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Furthering the understanding of parent-child relationships: A nursing scholarship review series. Part 4: Parent-child relationships at risk

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Abstract

Purpose—The purpose of this integrative review is to synthesize nursing scholarship on parent-child relationships considered fragile because of parent/child's chronic condition or occurrence within a risky context.

Conclusions—Most reviewed studies demonstrated negative effects of risk conditions on parent-child relationships and documented importance of child, parent, and contextual variables. Studies were predominately single investigations. Varying theoretical perspectives complicated interpretation. Mainly White, middle-class, and small samples limited generalizability. Important areas for further research were identified.

Practice Implications—Nurse researchers identified factors that may interfere with the parent-child relationship. Nurses are in a position to support families under these circumstances.

Search Terms

Nursing; parent-child relations; risk assessment

Much of nursing research on parent-child relationships has focused on a central theme, the fragility of the relationship because either the parent or the child has a chronic condition. The importance of the parent-child relationship to optimal child outcomes has been established across cultures and socioeconomic levels (Bornstein & Cheah, 2006). There is also an understanding that the presence of a family member with a chronic illness may interfere with this relationship, making it vulnerable to disruption (Rolland, 2003). Nurses are in a position to provide support through research and clinical practice for the parent-child relationship under these conditions (Miles, 2003). Nurses recognize that the child's health, growth, and development take place within the context of the parent-child

relationship. It is through this relationship that the health of children and parents is either supported or put at risk (Bronfenbrenner, 1996; Skretkiewicz, 1992). This integrative review was conducted to examine nursing's contribution to this body of knowledge. The purpose of this paper is to systematically gather, describe, synthesize, and critique published nursing scholarship concerning fragile parent-child relationships, to discuss its contribution to nursing practice, and to identify directions for future nursing research.

The parent-child relationship refers to the connecting and binding qualities of parent and child in relation to each other. These qualities include closeness, influence, attachment, and investment. Our conceptualization of the parent-child relationship is based on Hinde's (1979) theory of relationships. Hinde posits that the parent-child relationship is the primary context that creates distinctive dynamics within parent-child interactions. Environments outside the family also affect the interactions. Each relationship has its own uniqueness and history (Hinde).

Method

A detailed description of the research methods and data evaluation and analysis can be found in Part 1 (Lutz, Anderson, Pridham, Riesch, & Becker, 2009) of this review series. In this fourth part of the review series the reviewed studies focus on parent-child relationships at risk because of parent, child, or environmental conditions, excluding prematurity. Studies involving preterm infants as a high-risk group are reviewed in parts 2 and 3 of the series, *Grasping the early parenting experience—The insider view* (Lutz, Anderson, Riesch, Pridham, & Becker, 2009) and *Interaction and the parent-child relationship* (Pridham, Lutz, Anderson, Riesch, & Becker, in press). Forty-two articles met the criteria for inclusion in this review (see Tables 1, 2, and 3).

Results

Discovery Model

Fifteen articles related to fragile parent-child relationships were categorized in the discovery model; each used a qualitative approach (see Table 1). The findings can be grouped into four thematic categories: normalizing, extraordinary parenting, and negative and positive consequences for the parent-child relationship.

Normalizing—Five studies reported normalizing as an important theme. Normalizing is described as a parenting strategy in which the goal is to raise a child with a chronic condition in a manner that is as close to what a typically developing child would experience as possible (Knafl & Deatrick, 1986). Normalizing behaviors were described in the Deatrick, Knafl, and Walsh (1988) study of parents of children with osteogenesis imperfecta. In interviews the parents described nurturing, discipline, and monitoring associated with the parent-child relationship that posed a threat to normalization. Regarding nurturing, parents were not able to hug their children tightly for fear of fractures and had to find alternate means of showing physical affection. Discipline was problematic as parents expressed being uncomfortable with posing limits. They found non-physical means of punishment and were mindful of treating their children like other children. Finally, the parents found monitoring the children's activities was difficult, especially finding activities that were safe. While the sample was relatively small, the methods and findings were presented in detail, and the data analysis followed an author-developed theoretical framework.

Monsen (1999, p. 160), in a study of mothers of children with spina bifida, revealed a pattern of "living worried" and two other related themes, "treating them like other kids," and "staying in the struggle" (p. 160). The parent-child relationship was affected by the mothers'

efforts to normalize their children's lives by treating them like other children. The mothers felt that, although difficult, it was important to allow their children to falter and stand alone. The methods and findings were described in detail and in relation to the theoretical framework.

Using focus groups, Pelchat, Lefebvre, and Perreault (2003) identified differences and similarities between the experiences of 9 mothers and fathers of children with Down syndrome. They also identified normalization of the child as a theme and a source of stress, especially for fathers, who were more reluctant than mothers to seek out help and support in the process. A strength of this study is the focus on the comparison of the parenting experiences of mothers and fathers. Rempel and Harrison (2007) provided a description of parenting processes in families with a child with a life-threatening heart condition. Nine mothers and 7 fathers of children with hypoplastic left heart syndrome were interviewed. The parents reported struggling to find a balance between being too worried and treating their children like healthy children. The descriptions of their children as normal served to help alleviate worries about their children's health. The inclusion of both mothers and fathers is a strength of this study, as is the detailed, rich description of the findings.

Mothers with a health condition, breast cancer, sought to help their children understand the illness and the impact it would have on their relationships, including talking about the experience in a reassuring way and helping children cope by acting normal (Shands, Lewis, & Zahlis, 2000). The mothers sought to minimize the changes that breast cancer had on family lifestyle and routines. The detailed descriptions of data analysis and findings offer insight into the effects of parent illness on parent-child relationships.

Extraordinary parenting—Three studies described parents engaging in extraordinary parenting in the face of uncertainty. Extraordinary parenting, or “parenting plus” as described by Ray (2002, p. 427), involves the familiar aspects of parenting, but they are made more difficult by the child's chronic condition. It involves being aware of and filling gaps for the child and anticipating the child's needs. The previously discussed Rempel and Harrison (2007) study of parenting a child with a life-threatening heart condition found the parents engaged in extraordinary parenting and living and parenting in a context of uncertainty. The extraordinary parenting involved safeguarding the survival of the child by ensuring weight gain and protecting the child from infection. It also involved parents actively working on maintaining relationships to minimize the consequences of their children's condition. They found both mothers and fathers were actively involved in extraordinary parenting.

The Deatrick, Knafl, and Walsh (1988) study of parents of children with osteogenesis imperfecta, discussed above, also provided examples of extraordinary parenting. Parents described efforts to restructure family life and child rearing practices that were extremely demanding. The parents devised strategies for nurturing, disciplining, and monitoring. White (1994) interviewed parents of children who had been discharged following a bone marrow transplant. This period was a time of transition in which family relationships changed. Actions and decisions were made with the child and the transplant experience in mind, and parents found it required work, or extraordinary parenting, to live with “the uncertain future” (p. 98). Interview data were complemented by chart analysis and observation. Data analysis and findings were presented in great detail.

Negative consequences—Beyond the themes of normalizing and extraordinary parenting, the results of these studies indicated that there are negative consequences for parent-child relationships in the presence of risk, and there is some evidence that these negative consequences can persist. In interviews with 12 mothers of previously colicky

babies and 8 mothers of non-colicky babies, whose children were now school age, Neu and Keefe (2002) found the effects of an infant's colic on the parent-child relationship may last into the school years. Mothers of previously colicky infants reported their children now were more intense and emotionally labile than did other mothers. The two-group comparison design was a strength; however, the mothers knew that the focus of the study was characteristics of children who had colic as infants, possibly influencing their memories and current perceptions.

Five studies describe the negative impact of a parental risk condition on the relationship. Children of parents with a mental illness reported serious disruptions in family life (Buckwalter, Kerfoot, & Stolley, 1988; Deatrick, Brennan, & Cameron, 1998; Deatrick, Knafl, & Walsh, 1988; Gross, 1983; Meadus & Johnson, 2000).

