011–1021. [PubMed: 11556771]

Lutz KF, Anderson LS, Pridham KA, Riesch SK, Becker PT. Furthering the understanding of parent–child relationships: A nursing scholarship review series. Part 1: Introduction. Journal for Specialists in Pediatric Nursing 2009;14(4):256–261. [PubMed: 19796325]

Mercer RT, Ferketich SL. Predictors of parental attachment during early parenthood. Journal of Advanced Nursing 1990;15:268–280. [PubMed: 2332549]

Mercer RT, Ferketich SL. Maternal-infant attachment of experienced and inexperienced mothers during infancy. Nursing Research 1994;43:344–351. [PubMed: 7971298]

Miles, MS.; Holditch-Davis, D. Parental role attainment with medically fragile infants. 1998. Unpublished grant report submitted to the National Institute of Nursing Research, National Institutes of Health, Grant No. NR02868

Miles MS, Brunssen S, Carlson J. The Nurse-Parent Support Tool. Journal of Pediatric Nursing 1999;14:44–50. [PubMed: 10063248]

Miles MS, Burchinal P, Holditch-Davis D, Brunssen S, Wilson SM. Perceptions of stress, worry, and support in Black and White mothers of hospitalized, medically fragile infants. Journal of Pediatric Nursing 2002;17(3):82–88. [PubMed: 12029601]

Miles MS, Wilson SM, Docherty SL. African American mothers' responses to hospitalization of an infant with serious health problems. Neonatal Network 1999;18(8):17–25. [PubMed: 11885066]

Müller ME. Development of the prenatal attachment inventory. Western Journal of Nursing Research 1993;15:199–215. [PubMed: 8470375]

Müller ME. A questionnaire to measure mother-to-infant attachment. Journal of Nursing Measurement 1994;2:129–141. [PubMed: 7780768]

Müller ME. Prenatal and postnatal attachment: A modest correlation. JOGNN: Journal of Obstetric, Gynecologic, & Neonatal Nursing 1996;25(2):161–166.

Neu M. Parents' perception of skin-to-skin care with their preterm infants requiring assisted ventilation. JOGNN: Journal of Obstetric, Gynecologic, & Neonatal Nursing 1999;28(2):157–164.

Neu M. Kangaroo care: Is it for everyone? Neonatal Network 2004;23(5):47–53. [PubMed: 15490915]

Nichols LA. The infant caring process among Cherokee mothers. Journal of Holistic Nursing 2004;22 (3):226–253. [PubMed: 15296577]

Niska K, Snyder M, Lia-Hoagberg B. Family ritual facilitates adaptation to parenthood. Public Health Nursing 1998;15(5):329–337. [PubMed: 9798420]

Norbeck JS. Modification of live event questionnaires for use with female respondents. Research in Nursing and Health 1984;7:61–71. [PubMed: 6565302]

Nystrom K, Axelsson K. Mothers' experience of being separated from their newborns. JOGNN: Journal of Obstetric, Gynecologic, & Neonatal Nursing 2002;31(3):275–282.

Oehler JM, Hannan T, Catlett A. Maternal views of preterm infants' responsiveness to social interaction. Neonatal Network 1993;12(6):67–74. [PubMed: 8413141]

Pearlin LI, Lieberman MA, Menaghan EG, Mullan JT. The stress process. Journal of Health and Social Behavior 1981;22(4):337–356. [PubMed: 7320473]

Pridham K, Lutz KF, Anderson LS, Riesch SK, Becker PT. Furthering the understanding of parent–child relationships: A nursing scholarship review series. Part 3: Interaction and the parent–child relationship—Assessment and intervention studies. Journal for Specialists in Pediatric Nursing. in press.

Pridham KF, Chang AS. Parents' beliefs about themselves as parents of a new infant: Instrument development. Research in Nursing and Health 1985;8:19–29. [PubMed: 3846314]

Pridham KF, Chang AS. What being the parent of a new baby is like: Revision of an instrument. Research in Nursing & Health 1989;12:323–329. [PubMed: 2798953]

Pridham KF. Anticipatory guidance of parents of new infants: Potential contribution of the internal working model construct. Image: Journal of Nursing Scholarship 1993;25:49–56.

Pridham, KF.; Schroeder, M.; Van Riper, M.; Thoyre, S.; Limbo, R.; Mlynarczyk, S. Working model of feeding: An interview protocol and coding manual. University of Wisconsin-Madison School of Nursing; 1999. Unpublished manuscript

Radloff L. The CES-D Scale a self-report depression scale for research in the general population. Journal of Applied Psychological Measurement 1977;1:385–410.