Buckwalter, Kerfoot, and Stolley (1988), in interviews with 9 children of parents with mental illness, found that the children reported a limited understanding of their parents' disorders and had feelings of not coping well. The study was a pilot with a small sample, and methods and findings were presented in some detail, but no socioeconomic information was provided. In a study of 3 adolescent children of parents with mood disorders, Meadus and Johnson (2000) found that the children experienced the parents' illnesses as losses because of the perceived unavailability of the parent, with the child often taking on parental roles and responsibilities. The findings reflected the rarely heard voice of the adolescent; however, the very small sample of 3 warrants caution in interpreting and generalizing the findings. In an analysis of videotaped interactions between 20 mentally ill mothers and their young children, Gross (1983) found three patterns of maladaptive behavior that were not seen in a matched group of 20 well mothers. The children in the mentally ill dyads in Gross' study exhibited expressive language deficiency, which made verbal dialogue disjointed. The mothers denied the significance of the children's affects and responded inappropriately to it. The children appeared to be invested in maintaining conflict in the interactions, suggesting that children contribute to maladjusted relationships (Gross, 1983). This study had much strength. It focused on observations of mother-child dyads in an understudied minority population, it had a matched comparison group, and the methods and findings were described in detail.

Physical affection, an indicator of the mother-child relationship, can be affected by conditions of the mother or the child. Discussed previously, Deatrick, Knafl, and Walsh (1988) found that parents of children with osteogenesis imperfecta were not able to hug their children tightly for fear of harming them and sought other ways of showing physical affection. Deatrick, Brennan, and Cameron (1998) examined perceptions of physical affection during a multiple sclerosis exacerbation in a sample of 30 mothers and their children. Significant changes were reported in the mothers' perceptions of their physical affection and their children's perceptions of their mothers' physical affection, with mothers underestimating changes in physical affection shown to their children. The study included perspectives from mothers and children.

Developmental forces can negatively impact fragile parent-child relationships. In a descriptive qualitative study of 18 adolescents with diabetes, Leonard, Garwick, and Adwan (2005) found that the teens, particularly those with high HbA_{1c} levels, described a high level of conflict with their parents regarding their diabetes. The results suggested that the quality of the relationship between adolescents and their parents is critical to diabetes management and is not static over time but is influenced by developmental changes in the child. The study had detailed descriptions of methods and findings. The results provided a developmental perspective on the parent-child relationship and tied parent-child relationship characteristics to disease outcomes.

Finally, socioeconomic factors can put a parent-child relationship at risk. Julion, Gross, Barclay-McLaughlin, and Fogg (2007) examined paternal involvement in African American fathers who were not living with their children. Paternal involvement was conceptualized as engagement, accessibility, and responsibility. The fathers had limited resources to provide for their children but described making a valuable contribution in sharing and caring, providing guidance and support, and serving culturally specific roles. They indicated there were many influences inside and outside of their control that had an impact on the relationship with their children, including their own insecurities and the doubts of others. This study followed a culturally-specific theoretical framework, provided great detail on methods and findings, and provides important insights into a group that has been underrepresented in the literature.

Positive consequences for the parent-child relationship—There are signs that under some conditions the parent-child relationship can show resiliency in the face of adversity. Two studies reported some strengthening of relationships in the presence of risk. In a study of the effects of intimate partner violence on the parent-child relationship, Wuest, Merritt-Gray, and Ford-Gilboe (2004) interviewed 40 mothers. They found that mothers and children regenerated their families by replacing previous destructive patterns of interaction with predictable, supportive patterns, thus strengthening their emotional health and the health of the relationship. The large, diverse sample is a strength of the study, as is the detailed description of the findings. The focus of the study is unique among the nursing studies reviewed. In another study, the effects of positive HIV status on parent-child relationships were examined by Andrews, Williams, and Neil (1993). In a well-designed study with detailed descriptions of research methods and findings, and a large, mostly minority sample, the researchers found that the parent-child relationships were characterized by strong attachment. The children were perceived by the mothers to be sources of support.

Critique and Evaluation—The samples in these studies were comprised mostly of mothers. Five of the studies included fathers (Julion et al., 2007; Pelchat et al., 2003; Rempel & Harrison, 2007; White, 1994; Wuest et al., 2004); only two focused on fathers or compared mothers to fathers (Julion et al., 2007; Pelchat et al., 2003). Continued research on the role of fathers in fragile parent-child relationships is needed. Three studies had child participants (Buckwalter et al., 1988; Leonard, Garwick et al., 2005; Meadus & Johnson, 2000), but only two used data from the mother and the child (Deatrick et al., 1998; Gross, 1983). In future research, obtaining data from both parent and child will provide results that better reflect the complexity of the relationship, such as the reciprocal effects that Gross (1983) observed. The samples were predominantly White and middle class, with several notable exceptions (Andrews, Williams, & Neil, 1993; Julion et al., 2007). Future research will need to address the paucity of research on parent-child relationships within diverse cultures, ethnicities, and family forms. Most of the studies used a theoretical framework to guide the investigation; only five studies did not (Buckwalter et al., 1988; Gross, 1983; Leonard, Garwick et al., 2005; Neu & Keefe, 2002; Shands et al., 2000). Most included detailed descriptions of data collection procedures and analysis.

The findings of the studies in the Discovery Model indicate that parents are actively seeking strategies to normalize their relationships with their chronically ill children, or if the parents are ill, to normalize relationships with their well children. The work that goes into parenting children with chronic illnesses and maintaining relationships is extraordinary. While the effects on relationships of chronic conditions were mostly reported to be negative, there were instances where the relationships were strengthened through adversity.

Assessment Model

Nineteen articles related to fragile parent-child relationships were categorized into the Assessment Model of knowledge development, which focuses upon indicators, correlates, or predictors of the parent-child relationship (see Table 2). Studies examined a wide range of conditions of the parent, including HIV-positive mothers, mothers who abused drugs during pregnancy, infertility, and the mothers' relational status. Conditions of the children included developmental delay, congenital heart disease, juvenile rheumatoid arthritis, diabetes, and hospitalized children.

Parent conditions—Four studies examined parent conditions through observation of interactions. Recognizing the vulnerability of the relationship in HIV-positive mothers, Hale, Holditch-Davis, D'Auria, and Miles (1999) conducted a longitudinal study to examine the emotional involvement of 57 HIV-positive mothers with their infants. Mothers who exhibited more positive responses to their infants (held their infants closer, gazed more at their infants, and maintained closer proximity to their infants during a stressful event such as a physical examination) had infants who exhibited more positive behaviors. The study had no comparison group, limiting the conclusions to correlational relationships. However, the sample was from an under-represented group and did include measures of the dyadic interaction.

In a study that underscores the reciprocal nature of interactions, Barabach, Glazer, and Norris (1992) examined the risk to the mother-child relationship due to a mother's substance abuse. They compared maternal perceptions of their infants and parent-infant interactions between 15 mothers with urine drug screens positive for cocaine and 15 mothers with negative drug screens. The researchers found cocaine-exposed compared with non-exposed dyads had lower scores on sensitivity to infant cues. The cocaine-exposed infants appeared to have a negative impact on the parent-child interactions by being less responsive to the parents. In turn, the parents were less sensitive to the infants' cries and were less likely to respond to distress, establishing a reciprocal dysfunctional cycle. The altered behavior appeared to make it difficult to initiate and maintain a positive parent-infant relationship. Although the sample was small, it was an underrepresented group at high risk. The design included a comparison group, and the dyadic analysis allowed insight into a cycle of behaviors that may be amenable to intervention.

In two studies, Holditch-Davis, Sandelowski, and Harris (1998; 1999) examined caregiving interactions of parents at risk for relationship difficulties due to infertility. The aim of the first study (1998) was to detect differences between two groups of infertile parents, those who eventually became pregnant ($n = 30$) and those who adopted ($n = 21$) and their infants, and to compare the interactions of the groups with those of biological parents without fertility problems ($n = 19$). Two observations of parent-infant interactions were recorded in the home, the first 7 to 21 days after the infants' arrivals, and the second a week later. The infants were between 9 days and 5 months of age. The parents in all three groups spent similar amounts of time in different types of caregiving and the amounts of their interactive behaviors were identical. Adoptive parents were found to hold and touch their infants less than the biological parent group. However, the infants in the adoptive parent group were older than the biological group, complicating interpretation of the findings, as the adoptive parents may have been reacting appropriately to their older infants. The longitudinal design with comparison groups and the inclusion of fathers were strengths of the study.

In the second study, Holditch-Davis and colleagues (1999) also examined the differences between mothers and fathers in infertile couples, some of whom became pregnant and some who adopted, and their interactions with their infants. They found that infertility, especially in couples who adopted, had differential effects on mothers' and fathers' interactions with

their children. Compared to mothers, fathers had less interaction time and provided less stimulation. Adoptive mothers showed the least feeding, holding, body contact, looking, and touching of all mothers, with fertile mothers showing the most. Fathers with a history of infertility and adoption appeared to be more involved in interacting with their infants than the other fathers. The older ages of the adoptive-group fathers and their adopted infants, and the possible higher commitment to and value of parenthood of the infertile group, may explain some of the observed group differences. Adoptive mothers may be less involved because they lack the experiences and hormonal changes of pregnancy and breastfeeding. The longitudinal design with comparison groups and the inclusion of fathers were strengths of this study.

Two studies examined the impact of single-parent status on parent-child relationships and on parenting stress. In a study comparing differences in parenting stress between 52 married and 22 single, first-time mothers (Copeland & Harbaugh, 2005), single mothers reported significantly higher levels on the Parental Distress, Difficult Child, and Defensive Responding subscales and on the total scale score of the Parenting Stress Index/Short Form (PSI/SF; Abidin, 1995) compared to married mothers. There were no group differences on the Parent-Child Dysfunctional Interaction subscale. While single mothers experienced higher stress levels and perceived more difficulty with their infants as compared to married mothers, their interaction patterns were similar. It is important to note that the two groups differed significantly by race/ethnicity, educational level, and age, with the married mothers being predominantly White, better educated, and older. It is likely these characteristics accounted for at least some of the group differences in levels of parenting stress.

In a study that examined the effects of maternal employment and single-parent status on parent-child relationships, Youngblut, Singer, Madigan, Swegart, and Rodgers (1998) compared 60 single mothers with low-birth-weight (LBW) preschoolers and 61 mothers with full-term preschoolers on employment status, parenting stress, family functioning, and the home environment. They found that employed mothers had more positive perceptions and provided more enriching home environments for their children. When sociodemographic variables were controlled, however, the mothers' employment was not related to mother-child or family measures. Scores on the measures of mother-child relationships and family functioning were similar for families with LBW and full-term infants. This study's strengths included an underrepresented sample, a design with comparison groups, and data that included both self-report and observation.

Child conditions—Researchers have found that when a child has a developmental delay, the behavior of the mother, the child, and the family are affected. Three studies examined these effects. Becker, Engelhardt, Steinmann, and Kane (1997) compared interactions between 30 mother-infant dyads with mental delay to 30 mothers and infants without. The interactions were observed and rated during one feeding and two teaching sequences at 8, 12, 18, and 24 months, using the NCAST parent-child interaction assessment tools (Barnard, Eyres, Lobo, & Snyder, 1983). The interactive behavior of infants with mental delay was rated as less clear in communicative signals and less responsive than that of typically developing infants of similar mental age. Differences in the behavior of mothers appeared in the more demanding teaching situation but not in the casual feeding situation. The findings suggested that context is an important consideration in assessing the appropriateness of interactions and that interventions may be most effective if targeted at the mother's problem-solving skills. The authors did not use a measure of stress specific to parenting and concede that simple bivariate correlations may not capture the full complexity of mother-infant relationships. The longitudinal design and inclusion of a comparison group were strengths.

Van Riper conducted studies to explore the well-being of families of children with Down syndrome (2000 (2007)). The first study (Van Riper, 2000) examined relationships among family variables, including family demands, resources, problem-solving, communication, coping, and sibling well-being, in 41 families. Children living with a sibling with Down syndrome had higher levels of well-being if they lived in families who had lower levels of family demands, greater resources, higher levels of coping, and higher levels of affirming problem-solving communication. Thus, family relationships appeared to be positively affected. The study was guided by the Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993). The focus on siblings of an at-risk child represents an important contribution to the research literature. In a second study, Van Riper (2007) sought to examine the relationship between the variables of family demands, resources, problem-solving and coping, and adaptation for 76 families. As in the previous study, most of the families were doing well. Family problem-solving communication was found to be related to family adaptation. Together, these studies indicate that having a child with a chronic condition does not necessarily lead to negative consequences. Further examination of this premise is warranted with groups who may not have the resources of these families.

Researchers have found that when a child has a serious chronic health condition, the parent-child relationship is affected in both subtle and not-so-subtle ways. In an early study of the impact of an infant with a chronic health condition, Lobo (1992) compared the feeding interactions of 10 mothers of 4-month-old infants with congenital heart disease (CHD) to that of 10 mothers with healthy infants. Infants with CHD had lower scores on clarity of cues and responsiveness to parents than the healthy infants. Mothers of CHD infants had lower scores on social-emotional growth fostering. The study had a small sample size and no ethno-cultural background information was provided, but participants were matched on education level. The study design used a healthy-infant comparison group, which allows the inference that there are specific behavioral differences in infants with chronic health conditions that affect the mother-infant interaction.

Family functioning was the focus of a correlational study of 68 children with juvenile rheumatoid arthritis (JRA) and their parents (Connelly, (2005)). The results indicated that family functioning was not related to general or illness-specific quality of life for children with JRA but was related to the degree of hope reported by the children. When the parent reported greater dissatisfaction with family functioning, the child's hope was lower. The study examined a little-studied concept in children: hope. Hope was operationalized as active orientation about goals and the future and finding ways to reach one's goals, and was measured with the Children's Hope Scale (Snyder et al., 1997). Limitations included the use of self-report from a single informant and a sample from a pediatric specialty clinic. The families may have had more resources than children receiving care in other settings.

The child with diabetes has been a focus of several studies. With rates of disease on the rise, the findings are particularly important. Three studies examined relationships in families with adolescents with diabetes. Leonard, Skay, and Rheinberger (1998) conducted a study of 104 mothers of children with Type 1 diabetes. They found that high interpersonal conflict between the mother and her child was significantly related to the child's low independence in managing the illness. Psychometrics were not available for the instrument used to assess interpersonal conflict; thus, generalizability of the findings to other groups may be problematic. However, the link between conflict in the parent-child relationship and the child's management of his or her own illness is intriguing. Leonard, Jang, Savik, and Plumbo (2005) also examined the link between family functioning and metabolic control in 226 adolescents with Type 1 diabetes. Most adolescents reported normal behavior, and most of both adolescents and parents reported normal family functioning. Those who did not were

mostly older adolescents and their parents. Higher HbA_{1c} levels were associated with higher levels of behavior problems, being an older male adolescent, and reporting greater family dysfunction as assessed by affective responsiveness. This study illustrates the impact that non-normative stressors such as chronic illness can have on normative family development and provides a link between family functioning and a biological measure of disease outcome. In the third study of Type 1 diabetes, Dashiff, Bartolucci, Wallander, & Abdullatif (2005) examined the relationship between family factors of conflict, maternal employment, and diabetes self-care in 161 adolescents. They found no relationship between maternal employment and mother or adolescent reports of conflict and self-care adherence. There was a negative relationship between adolescent age and self-care adherence, replicating the results of Leonard (Leonard, Jang, et al., 2005). Strengths include a diverse sample; limitations include the cross-sectional design and use of only a self-report adherence measure.