Riesch SK, Pridham K, Anderson LS, Lutz KF, Becker PT. Furthering the understanding of parent–child relationships: A nursing scholarship review series. Part 5: Parent–adolescent relationships and the teen parent–infant relationship. Journal for Specialists in Pediatric Nursing. in press.

Roberts CS, Feetham SL. Assessing family functioning across three areas of relationships. Nursing Research 1982;31:231–235. [PubMed: 6920663]

Rogan F, Schmied V, Barclay L, Everitt L, Wyllie A. "Becoming a mother"—developing a new theory of early motherhood. Journal of Advanced Nursing 1997;25:877–885. [PubMed: 9147193]

Rosenberg, M. Society and the adolescent self image. Princeton, NJ: Princeton University Press; 1965.

Spielberger, C.; Gorsuch, R.; Lushene, R.; Vagg, PR.; Jacobs, GA. The state-trait anxiety inventory. Palo Alto, CA: Consulting Psychologists Press; 1983.

Sullivan JR. Development of father-infant attachment in fathers of preterm infants. Neonatal Network 1999;18(7):33–39. [PubMed: 10808886]

Thoyre SM. Mothers' ideas about their role in feeding their high-risk infants. JOGNN: Journal of Obstetric, Gynecologic, & Neonatal Nursing 2000;29(6):613–624.

Wandersman L, Wandersman A, Kahn S. Social support in the transition to parenthood. Journal of Community Psychology 1980;6:332–342.

Whittemore R, Knafl K. The integrative review: Updated methodology. Journal of Advanced Nursing 2005;52(5):546–553. [PubMed: 16268861]

J Spec Pediatr Nurs. Author manuscript; available in PMC 2010 March 9.

Table 1

Discovery Model: Nursing Research Studies on the Insider View of Parent–Child Relationships

Source	Design/theory	Focus	Sample	Results
Anderson and Anderson (1987)	Qualitative—Grounded theory	Maternal–twin relationship development Measures: Semi-structured interview at 1 month	Infant (1 month)/ Mothers/Ethnicity not described/10 participants (married; middle class; high school education or >)/ Canada	Early maternal–infant twin relationships developed through differentiation of twins' physical characteristics and polarization of their personality characteristics. Desire for maternal justice reflected mothers' concern that twins received the same amount of attention.
Anderson and Anderson (1990)	Qualitative—Grounded theory longitudinal	Maternal–twin relationship development Measures: Semi-structured interviews at 1, 4, 8, and 12 months	Infant (1–12 months)/Mothers/ Ethnicity not described/10 participants (married; middle class; high school education or >)/ Canada	Individuation (core category) was central to and influenced polarization, differentiation, maternal justice, and support. To establish a relationship with their twins, mothers first differentiate between the twins' personalities and physical characteristics to individuate between the infants. Over time, mothers more easily differentiated between twins and individualized their relationships.
Anderson (1996)	Qualitative—Grounded theory	Maternal–twin relationship development Measures: Semi-structured interviews	Infant (2 months)/ Fathers/ Caucasian, middle class/14 participants/ Canada	Three major categories were operative in early development of the father–infant relationship: (a) making a commitment; (b) becoming connected; and (c) making room for the baby.
Barclay, Everitt, Rogan, Schmied, and Wyllie (1997) (Rogan, Schmied, Barclay, Everitt, Wyllie, 1997 article provides additional description of analytic method.)	Qualitative—Grounded theory	Maternal experience of primiparous women Measures: Nine focus groups with key questions and group discussion	Infant (2–26 weeks)/Mothers/ Ethnicity not described/55 participants—married/Australia	Six categories were identified: realizing, unready, drained, aloneness, loss, and working it out. The core category, becoming a mother, integrates the other categories and encapsulates the process

Source	Design/theory	Focus	Sample	Results
				of change. Factors mediating the often distressing experience of becoming a mother included the nature of the infant, maternal reactions to infant behavior, prior experiences with infants, and availability of social support.
Bialoskurski, Cox, and Hayes (1999)	Qualitative—Ethnography Leninger's Sunrise Model (1991) Content analysis	Maternal attachment in the NICU Measures: Unstructured individual interviews and participant observation	Infant (preterm, <5 months)/ Mothers/Ethnicity —1 American, 14 British, 2 Indian, 1 Hindu, 1 Turkish, 2 West Indian, 2 West African, 1 Jewish, 1 Egyptian/25 participants/ United Kingdom	In the NICU, attachment was an individualized process that was not automatic. Overt and covert attachment processes may depend on the health status of the infant and the mother, environmental circumstances, and on the infant's quality of care. The presence of the nurse alters attachment process (can facilitate or impede).
Bell, Goulet, St-Cyr Tribble, Paul, Boisclair, and Tronick (2007)	Qualitative—Grounded theory Family systems theory	Interrelatedness of mother–infant and father–infant relationships over first 4 months postpartum and dynamics used to balance these relationships. Measure: Parent–Infant Relationship Interview (Bell, Goulet, St-Cyr Tribble, & Paul, 2000); 108 individual interviews were completed.	Infant (1 week–4 months)/Mothers and Fathers/ Ethnicity—36 Caucasian, French-speaking/ 36 (18 parental dyads)/Canada Low risk status (normal pregnancy, term delivery without complications, and a healthy newborn)	Early family relationships ranged from (a) an undifferentiated relationship between fathers and mothers at 1 week (parents develop knowledge of the infant together and seek agreement about how to feel and behave with the infant) to (b) a highly disorganized unit at 6 weeks with differentiation between mother–infant and father–infant relationships and a rigid systemic organization and family tension; to (c) an integrated family unit at 16 weeks that acknowledges different, but complementary roles. This process allows parents to have unique, specific