Five studies examined the effects of hospitalization on families and children. In a three-group prospective study of the long-term effects of pediatric intensive care unit (PICU) hospitalization on families with young children, guided by the Resiliency Model of Stress and Coping (McCubbin & Thompson, 1987), Board and Ryan-Wenger (2002) gathered data from parents with children in the PICU ($n = 31$), in a general care unit (GCU; $n = 32$), and who were not hospitalized ($n = 32$). Data were gathered at four time points: in the hospital, 1–2 weeks after discharge, 6–8 weeks after discharge, and 5–6 months after discharge. Mothers in the PICU group were moderately stressed, with alteration in the parental role as a result of the hospitalization reported as an important stressor. All three groups of mothers scored in the normal range for family functioning at Time 1 but then increased to a dysfunctional range at the three subsequent data collection points. Results indicated that families coping with illness require a considerable adjustment period to establish new patterns of functioning. Strengths of the study included its theory-guided, prospective, three-group design; a reported power analysis; and detailed data on drop outs. Limitations included attrition after Time 1.

Youngblut and colleagues (2006; 2008; 1995; 1993) conducted a series of studies examining families' reactions to their children's hospitalizations. A correlational, repeated measures pilot study (1993) was conducted to describe family functioning after discharge from a PICU. Nine mothers filled out surveys at 24 hours after admission and again at 2 to 4 weeks after discharge. The mothers' family-cohesion scores decreased significantly from Time 1 to Time 2 and were negatively related to the time the child was intubated, although not to other measures of illness severity. Given the small sample, the results did not provide adequate basis for recommendations but were used to guide future studies in this program of research. Youngblut and Lauzon (1995) conducted a cross-sectional study comparing two groups of families, those with children who had been hospitalized in a PICU ($n = 27$) and those who had been hospitalized in a GCU ($n = 25$) within the previous 3 years. Results indicated that family functioning scores were not different for PICU and GCU families. However, child acuity was negatively related to family adaptability scores for mothers and family cohesion scores for fathers. The results indicated that it is not the unit where the child is hospitalized but the severity of the child's illness that predicts negative family consequences. Strengths of the study were the inclusion of both mothers and fathers and the two-group design. The cross-sectional design limited the ability to detect family change over time.

Using a descriptive, correlational approach, Youngblut and Brooten (2006) examined the parent-child relationship and family functioning in 97 mothers and 37 fathers of preschool children hospitalized with head injury. Participants were recruited from seven hospitals in two metropolitan areas. Surveys were completed in the hospital and 2 weeks after discharge. Results showed that greater family cohesion was related to baseline mental health, social

support, and being in a two-parent family for mothers, but just to social support for fathers. Parents with greater personal resources for mental health and social support had greater family cohesion at 2 weeks after discharge, perhaps indicating that they were better able to handle the difficulties presented by a child with a head injury than parents without these resources. The cross-sectional design limited the ability to detect family change over time. Strengths included the comparison group design and the inclusion of fathers.

Youngblut and Brooten (2008) conducted a prospective study of 80 mothers of children with head trauma. They measured injury severity, mother's mental health, the degree of strain in the mother-child relationship, family functioning, and social support in the hospital within 48 hours and at 3 months post-discharge. Mothers' higher psychological distress at Time 2 was related to greater head injury severity and to greater baseline psychological distress. Mothers' perceptions of greater family adaptability at 3 months post-discharge were related to their lower baseline psychological distress, greater baseline psychological well-being, and greater social support at 3 months. Social support mitigated parenting distress, the quality of the mother-child relationship, and the family's adaptability. The study's strengths included a diverse sample, and a two-group, prospective design; a limitation was the inclusion of mothers only.

Critique and evaluation—The studies in the Assessment Model used mostly mothers as participants. Although seven of the studies included data from fathers, only two studies by Holditch-Davis and colleagues (1998, 1999) examined gender differences as a main effect. Thus, the father-child relationship is a promising area for future study to further understand factors affecting the parent-child relationship. Many of the studies included data from the child, either through observation of the interaction or surveys of older children and youth, but further study linking child and disease outcomes to the parent-child relationship is needed. The study samples overwhelmingly were made up of White, middle-class participants, although there were several noteworthy exceptions (Barabach et al., 1992; Hale et al., 1999; Youngblut et al., 1998). Further cross-cultural studies are needed. Most of the studies were guided by an explicitly stated theoretical framework, but only one included a power analysis calculation for sample size needed to detect differences between groups (Board & Ryan-Wenger, 2003). There were several programs of research in which studies were built on prior findings (Holditch-Davis et al., 1998, 1999; Leonard, Jang et al., 2005; Leonard et al., 1998; Van Riper, 2000, ²⁰⁰⁷; Youngblut & Brooten, 2006, 2008; Youngblut, Loveland-Cherry, & Horan, 1993; Youngblut et al., 1998).

The findings of the studies in the Assessment Model indicate that parent-child relationships may indeed be at risk in families where a parent or child has a chronic condition, an acute injury, or living in a risk situation. Individual outcomes associated with conditions in these studies included increased levels of adolescent problem behavior and disease-related outcomes such as elevated HgA_{1c} levels. Family outcomes included increased levels of conflict and impaired problem-solving communication, and decreased levels of family adaptation, family cohesion, and family functioning. Changes in mother-infant dyadic behavior also have been observed in at-risk interactions, with the infant being less responsive and the parent being less sensitive. Not all findings were negative, however. Positive changes in sibling social competence and self-concept, and improvements in communication and adaptation were seen in families with children with Down syndrome.

Intervention Model

Perhaps reflecting the relative newness of this area of nursing research, the underdevelopment of the concept of the parent-child relationship itself, or as a reflection of its complexity, there are relatively few studies in the nursing literature that have examined

interventions intended to support parent-child relationships deemed at risk. Nine individual intervention studies of fragile parent-child relationships were found (See Table 3). The interventions involved strategies to support, improve, or otherwise have an effect upon the parent-child relationship, and were designed to address parent conditions, child conditions, and conditions of context or environment. Results for the impact of the intervention on the parent-child relationship are mixed.

Beeber and colleagues (2004), in a randomized controlled pilot study of depressed mothers, tested nurse home visitation aimed at improving management of depressive symptoms and life issues, use of social support, and parenting. Eight participants were assigned to receive the intervention and 8 were assigned to a comparison group and received usual care. The intervention group showed a decrease in depressive symptom severity and improvement in maternal interactive behavior. The sample was small, and there were design problems involving lack of separation of the roles of PI and data collector. Strengths of the study included the sample drawn from a low-income, minority population and the use of observation and self-report methods of data collection.

A three group, randomized experimental design was used by Keefe, Karlsen, Lobo, Kotzer, & Dudley (2006), in a two-site clinical efficacy trial of 164 infants between the ages of 2 and 6 weeks with excessive irritability or colic, to evaluate a home-based nursing intervention, REST, designed to manage infant irritability. The REST program significantly reduced infant crying. Although an aim of the program was to reduce parenting stress and enhance interaction capabilities, these outcomes were not specifically measured; thus, the relevance of the findings to the parent-infant relationship remains inferred. This study had a strong design with multi-sites, randomization, and a comparison group. The REST regimen has had further testing and refinement and has shown significant decreases in infant fussiness and crying, although all groups had similar demographic characteristics (Keefe, Barbosa, Froese-Fretz, & Lobo, 2005; Keefe, Froese-Fretz, & Kotzer, 1997).

Horodyski and Gibbons (2004) studied interaction in 30 mother-child dyads at entry into an Early Head Start Program (EHS) and then at exit, for a total of about 14 months. Though change in reading child cues and responding to distress was in the appropriate direction, no significant changes in interaction scores were observed pre- to post-EHS program, and NCAST scores resembled those of national samples. However, more than 40% of the mothers scored at risk for poor interaction. Lack of control over degree of family participation and involvement may explain the unexpected results. A strength of this study was its under-studied low-income sample. Also with an EHS sample, Drummond, Fleming, McDonald, and Kysela (2005) recruited 57 families to a family problem-solving intervention, a 12-biweekly visit program delivered over a 6-month period to develop problem-solving and cooperative communication attitudes and skills. As in several of the previously reviewed intervention studies, no change in scores for the primary outcome measure, family problem-solving, was found. However, the program was credited with increasing time engaged in play and turn taking. This finding was interpreted as the success of the strategy of modeling cooperative behavior. Study limitations included attrition of fathers and unequal group sizes. A strength of the study was the sample, mostly low-income urban families.

Gross and colleagues (Gross et al., 2003) examined the efficacy of a 12-week parent-training program for parents of preschool children. Parent-child interactive behavior was examined in 208 low-income parent-child dyads of 2- to 3-year-old children in daycare centers. Parent training led to more positive parent behavior, but no intervention effects were found for parent-reported negative child behavior. Parent training reduced teacher-reported negative child behavior in the classroom. Low enrollment rates and high attrition rates were a

problem. The attrition was not related to parent stress but was negatively related to coercive discipline. This well-designed multi-site study included random assignment to one of four conditions. The sites were matched on daycare size, ethnic composition, percentage of single-parent families, median income, and daycare quality. The study used multiple informants and methods to assess changes in parents and children. Tucker, Gross, Fogg, Delaney, and Lapporte (1998) reported on the long-term efficacy of the same behavioral parent-training intervention in families with 2-year-olds, 1-year post intervention. Significant gains in maternal self-efficacy, maternal stress, and mother-child interactions were maintained. Minimal effects were found for fathers. Strengths of the study included 100% retention at the 1-year follow-up of a low-income minority sample.

Critique and evaluation—Taken together, nursing intervention studies concerning parent-child relationships, despite being small in number relative to assessment studies, include several randomized clinical trials, producing Level II evidence for clinical decision-making (Melnik & Fineout-Overholt, 2005). Over the period of this review, studies increasingly have used theoretical frameworks with concepts drawn from developmental science. Issues remaining to be studied include differential effects of intervention on mothers, fathers, and across cultural groups, and the most effective timing and dosage of the intervention. Findings from the Intervention Model group of studies show real promise. The REST routine significantly decreased infant crying and fussiness and by inference, decreased parenting stress (Keefe et al., 2006); the parent-training intervention increased positive parent behavior and decreased negative parent commands (Gross et al., 2003). After 1 year, mothers maintained their self-efficacy, levels of stress were still down, and mother-child interaction gains were maintained (Tucker et al., 1998). A family problem-solving intervention led to increases in the amount of time parents spent playing with their children and increased time in cooperative parent-child interaction (Drummond et al., 2005). An intervention with a small group of mothers with depressive symptoms showed promise in decreasing those symptoms in the mothers and improved maternal-infant interactions (Beeber, Holditch-Davis, Belyea, Funk, & Canuso, 2004).

Discussion

A thorough understanding of a phenomenon is an important step in concept development (Broome & Knafl, 1994). This review indicates that nursing scholarship has contributed to understanding the phenomenon of the parent-child relationship from a nursing perspective. The review highlighted these contributions, identified limitations in methods, and pointed to areas for future research. The theoretical perspectives underpinning the reviewed studies, the make-up of the samples studied, and the methods used to accomplish study goals are discussed further.

Theoretical perspectives

Using theory to guide explorations leads to the development of more complex models with which to explore parent-child relationships and the identification of multiple variables that may mitigate the risk involved in at-risk relationships. Various theories and models were used in the studies reviewed, including parenting and developmental theories such as Belsky's model of the determinants of parenting (Belsky, 1984; Copeland & Harbaugh, 2005), Barnard's ecological model of parent-child interaction (Barabach et al., 1992; Barnard, Eyres, Lobo, & Snyder, 1983; Becker et al., 1997; Horodyski & Gibbons, 2004; Lobo, 1992) and a developmental psychobiologic framework (Keefe, Barbosa, Froese-Fretz, Kotzer, & Lobo, 2005). Stress and coping theories also were used by nursing researchers to guide their research, including Lazarus and Folkman's Transactional Model of Stress, Coping, and Adaptation (Baum, 2004; Lazarus & Folkman, 1984), Rolland's Family

Systems – Illness model (Deatrick et al., 1998; Rolland, 1994), and the Resiliency Model (McCubbin & McCubbin, 1993; Van Riper, 2000, 2007). Other researchers were guided by interpersonal theories such as the interpersonal theory of nursing (Beeber, Holditch-Davis, Belyea, Funk, & Canuso, 2004) and Bandura's self-efficacy theory (Bandura, 1977, 1997; Drummond et al., 2005; Leonard et al., 1998). Researchers using qualitative methods were guided by several approaches, including phenomenological hermeneutics (Meadus & Johnson, 2000; Monsen, 1999), grounded theory (Rempel & Harrison, 2007; White, 1994), and feminist grounded theory (Wuest et al., 2004).

The factors selected by nurse researchers to conceptualize and operationalize at-risk parent-child relationships included conflict (Leonard et al., 1998), physical affection (Deatrick et al., 1998), parent and child behaviors gleaned from observation of child and parent interactions using the NCAST tools or other micro-analytic techniques (Barabach et al., 1992; Beeber, Holditch-Davis, Belyea, Funk, & Canuso, 2004; Gross et al., 2003; Holditch-Davis et al., 1998, 1999; Horodyski & Gibbons, 2004; Lobo, 1992), family problem-solving (Drummond et al., 2005), emotional involvement of mothers (Hale et al., 1999), and family cohesion (Youngblut & Brooten, 2006). The examination of these discrete characteristics will need to be expanded upon with multivariate approaches to more fully capture the complexities of the parent-child relationship. This will require more longitudinal designs and the use of more sophisticated statistical models of analysis.

Focus of study: Sample characteristics

Research on fragile parent-child relationships within diverse racial/ethnic communities is important to the development of a broad understanding of parent-child relationships and identification of more universal aspects of parenting behaviors. Although there were several notable exceptions (Andrews et al., 1993; Barabach et al., 1992; Beeber et al., 2004; Gross et al., 2003; Hale et al., 1999; Youngblut & Brooten, 2006; Youngblut et al., 1998), most samples were White and middle-class. Recruiting more diverse samples from understudied and at-risk populations will provide more generalizable evidence for nursing practice with increasingly diverse communities.

Although there is growing interest in fathers' parenting experiences, mothers were most often the participants in the nursing investigations on fragile parent-child relationships. Fathers were included as participants in eight studies (Baum, 2004; Connelly, 2005; Drummond et al., 2005; Holditch-Davis et al., 1998, 1999; Pelchat et al., 2003; Rempel & Harrison, 2007; Youngblut & Brooten, 2006), but they were often a small portion of the sample. The studies with fathers as the specific object of inquiry (Holditch-Davis et al., 1998, 1999; Pelchat et al., 2003) showed intriguing differences in the response of mothers and fathers to parenting that could be explored further to expand our understanding of the differential effects of risk conditions on relationships within a family.

Nurse researchers have long recognized the reciprocal nature of parent-child relationships. In addition to examining the influence of the parent on the child, they have examined the child's influence on the parent, as well as examining the dyadic relationship itself. Many of the studies (Barabach et al., 1992; Becker et al., 1997; Beeber, et al., 2004; Connelly, 2005; Deatrick et al., 1998; Drummond et al., 2005; Gross et al., 2003; Hale et al., 1999; Holditch-Davis et al., 1998, 1999; Horodyski & Gibbons, 2004; Lobo, 1992) examined the at-risk parent-child relationship using a parent and a child informant, either through direct questioning of the parent or child or through observation of their interactions. Dyadic studies give a rich understanding of the processes involved in the parent-child relationship, and the use of observation provides the perspective of an outside observer that can give credibility to reports from children and parents.