Source	Design/theory	Focus	Sample	Results
				relationships without competitiveness.
Casteel (1990)	Qualitative Description—Content analysis General systems theory	Affect and cognition of parents of preterm infants Measures: Two open-ended, semi-structured dyadic interviews	Infant (preterm, <3 months)/ Mothers and Fathers/Ethnicity (infant)—18 White, 1 Hispanic infant/36 (18 parental dyads)/ United States	The affective category included positive and negative responses. Positive responses were amazement, confidence, love, and well-being. Negative responses included anxiety, fear, helplessness, and sadness. Cognitive responses included three types of responses: protection, provision, and attachment. Mothers and fathers expressed more negative feelings during hospitalization than afterwards, and the proportion of total cognitive responses increased after discharge. Mothers' cognitive responses were more specific about parental role responsibilities than fathers' responses.
Fegran, Helseth, and Fagermoen (2008)	Qualitative—Descriptive hermeneutic Attachment theory	Compare mothers' and fathers' experiences of attachment in the NICU Measures: Individual interviews	Infant (preterm)/ Mothers and Fathers/Ethnicity not described/12 (6 parental dyads)/ Norway	Two main categories were identified: taken by surprise and building a relationship. Differences between mothers' and fathers' experiences were evident. Mothers wanted to be close to their infants despite experiencing strong, negative emotions. Fathers were ambivalent about being close to their infants, but experienced more positive contact than expected. When "taken by surprise," fathers felt shocked by the sudden birth, but were ready to be involved, while mothers felt powerless and viewed the postpartum period as surreal.

Source	Design/theory	Focus	Sample	Results
Fenwick, Barclay, and Schmied (2001)	Qualitative—Grounded theory	Women's experiences of mothering in NICU. Measures: In-depth individual interviews, participant observation, and audiotaped mother–nurse interactions	Infant/Mothers/ Ethnicity not described/28 participants/ Australia 20 nurses (18 RNs—1 male, 17 female; and 2 student midwives—sex not described)	Inhibitive nursing actions focused on protecting the infant, relegated women to the periphery of care, and created an array of negative maternal emotional responses, which left women feeling irrelevant to the welfare of their infants. Maternal consequences included feeling disaffected, guarding, speaking out, earning a reputation or recriminations, and, if positive relations were not established, maternal disenfranchisement. Speaking out often leads to conflict.
Flacking, Ewald, Nyqvist, and Starrin (2006)	Qualitative—Grounded theory	How mothers of very preterm infants experience breast-feeding and how this is related to the process of becoming a mother from before birth until discharge from neonatal unit Measures: In-depth interviews	Infant (preterm, 3–17 months)/ Mothers/Ethnicity not described/25 participants/ Sweden	Quality social bonds with the infant, father, staff, and other mothers at the neonatal unit were important. Three themes described experiences, social bonds, and emotions: (a) "loss" of the infant and the emotional chaos —"putting life on hold"; (b) separation—a sign of being unimportant as a person and mother; and (c) critical aspects of becoming more than a physical mother. The qualities were described as trustful or distrustful, characterized by feelings of pride/trust or shame/distrust. Interpersonal interactions, the public environment, and care routines affected social bonds. While mothers desired reciprocal breast-feeding, distrustful bonds and the

J Spec Pediatr Nurs. Author manuscript; available in PMC 2010 March 9.

Source	Design/theory	Focus	Sample	Results
				context made that difficult to achieve.
Flacking, Ewald, and Starrin (2007)	Qualitative—Grounded theory (descriptive)	To find out how mothers of very preterm infants experience the process of becoming a mother and breast-feeding after neonatal unit discharge Measures: In-depth interviews	Infant (preterm, 3–17 months)/ Mothers/Ethnicity not described/25 participants/ Sweden	The process of becoming a mother and breast-feeding was represented by pendular changes in mothers' emotional states, in the maternal–infant bond, and in the experience of breast-feeding. Mothers' emotional states varied considerably and alternated between feeling emotionally exhausted and feeling relieved, experiencing an insecure and a secure bond with their infants, and regarding breast-feeding as nonreciprocal and reciprocal.
Hayes, Stainton, and McNeil (1993)	Case study—Phenomenological hermeneutic	Mother's lived experience of caring for a chronically ill infant coming home from NICU Measures: In-depth interview	Infant (preterm, 6 months)/Mother/ Ethnicity not described/1 participant/United States	Five meanings were identified in the maternal experience: uncertainty; experiencing the baby as powerful; striving to gain acceptance from the baby; blurred territory in caring for the baby; and being alone and vulnerable.
Heermann, Wilson, and Wilhelm (2005)	Qualitative—Domain analysis	Mothers' experiences of becoming a mother while their infants were in the NICU and ways that the relationship was affected by relationships with nurses Measures: Open-ended individual interviews	Infant (preterm)/ Mothers/Ethnicity —White/15 participants/ United States	Mothers' development evolved in predictable patterns. Mothers moved from being outsiders to engaged parents along four continua: (a) focus shifted from NICU to baby; (b) from their baby to my baby; (c) from passive to active caregiving; and (d) from silence to advocacy. Mothers entered the continua at different points and moved at different rates toward "engaged parenting." Partnering, the final developmental stage,

Source	Design/theory	Focus	Sample	Results
				required nurses' active participation and occurred with a minority of women.
Holditch-Davis and Miles (2000)	Qualitative—Preterm Parental Distress Model	Describe mothers' experiences surrounding the birth and hospitalization of a preterm infant and determine how well a model of the sources of stress of parents in the NICU—the Preterm Parental Distress Model—fits these data Measures: Semi-structured interview	Infant (preterm, 6 months)/Mothers/ Ethnicity—19 White, 11 Black, 1 Asian/31 participants/ United States	The Preterm Parental Distress Model adequately depicted the sources of stress and support experienced by mothers with preterm infants in the NICU. More than 80% of the sample experienced all but one of the themes of the model: the effect of preexisting and concurrent personal and family factors. The mothers' pre- and perinatal experiences provided a context for their interpretation of the NICU experience. Major stresses in the NICU were illness severity, treatments, and infant appearance; concerns about infant outcome; and loss of the parental role. Healthcare providers helped and hindered mothers to deal with these stresses.
Hurst (2001a)	Qualitative—Critical ethnography	Maternal perceptions of their needs in the NICU and actions to address their needs Measures: In-depth individual interviews and participant observation	Infant (preterm, <4 months)/ Mothers/Ethnicity —7 White, 4 Latina, 1 African American/12 participants/ United States	Mothers identified informational and interactional needs related to becoming a mother in the NICU. Mothers' priorities for their own care related to becoming a mother, obtaining information and assistance for engaging in parent–child interaction, and concern for their own emotional safety. Mothers perceived their needs as competing with those of their infants, and avoided drawing resources away from their infants, even if that meant compromising

Source	Design/theory	Focus	Sample	Results
				their ability to develop a relationship with their infants.
Hurst (2001b)	Qualitative—Critical ethnography	Maternal experiences of having a hospitalized preterm infant and actions to safeguard their babies in the NICU Measures: In-depth individual interviews and participant observation	Infant (preterm, <4 months)/ Mothers/Ethnicity—7 White, 4 Latina, 1 African American/12 participants/ United States	"Vigilant watching over" was the primary maternal action, a process of ongoing maternal observation, reflection, and action. Mothers feared being labeled a "difficult mother," lacked empowering information, and perceived a lack of continuity of care. Mothers perceived the allocation of nursing staff resources as critical to their child's safety in the NICU. Interrelationships emerged between conditions of the NICU and the mothers' experiences, evaluations, and actions.
Jackson, Ternestedt, and Schollin (2003)	Qualitative—Phenomenology, longitudinal	The experiences of parenthood of mothers and fathers of preterm infants during the first 18 months Measures: Multiple dyadic interviews (1–2 weeks after birth, 2, 6, and 18 months of age)	Infant (preterm, 1 week–18 months)/ Mothers and Fathers/Ethnicity—Swedish/14 participants (7 parental dyads)/ Sweden	Internalization of parenthood was found to be a time-dependent process, characterized by alienation, responsibility, confidence, and familiarity. Similarities in how mothers and fathers described parental roles involved concern for the child, insecurity, adjustment, and relationship with the child. Differences included mothers feeling greater need for participation in and control of the care and a need to be confirmed as a mother. Fathers described confidence in leaving the care to the staff and wanted to find a balance between work and family life. Important turning points