Methods

Several nurse investigators in this review have developed programs of research in which studies relevant to the parent-child relationship build on prior studies, for example those of Holditch-Davis and colleagues (1998, 1999), Leonard and colleagues (Leonard, Garwick, & Adwan, 2005; Leonard, Jang, Savik, & Plumbo, 2005; Leonard, Skay, & Rheinberger, 1998), Youngblut (Youngblut & Brooten, 2006, 2008; Youngblut & Lauzon, 1995; Youngblut et al., 1993; Youngblut & Shiao, 1993; Youngblut et al., 1998), Van Riper (2000, 2007), Gross (1983, Gross et al., 2003), and Keefe (Keefe, Barbosa, Froese-Fretz, Kotzer, & Lobo, 2005; Keefe, Barbosa, Froese-Fretz, & Lobo, 2005; Keefe et al., 1997; Keefe et al., 2006). However, many studies reviewed were single investigations examining various at-risk populations, with no explicitly stated theoretical framework guiding variable selection. It is possible that researchers used a framework but due to journal space limitations did not include it. However, a theoretical framework is important to the identification of factors that may moderate or mediate risk and should be included in tests of interventions with fragile parent-child relationships. Explicit testing of theoretical frameworks and subsequent reporting will advance and build the science.

Parents' descriptions of their experiences with their children, or children's descriptions of their parents, are important in defining motivations, expectations, intentions, and the meaning of the relationship with the child, and are helpful in understanding observed interactions. A number of investigators used interpretive methods (Andrews et al., 1993; Buckwalter et al., 1988; Deatrick et al., 1998; Meadus & Johnson, 2000; Monsen, 1999; Pelchat et al., 2003; Rempel & Harrison, 2007; Shands et al., 2000; White, 1994; Wuest et al., 2004). Further exploratory and experimental research can build on these findings. Overall, however, limitations in methods remain unaddressed.

Data analysis methods and sampling procedures were not always adequately described, making it difficult to evaluate the results. In the studies using mixed or quantitative methods, samples were often small and probably underpowered, complicating interpretation of results in the context of the existing literature. However, the negative effect of social and biological risk on parent-child relationships was demonstrated fairly consistently.

Nurse researchers have made a start in the use of valid, reliable, culturally competent instruments to examine concepts that underlie parent-child relationships. Certainly, more attention is needed. For example, the NCAST tools have been widely used in assessment and intervention studies, but while this has the advantage of allowing comparison of results across studies, researchers have questioned both their sensitivity and cultural validity (Koniak-Griffin & Verzemnieks, 1991). Measures used to assess the quality or state of the fragile parent-child relationship varied widely. Levels of analysis ranged from conceptualizing the family as an entire system with subsystems, to the analysis of second-by-second interactions between individuals. The measures were reported to be valid and reliable and included observation measures of the parent-child interaction such as NCAST (Barabach et al., 1992; Becker et al., 1997; Horodyski & Gibbons, 2004; Lobo, 1992), structured observations (Beeber et al., 2004; Holditch-Davis et al., 1998, 1999), the ADS scale measuring emotional involvement (Hale et al., 1999), a measure of family problem-solving (Drummond et al., 2005), FACES to measure family cohesion (Olson, 1999), and the Dyadic Parent-Child Interactive Coding System (Gross et al., 2003).

Additional comprehensive reviews of nursing scholarship on related topics such as parental role development, grandparents who are serving in the role of parents, parenting competence and self-efficacy, interventions promoting parenting skills, and measurement instruments will further highlight the state of the nursing science on parenting, uncover important gaps in

our knowledge base, and identify areas for investigation. The limitations of this review were detailed in Part 1 (Lutz et al., 2009) of this review series.

How Do I Apply This Evidence to Nursing Practice?

Nurse researchers have made significant gains in building a body of research on the effects of a variety of high-risk conditions on parent-child relationships and have identified factors that may interfere with the relationship, for example, by causing stress. Nurse clinicians who work with vulnerable populations can benefit from this knowledge. Parents have expressed a desire to normalize their relationships with their children who have chronic conditions. They also have described the high level of extraordinary parenting that takes place. Nurses are in a position to provide and facilitate support to parents under these conditions. The parent with a chronic condition also has an impact on the parent-child relationship and on child outcomes. Family communication can become impaired, parenting stress can increase, and family functioning can decline. Nurses who are aware of these sequelae are in a position to support families under these circumstances, as well. Many of these factors are amenable to nurse intervention, and nurse scholars have tested a number of interventions intended to provide support for the parent-child relationship. The results are encouraging. Nurse clinicians who are able to seek out and implement evidence-based family support interventions can make a difference in families. It is also important to recognize that the consequences of the at-risk parent-child relationship are not always negative and that families can become stronger under conditions of adversity.

Clear definition of the concept of parent-child relationship, use of well-developed theoretical frameworks that fit with those of other disciplines, and some consistency in the assessment of the parent-child relationship will further the identification and understanding of factors that may influence parent-child relationships. These factors then can be accounted for in the further development and testing of nursing interventions to support fragile parent-child relationships.

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Table 1
Discovery Model: Nursing Research Studies on At-Risk Parent-Child Relationships: 1980-April, 2008

Source	Design/Theory	Focus	Sample	Results
Andrews, Williams, & Neil (1993)	Mixed methods, surveys and open-ended interviews/Feminist theory	Examination of mother-child relationship in families who were reporting for care to a pediatric AIDS clinic	<i>n</i> = 80 first interview, <i>n</i> = 20 second interview, HIV-positive mothers, child age not specified, mothers: 56% African-American, 25% Caucasian, 18% Latina, USA	Children perceived by mothers as sources of support: They decrease feelings of isolation, force mothers to approach life positively, provide source of self-esteem for mothers, prevent mothers from engaging in high-risk behaviors Children perceived as sources of stress: Concerns about eventual placement of surviving children, fear for seropositive child's health, anxiety about long hospitalizations and eventual death
Buckwalter, Kerfoot, & Stolley (1988)	Qualitative, descriptive interview-based, pilot study/No explicit theory	Children of affectively ill parents who were outpatients at a community mental health center	<i>n</i> = 9, child ages 12–20 ethnicity/race not described, parent not described, USA	All subjects had a limited understanding of their parents' disorders; developed misunderstandings and did not feel they were coping well.
Deatrick, Brennan, & Cameron (1998)	Descriptive, mixed methods, interviews and questionnaire Rolland's (1994) Family Systems-Illness Model	Mothers with MS and the relationship between fatigue and functional status to the perception of physical affection with their children	<i>n</i> = 35 mother-child dyads, child ages 6–20 years, mothers: 80% Caucasian, 20% African American, USA	Functional status and fatigue not significant predictors of physical affection during exacerbation. When the mothers' symptoms were stable, perceptions of mothers and children of maternal physical affection were similar. Significant changes reported in mothers' perceptions of their physical affection and children's perceptions of mothers' physical affection during exacerbations. Mothers significantly underestimated changes in their physical affection.
Deatrick, Knafli, & Walsh (1988)	Qualitative, descriptive, open-ended interviews/Normalization (1986)	Description of the management behavior adopted by parents with children diagnosed with osteogenesis imperfecta (OI)	<i>n</i> = 15 children and adolescents with OI from 13 families, children ages 4 – 21 years, 12 families Caucasian, 1 – African American, USA	Parents described behaviors used to normalize their family's life. Parents' relationships with the children were affected in the areas of showing affection, discipline, and monitoring the children's behavior. Nurturing was made difficult because of fear of injury as a result of physical contact. Parents felt discipline was important to keeping children's experiences similar to siblings'. Monitoring activities and finding appropriate activities was difficult.
Gross (1983)	Qualitative, descriptive, videotapes/No explicit theory	Two part study: Part I - quantitative analysis of usefulness of Maternal Sensitivity Scale (MES); Part II – qualitative analysis of how maternal insensitivity and ineffectiveness are manifested in mother-child dyads who were scored low on the MES	<i>n</i> = 20 mothers with mental illness and <i>n</i> = 20 matched well mothers with children from 3 to 36 months old, mothers with mental illness: 15% African American, 8% Latino, 31% Caucasian; well mothers: 31% African American, 15% Caucasian, 0 Latino	Four patterns observed in both groups: Mothers had unrealistic expectations of their children's cognitive capabilities. Mothers were unable or unwilling to allow the children the lead in the interactions. The children were unable to manage their anger. The children were resistant to maternal bids for affection. Three maladaptive patterns were observed in the dyads with mentally ill mothers: The children exhibited an expressive language deficiency. The mothers denied the children's affect. The children were invested in maintaining the conflict. Both mothers and children contributed to the interactive disorganization.
Julion, Gross, Barclay-McLaughlin & Fogg (2007)	Qualitative, descriptive, Focus groups, Billinsley (1992) African American Family Model	Description of African American non-resident fathers' perspectives on paternal involvement in general and their own actual involvement with their children	<i>n</i> = 69 fathers in 7 focus groups, fathers' ages = 18 – 65 years, mean age of the fathers = 37.5, child age not specified, all African American, USA	Fathers described four major categories of involvement with their children: sharing and caring, providing guidance, providing support, and serving in culturally specific roles. The fathers spoke of barriers to their involvement and expressed a desire to be more involved.