Source	Design/theory	Focus	Sample	Results
				included when the infant could be removed from the incubator, discharged from the ward, and when the infant looked normal compared with full-term infants.
Johnson (2007)	Qualitative—Description Content analysis	The maternal experience of kangaroo holding preterm infants in the NICU Measures: Open-ended interviews and participant observation following third kangaroo holding experience	Infant (preterm)/ Mothers/Ethnicity —1% White, 28% African American, 11% Asian/18 mother–infant dyads/United States	Three themes were identified: (a) maternal–infant benefits of kangaroo holding included being needed, heart warming, and confidence in knowing; (b) need for support for holding included nursing guidance, schedule for holding, and quiet space; and (c) satisfaction with the interactions included feeling connected to the infant and learning to mother.
Lasby, Newton, Sherrow, Stainton, and McNeil (1994)	Case study—Hermeneutic	Lived experience of becoming a mother to a premature infant Measures: 9 in-depth interviews	Infant (preterm, <4 months)/ Mothers/Ethnicity not described/1 participant/United States	The phenomenon of maternal work was found to be embedded in this mother's experience. Working for love, working for meaningful moments, working amid uncertainty, working against the odds, and working overtime were identified as shifting dimensions of maternal work. Barriers and obstacles increased the burden of maternal work.
Lundqvist and Jakobsson (2003)	Qualitative—Descriptive Content analysis	Swedish men's experiences of becoming fathers to their preterm infants Measures: Individual interviews	Infant (preterm, 3–5 days)/Fathers/ Ethnicity not described/8 participants/ Sweden	Manifest content analysis identified six categories: concern, stress, helplessness, security, support, and happiness. The latent content interpretation revealed that the concepts of control and noncontrol were relevant to the fathers' experiences. Men's

Source	Design/theory	Focus	Sample	Results
				experiences of early fatherhood were influenced by their abilities to experience control. When concern, stress, and helplessness dominated their experiences and coincided with low levels of happiness, support, and security, fathers experienced noncontrol. But when they experienced support, security, and happiness, they felt in control and able to handle situations.
Lundqvist, Hellstom Westas, & Hallstrom (2007)	Qualitative—Hermeneutic Phenomenological	Fathers' lived experiences of caring for their preterm infants Measures: Individual interviews	Infant (preterm, 1–3 months)/ Fathers/Swedish/ 13 participants/ Sweden	Fathers' lived experiences were expressed as a process moving from initial feelings of distance from their infants toward feelings of proximity. The process was described as a pendulum that was easily disturbed. Feelings of distance included experiences of living beside reality, becoming an outsider, and living with worry. Feelings of proximity included experiences of returning to reality, becoming a family, and facing the future.
Lupton and Fenwick (2001)	Qualitative—Discourse analysis Foucauldian theory	Mothers' constructions and practicing of motherhood in special care nurseries Measures: Individual interviews, participant observation, and audiotaped mother–nurse interactions	Infant (preterm, 12 weeks)/Mothers/ Ethnicity not described/31 participants/ Australia 20 nurses (18 RNs—1 male, 17 female; and 2 student midwives—sex not described)	Mothers attempted to construct themselves as "real mothers," which involved establishing connections with their infants and normalizing them. Many mothers eventually sought to position themselves as "experts" on their infants. Nurses attempted to position themselves as "teachers and monitors of the parents," "protectors of

Source	Design/theory	Focus	Sample	Results
				the infants," and "experts." Differences between mothers and nurses resulted in mothers feeling frustrated, resentful, and angry, while many nurses engaged in covert and overt disciplinary and surveillance actions.
Neu (1999)	Qualitative—Naturalistic inquiry	Explore parents' perceptions of skin-to-skin care with preterm, mechanically ventilated infants and elucidate factors that influenced parents' decisions to continue or discontinue skin-to-skin care Measures: Two individual open-ended interviews	Infant (preterm)/ Mothers and Fathers/Ethnicity —8 White, 1 African American/9 participants/ United States	Three themes were found: ambivalence of parents toward skin-to-skin care; need for a supportive environment; and special quality of the parent–infant interaction. Parents who discontinued skin-to-skin care expressed more intense apprehension and perceived environmental factors to inhibit successful skin-to-skin holding.
Neu (2004)	Qualitative—Naturalistic inquiry	Describe factors that influence mothers' choice of kangaroo care versus standard holding with their healthy preterm infants Measures: Two open-ended individual interviews (in hospital and at home)	Infant (preterm, 1 day–15 weeks)/ Mothers/Ethnicity —19 White, 2 African American, 2 Asian, 1 Hispanic/24 participants/ United States	Mothers' holding practices divided them into three groups: (a) kangaroo holding in hospital and home; (b) blanket holding in hospital and home; and (c) holding practice switched from hospital to home. Three themes emerged: (a) expression of distress; (b) perception of facilitative environment for holding; and (c) perceived benefits of close contact with the infant.
Nichols (2004)	Qualitative—Grounded theory	Social process of infant care among Cherokee mothers Measures: In-depth interviews and participant observation	Infant (<2 years)/ Mothers/Ethnicity —Cherokee/19 participants (13 married, 6 unmarried)/ United States	The social process of Native American infant care was identified, with being a Cherokee mother described as the principal concept. Accommodating everyday infant care, accommodating health perspectives, building a

Source	Design/theory	Focus	Sample	Results
				care-providing consortium, living spiritually, merging the infant into Native American culture, using noncoercive discipline, and vigilantly watching for the natural unfolding of the infant were the concepts describing patterns of cultural maternal care. Maternal functions included rearing healthy children, passing clan membership to the infant, and spreading care of children to other family members.
Niska, Snyder, and Lia-Hoagberg (1998)	Qualitative—Ethnography, longitudinal Roy's Adaptation Model (1983) Spradley	Family rituals among Mexican American parents facilitating the transition to parenthood Measures: Audiotaped conversations, interviews, observation, and card-sorting activities	Infant (<6 months)/Mothers and Fathers/ Ethnicity—Mexican American/25 families/United States	*La cuarentena*, a cultural, intergenerational family ritual during the first 40 days postpartum was engaged in by 24 of 25 families. This ritual facilitated adaption to the parental role and allowed parents the opportunity and time to learn from their parents about infant caregiving and to develop a relationship with their new infants.
Nystrom and Axelsson (2002)	Qualitative—Hermeneutic	Mothers' experiences of being separated from their infants Measures: Individual interviews	Infant (full-term high-risk, 1–2 months)/Mothers/ Ethnicity not described/8 participants/ Sweden	Three themes were identified: (a) being an outsider with feelings of despair, powerlessness, homelessness, and disappointment; (b) lack of control with emotional instability, threat, guilt, and insecurity; and (c) caring with trust, love, anxiety, relief, closeness, and explanations.
Oehler, Hannan, and Catlett (1993)	Qualitative—Descriptive	Mothers' views of preterm infant responsiveness and interactions Measures: Interview and demographic questionnaire, SCL-90-R (Derogatis, 1977), Neurobiologic Risk Scoring scale (Brazy, Eckerman, Oehler, Goldstein, & O'Rand, 1991)	Infant (preterm, 7 days–5 weeks)/ Mothers/Ethnicity —60% African American, 38%	In the first month of hospitalization, there was a significant increase in mothers' pleasure in interacting,

J Spec Pediatr Nurs. Author manuscript; available in PMC 2010 March 9.

Source	Design/theory	Focus	Sample	Results
			White, 2% Asian/ 47 participants/ United States	knowledge of infant cues, and perceptions that their infants were responding. The most frequently mentioned behaviors were maternal talking and touching and infant eye opening and body activity. Many mothers utilized infants' behaviors as a guide for their own behaviors and reported infants' behaviors had specific meanings. But an equal number of mothers did not ascribe meaning to their infants' behaviors and did not appear to use behavioral cues.
Rogan et al. (1997)	Qualitative—Grounded theory	Developing a theory drawing together women's experiences of early motherhood, conceptualizing the magnitude of change, and providing strategies to help women negotiate the change Measures: Nine focus groups with key questions and group discussion	Infant (2–26 weeks)/Mothers/ Ethnicity not described/55 participants—married/Australia	In the process of becoming a mother, women progressed from "this is not my life anymore," to being in tune with their babies, realization of the impact of the birth and recognition that "this is my baby and I have to take care of it" occurred. A sense of overwhelming change occurred repeatedly, particularly in the early postpartum. Feeling overwhelmed and uncertain left many mothers drained of energy, leaving them less able to interact with others, seek assistance, have time for self, or resume interests, leaving women to feel alone and mourning loss of old life. Women started working out how to care for their babies and incorporate the babies into their lives. The babies' behavior, social support, and previous experience mediated

Source	Design/theory	Focus	Sample	Results
				women's processes of becoming a mother.