Source	Design/Theory	Focus	Sample	Results
Leonard, Garwick & Adwan (2005)	Qualitative, descriptive, open-ended interviews/No explicit theory	How adolescents with higher versus lower HbA _{1c} levels view their parents' involvement in their diabetes management and the quality of their relationships with their parents	<i>n</i> = 18 adolescents with Type 1 diabetes, all Caucasian, ages 14 – 16 years, USA	Adolescents described 5 themes: gaining freedom and responsibility for diabetes management, feeling bothered by parental reminders to manage their diabetes, closeness of family and parental relationships, parental involvement in diabetes management monitoring, and parent-teen conflict related to diabetes
Meadus & Johnson (2000)	Phenomenological study	Description of the experiences of adolescent children living with a parent who has a mood disorder	<i>n</i> = 3 youth, all 17 years old, race/ethnicity not described, USA	Participants experienced serious disruption in family life due to the unavailability of the ill parent, evoked feelings of an intense sense of responsibility, fear and loss in children. Adolescents took on parental roles and tasks. Participants perceived lack of knowledge and understanding, felt frustration and fears that their parents may not get better, and that they themselves may become ill. Participants struggled to come to terms with the burden of a psychiatrically ill parent. Effort of trying to cope and make sense involved a variety of cognitive and affective responses.
Monsen (1999)	Phenomenological, Hermeneutic	Description of the lived experiences of parenting a child with Spina Bifida	<i>n</i> = 13 mothers of children 12–18 years, all Caucasian, USA	"Living worried" emerged as a major theme; two related themes that emerged were "treating them like other children" and "staying in the struggle."
Neu & Keefe (2002)	Qualitative, descriptive/No explicit theory	Description of the behavioral style and personality characteristics of young school-age children who were identified as colicky infants and their parents' perspectives of any residual behaviors or effects	<i>n</i> = 20 mothers, (12 had colicky infants, 8 no colic), children mean ages: colicky group = 6.0 years, noncolicky group = 5.7 years, race/ethnicity of mothers not described, USA	There were perceived or real persistent child characteristics, residual feelings, and parent-child interaction issues among mothers of colicky infants. Mother-child relationship may be affected by the colic.
Pelchat, Lefebvre, & Perreault (2003)	Qualitative, descriptive, focus groups/No explicit theory	Identification of differences and similarities in the experiences of parents of children with a disability	<i>n</i> = 9, child ages 2–5 years, mothers and fathers, race/ethnicity not described, Canada	Two themes emerged "actual and expected roles" and "normalization and stigmatization of the child with Down syndrome."
Rempel & Harrison (2007)	Qualitative, Grounded theory	Description of parenting a child with life-threatening heart disease	<i>n</i> = 16, child ages 2 mo – 5 yrs, 9 mothers, 7 fathers, most were Caucasian, Canada	Extraordinary parenting involving advanced technology within the context of uncertainty regarding treatment and outcome
Shands, Lewis, & Zahltis (2000)	Qualitative, descriptive, semi-structured interviews/No explicit theory	Description of mothers' reported methods of interacting with the mothers' school-age children about their breast cancer	<i>n</i> = 19 mothers, child ages 7–12 years, all Caucasian, USA	Mothers used a number of methods to bring children into the mothers' breast cancer experiences. The conceptual domains included talking about the breast cancer, explaining treatment and care, providing experiences, and doing things to help children cope
White (1994)	Qualitative, Grounded theory	Exploration of the concerns of parents following a child's discharge from a bone marrow transplant unit	<i>n</i> = 7 mothers and fathers, child ages 2–9 years, all Caucasian, USA	Themes: "Good to be home," "changing relationships," "working with this," "learning the rules," "the new norm," "the uncertain future"
Wuest, Merritt-Gray, & Ford-Gilboe (2004)	Qualitative, Grounded theory	Family health promotion in the aftermath of intimate partner violence	<i>n</i> = 40 mothers and 11 children, child ages not specified, mothers: 4 First Nations, 3 French Canadian, 2 new	Families strengthened their emotional health by purposefully replacing previously destructive patterns of interaction with

Source	Design/Theory	Focus	Sample	Results
			immigrants, 31 Caucasian, Canada	predictable, supportive ways of getting along in a process called regenerating family.

Table 2
Assessment Model: Nursing Research Studies on At-Risk Parent-Child Relationships: 1980-April, 2008

Source	Design/Theory	Focus/Measures	Sample	Results
Barabach, Glazer, & Norris (1992)	Descriptive, two-group observational pilot/Attachment Theory	Observations of parent-infant interaction between women with positive cocaine drug screens and negative urine drug screens/ Nursing Child Assessment Feeding Scale (NCAFS; Barnard, 1980), Neonatal Perception Inventory 1 (Broussard, 1978)	<i>n</i> = 30 mothers, 15 with positive drug screens and 15 with negative drug screens; Infants: ages 18 to 36 hours old, mothers: African-American, USA	No significant differences between the groups on maternal perception of the infant or parent-infant interaction, mothers with positive urine screens were less sensitive to the cues of the infants than the mothers with negative screens, three subscales trended toward significance: response to distress, clarity of cues, and responsiveness to parent
Becker, Engelhardt, Steinmann, & Kane (1997)	Descriptive, correlational/Family and Social Systems Theory, Ecological Theory	Examine relationship between child's development, context, family and social system characteristics and interactive behavior of mothers, infants with and without mental delay/NCAST scales (Barnard, 1980), Family Inventory of Life Events and Family Crisis Oriented Personal Scales (McCubbin & Thompson, 1987)	<i>n</i> = 60 mothers, children ages 8-24 months, mothers: 59 Caucasian, 1 Native American, USA	Interactive behavior of infants with special needs was rated as less clear in communicative signals and less responsive than that of typically developing infants of similar mental age, behavior of mothers was rated less optimal in support for social-emotional and cognitive development – differences appeared in the demanding teaching but not in the more casual feeding situations
Board & Ryan-Wenger (2003)	Three-group, prospective comparison/Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993)	Prospective study of family functioning and stress of parents with children who were critically ill or who were hospitalized compared to parents of ill children hospitalized in a GCU, and parents with ill children in a clinic or urgent care setting/Parental Stressor Scale: PICU, Symptom Checklist-90, Family Assessment Measure III, Family Inventory of Life Events and Changes	<i>n</i> = 31 PICU (mean child age = 13.8 mo, <i>n</i> = 25 Caucasian), <i>n</i> = 32 GCU (mean child age = 5.4 mo, <i>n</i> = 28 Caucasian), <i>n</i> = 32 nonhospitalized (mean child age = 24.7 mo, <i>n</i> = 22 Caucasian), all mothers, USA	Mothers in all groups had higher stress levels than the normative sample, families perceived as dysfunctional after discharge, possibly indicating family is establishing new patterns of functioning after a stressful event like serious illness.
Connelly (2005)	Descriptive, correlational/No explicit theory	Examination of relationships among family functioning, hope, quality of life in children with juvenile rheumatoid arthritis/Parents: Feetham Family Functioning Survey, Parent Report for Children Pediatric Quality of Life (Peds QL) Inventory, Parent Report for Children Peds QL Rheumatology Module; Children: Children's Hope Scale, Child Report Peds QL, Child Report for Children Peds QL Rheumatology	<i>n</i> = 68, child ages 8-12 years, mothers and fathers, 94% Caucasian, 6% Hispanic, USA	Family functioning and children's hope showed a negative correlation, indicating children's hope was lower when parents reported greater dissatisfaction with family functioning. Hope not related to parent/child ratings of the child's quality of life.
Copeland & Harbaugh (2005)	Quantitative, Descriptive/Belsky's Model of the Determinants of Parenting (1984)	Differences in parenting stress among single & married mothers/Parenting Stress Index/Short Form (PSI/SF; Abidin, 1995)	<i>n</i> = 80 mothers, infant ages 2 days-8 weeks, 81% Caucasian, 15% African American, 2.5% Hispanic, USA	Single mothers scored higher than married mothers on Parenting Stress Index Total Score, Difficult Child, Defensive Responding subscales, no significant difference between single and married mothers on the dysfunctional interaction subscale.