Table 2

Assessment Model: Nursing Research Studies on the Insider View of Parent–Child Relationships

Source	Design/theory	Focus	Sample	Results
Damato (2004)	Quantitative—Correlational Attachment theory	Correlates of postnatal maternal–twin attachment Measures: Prenatal Attachment Inventory (PAI; Müller, 1993), Maternal Attachment Inventory (MAI; Müller, 1994), Edinburgh Postnatal Depression Scale (Cox, 1986), and Mother's Information Tool modified (MIT; Horowitz & Callaghan, 1990). Mailed questionnaires (prenatal and 1 month postpartum)	Infant (1 month)/ Mothers/Ethnicity —97.8% White/ 139 participants/ United States	A modest correlation was found between prenatal and postnatal attachment for mothers of twins. Prenatal attachment and postpartum depression explained 26.1% of the variance in postnatal attachment. Depression, method of delivery, and NICU admission also had moderator effects on the relationship between prenatal attachment and postnatal attachment.
Ferketich and Mercer (1995)	Quantitative—Longitudinal Attachment theory	Differences in paternal–infant attachment for experienced and inexperienced fathers Measures: 14 instruments: How I Feel About My Baby Now (Leifer, 1977), Parenting Sense of Competence Scale (Gibaud-Wallston & Wandersman, 1978), Rosenberg's self-esteem scale (Rosenberg, 1965), Sense of Mastery Scale (Pearlin, Lieberman, Menaghan, & Mullan, 1981), Center for Epidemiologic Studies Depression Scale (Radloff, 1977), State Anxiety Scale (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), Inventory of Socially Supportive Behaviors (Barrera, 1981), Social Support Instrument (Wandersman, Wandersman, & Kahn, 1980), Marital Adjustment Test (Locke & Wallace, 1959), Feetham Family Functioning Instrument (Roberts & Feetham, 1982), General Health Index (Davies & Ware, 1981), Norbeck's (1984) Modification of Sarason et al., Life Experiences Survey, Risk-Screening tool (Hobel, Youkeles, & Forsythe, 1979), Fetal Attachment Scale (Cranley, 1981), and individual questions Administered at postpartum, 1, 4, and 8 months	Infant (1 week–8 months)/Fathers/ Ethnicity "predominantly" White/172 participants (79 experienced; 93 inexperienced)/ United States	No significant differences were observed in paternal–infant attachment between experienced and inexperienced fathers. For experienced fathers, fetal attachment was a major predictor for attachment across time periods, but for inexperienced fathers, it was a major predictor in the first month only. Depression was the second

Source	Design/theory	Focus	Sample	Results
				most important predictor.
Fuller (1990)	Mixed method—observation and scales Attachment theory	Relationship between maternal–fetal attachment and maternal–child interaction Measures: The Maternal-Fetal Attachment Scale (MFA; Cranley, 1981), the Nursing Child Assessment Feeding Scale (Barnard et al., 1983), and the Mother–Infant Interaction Assessment (Funke-Furber, 1978) Measured prenatally and on 2nd and 3rd postpartum day	Infant (3 days)/ Mothers/Ethnicity not described/32 mother and infant dyads/Canada	Maternal–fetal attachment behaviors (measured by the MFA) were positively related to observed mother–infant interaction in the early postpartum period.
Horowitz and Damato (1999)	Nonexperimental mixed method	Maternal perceptions of postpartum stress and satisfaction Measures: MIT (Horowitz & Callaghan, 1990), the Brief Symptom Inventory (Derogatis, 1988), and the What Being the Parent of a Baby is Like—Revised (Pridham & Chang, 1985, 1989).	Infant (6 weeks)/ Mothers/Ethnicity —42 African American, 37 White, 7 Asian, 9 Hispanic, 1 Native American/95 participants/ United States	Relationships with infants, spouses, and other children were significant sources of postpartum satisfaction, as was the mothering role. Perceived sources of postpartum stress included roles, adjustment/ unmet personal needs, childcare tasks, daycare tasks, and financial concerns. Partner relationships were perceived as sources of postpartum stress for some women, whereas parenting tasks were considered sources of both stress and satisfaction. Areas of satisfaction included participating in relationships, sharing the future, being proud to be a mother, enjoying a

Source	Design/theory	Focus	Sample	Results
				healthy baby, and caring for a child.
Mercer and Ferketich (1990)	Quantitative—Longitudinal Attachment theory	Predictors of parental attachment during early parenthood Measures: 14 instruments (see Ferketich & Mercer, 1995 for list) and individual questions Administered at postpartum, 1, 4, and 8 months	Infant (1 week–8 months)/Mothers and Fathers/ Ethnicity not described/481 participants/ United States	Parental competence was a major predictor of parental attachment over all test periods for all four groups. Early parent–infant contact following birth was not a predictor except at 8 months when, among low-risk women, the opposite effect was observed from that expected; the later women held their infants the higher was their attachment. High-risk women scored significantly higher on maternal attachment than low-risk women only in the first week postpartum.
Mercer and Ferketich (1994)	Quantitative—Longitudinal Attachment theory	Differences in maternal–infant attachment and other variables for experienced and inexperienced mothers Measures: 14 instruments (see Ferketich & Mercer, 1995 for list) and individual questions Administered at postpartum, 1, 4, and 8 months	Infant (1 week–8 months)/Mothers/ Ethnicity—74% White/302 participants/ United States	Experienced mothers and inexperienced mothers did not differ in maternal– infant attachment at any test period. Fetal attachment explained decreasing amounts of the variance in inexperienced mothers' attachment to their infants over the first 4 months. Fetal attachment entered

Source	Design/theory	Focus	Sample	Results
				regression equations for experienced mothers' during the early postpartum period only.
Miles, Burchinal, Holditch-Davis, Brunssen, and Wilson (2002)	Quantitative—Prospective, Correlational	Maternal perceptions about hospital-related stressors, worry about infant health, and support from the healthcare team in mothers of medically fragile infants and differences between Black and White mothers Measures: Subscales of the Parental Stressor Scale: Infant Hospitalization (PSS; Miles & Holditch-Davis, 1998); Parental Perception of Severity Scale (Catlett, Miles, & Holditch-Davis, 1994); Child Health Worry Scale (Miles & Holditch-Davis, 1998); Nurse–Parent Support Tool (Miles, Brunssen, & Carlson, 1999); Stress Support Scale (Miles & Holditch-Davis, 1998).	Infant (1–5 months)/Mothers/ 31 Black, 38 White/69 participants/ United States	Findings indicate few differences between Black and White mothers' perceptions of stressors associated with their infants' hospitalizations, their levels of worry about their infants, and their views about the amount of support they received from nurses and the healthcare teams. The only significant ethnic difference indicated that Black mothers are more stressed by the sights and sounds of the hospital environment; however, their stress levels were still only moderate. Mothers reported high levels of stress associated with the appearance and behavior of their infants and moderately high stress associated with the alterations in their parental roles.
Miles, Wilson, and Docherty (1999)	Descriptive, retrospective mixed method Afrocentric perspective	Describe African American mothers' experiences related to the hospitalization of an infant with serious health problems	Infant (preterm, 8 months–4 years)/ Mothers/Ethnicity	The mothers worried primarily about when their

Source	Design/theory	Focus	Sample	Results
		Measures: Semi-structured interview and 5 scales: Parental Perception of Severity Scale (Catlett et al., 1994); Child Health Worry Scale (Miles & Holditch-Davis, 1998); PSS (Miles & Holditch-Davis, 1998); Nurse–Parent Support Tool (Miles, Brunssen, & Carlson, 1999); Satisfaction with Support Scale (Miles & Holditch-Davis, 1998); and demographic tool	—100% Black/19 participants/ United States	babies could go home. Their greatest source of stress was separation from the infants. Seeing their sick infants was also stressful and evoked shock, fear, denial, guilt, and helplessness. Mothers sought hope by seeking information and cues from the infants and by praying. Mothers established a relationship with their infants by visiting regularly and by learning how to care for them. Some mothers feared becoming attached to an infant who might die. Mothers' highest source of satisfaction was support from the healthcare team.
Müller (1996)	Quantitative—Prospective Correlational Attachment theory	Correlation between prenatal and postnatal maternal attachment Measures: PAI (Müller, 1993); the MAI (Müller, 1994)	Infant (<3 months)/Mothers/ Ethnicity—91% White/196 participants/ United States	A positive correlation between prenatal and postnatal attachment was found. However, the modest size of the correlation indicated that other factors also influenced postnatal scores.
Sullivan (1999)	Mixed method Longitudinal Attachment theory	Fathers' perceptions of and feelings for their preterm infants Measures: The Neonatal Perception Inventory (Broussard & Hartner, 1971) and the Parental Feelings Questionnaire (Levy-Shiff, Sharir, & Mogilner, 1989)	Infant (2 days–5 months)/Fathers/ Ethnicity—not described/27 participants/ Australia	Fathers perceived their babies to be less difficult than the average baby, and expressed feelings of disappointment and concern for

Source	Design/theory	Focus	Sample	Results
				their infants that decreased over time. Frequency of paternal visits and time to first feelings of love for the infant were not correlated. The times at which fathers felt their infants were going to survive, the responsiveness of the infants to the fathers, and the first time fathers held their babies significantly impacted development of love for their infants. The earlier that fathers held their preterm infants, the sooner they reported feelings of warmth and love for them.
Thoyre (2000)	Mixed method—observation and scales Working Model of Feeding (Pridham, 1993)	Mothers' views of their own and infants' roles in feeding process Measures: Videotaped feeding and interview protocol (Pridham et al., 1999)	Infant (<40 weeks)/Mothers/ Ethnicity not described/22 mother–infant pairs/United States	Mothers' thinking about their function as co-regulator of infants' feeding varies. Mothers who scored higher on co-regulation measures were significantly older and had infants who were more preterm at birth.