Source	Design/Theory	Focus/Measures	Sample	Results
Dashiff, Bartolucci, Wallander, & Abdullatif, (2005)	Descriptive, longitudinal/No explicit theory	Investigation of the relationship of family structure and maternal employment with family conflict and the relationship of family conflict with self-care adherence/Issues Checklist, Diabetes Family Conflict Scale, Self-Care Adherence Inventory	<i>n</i> = 161 adolescents ages 11–15 years with Type 1 diabetes, about 20% Black, 80% Caucasian, USA	No relationship was found between general conflict/diabetes-specific conflict and diabetes self-care adherence.
Hale, Holditch-Davis, D'Auria, & Miles (1999)	Descriptive, longitudinal/Attachment theory	Examination of Attachment During Stress scale (ADS) for measuring the emotional involvement of HIV-positive mothers with their infants during a clinic visit and to explore effects of maternal health status, age, parity, and educational level on mother-infant involvement/Massie-Campbell Attachment During Stress (ADS) scale (Massie, 1983)	<i>n</i> = 57 mothers, child ages 3–12 months, 89.5% African American, 7% Caucasian, 3.5% Native American, USA	Maternal age, education level, health status, and parity were not related to maternal emotional involvement. However, the emotional involvement of the mother and infant were correlated ($r = 0.73, p < .001$).
Holditch-Davis, Sandelowski, & Harris (1998)	Naturalistic, two-group observational/No explicit theory	Early parent-infant interactions in infertile couples who become parents through pregnancy or adoption/Observation of parent-infant interactions using ethnogram developed by Thoman et al. (1979)	<i>n</i> = 30 couples, 21 adoptive couples, 19 fertile couples, Child ages = 11–160 days, mothers and fathers, reported to be mostly Caucasian, details of racial/ethnic characteristics not given, USA	No differences between fertile and infertile biological parents. Adopted infants showed more alertness, less sleeping, more smiles, and more looking than biological infants. Adoptive mothers spent less time as the sole interactor. Adoptive parents spent more time in playing with infants, held and touched them less than did biological parents. Infertility does not appear to affect early parenting. Amounts of behaviors of infertile biological parents were very close to those of fertile parents.
Holditch-Davis, Sandelowski, & Harris (1999)	Naturalistic observational/No explicit theory	Influence of infertility on mothers' and fathers' interactions with young infants/Observation of parent-infant interactions	<i>n</i> = 70 couples, 30 with history of infertility and biological children, 21 adoptive, and 19 fertile, Child ages 11–160 days, reported to be mostly Caucasian, details of racial/ethnic characteristics not given, USA	Fathers had less interaction time than mothers and provided less stimulation. Adoptive mothers showed the least feeding, holding, body contact, looking, and touching of all mothers and fertile mothers the most. Adoptive fathers showed most of these behaviors and fertile fathers the least. Fathers with a history of infertility, and especially adoption, appear to be more involved in interacting with their infants.
Leonard, Jang, Savik, & Plumbo (2005)	Cross-sectional, descriptive/Conceptual Framework based on Rolland's Model of Family Adaptation to Illness	Examination of the relationship between family functioning and metabolic control in adolescents with Type 1 diabetes/McMaster Family Assessment Device (family functioning), Youth Self-Report Form (adolescent behavior), HbA _{1c} levels	<i>n</i> = 226 youth 11 – 18 years old (mean age = 15.5 years) and their parents, 96% Caucasian, USA	Increased family dysfunction, older adolescents, males, and adolescents with greater problem behaviors had higher HbA _{1c} levels.
Leonard, Skay, & Rheinberger (1998)	Quantitative, descriptive/Bandura's Social Learning Theory	Investigation of maternal self-efficacy and its relationship to maternal perception of the child's self-management of diabetes/Maternal Self-Efficacy for Diabetes Management, Mother's perceptions of the child's level of self-care	<i>n</i> = 154 mothers, child ages 8–17 years, race/ethnicity not described, USA	30% of mothers reported interpersonal conflict over amount of responsibility children should assume in managing their own diabetes. Mothers who rated their children's level of independence as low were three times more likely to report experiencing conflict. The child was most

Source	Design/Theory	Focus/Measures	Sample	Results
Lobo (1992)	Two groups observation/Barnard's Ecological Model	Parent-infant interaction during feeding of an infant with congenital heart disease (CHD). Infant heart rate and respiratory rate/NCAFS	$n = 10$ mother-infant dyads with CHD, $n = 10$ mother-infant dyads without CHD, child ages 16-17 weeks, race/ethnicity not reported, USA	often the primary source of conflict. Hierarchical logistic regression of children's independence showed conflict with child remained significant predictor, above and beyond background, demographic, and important conceptual variables, including self-efficacy.
Van Riper (2000)	Descriptive, Correlational/Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993)	The Resiliency Model used to explore relationships among family demands, family resources, family problem-solving communication, family coping, and sibling well-being/Family Inventory of Life Events, Family Inventory of Resources for Management, Family Problem-solving Communication Index, Family Crisis Oriented Personal Evaluation Scales (McCubbin & Thompson, 1987)	$n = 41$ families of children with Down syndrome, child ages 1-18, $M = 8.4$, 93% Caucasian, USA	Infants with CHD scored significantly lower than controls on subscales of Responsiveness to Caregiver and Clarity of Cues of the NCAFS. Mothers scored significantly lower on the Social Emotional Growth Fostering subscale.
Van Riper (2007)	Descriptive, Correlational/Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993)	A description of maternal perceptions of parental and family adaptation and an examination of linkages between family demands, family resources, family problem-solving and coping, and adaptation in families raising a child with Down syndrome/Family Inventory of Life Events, Family Inventory of Resources for Management, Family Problem-solving Communication Index, Family Crisis Oriented Personal Evaluation Scales (McCubbin & Thompson, 1987)	$n = 76$ families of children with Down syndrome, child age mean = 7.5, 95% Caucasian, USA	There was a significant positive association between family problem-solving communication and family resource, sibling social competence, and self-concept.
Youngblut & Brooten (2008)	Prospective survey/Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993)	Examination of mother's mental health, mother-child relationship, and family functioning 3 months after a preschooler's head injury/2 domains of the Mental Health Inventory, Parenting Stress Index - Short Form, 2 subscales (family adaptability and cohesion) of FACES-II, Multidimensional Scale of Perceived Social Support, Mental Health Inventory, Parental Stressors Scale	$n = 80$ mothers of children ages 3-6 years, 50% Caucasian, 29.5% African American, 19.2% Hispanic, 1.3% Asian, USA	Family problem-solving communication was significantly positively related to family adaptation.
				The mother-child relationship and family functioning did not differ across mild, moderate, serious, severe/critical head injury severity groups. Psychological distress 24 to 48 hours after hospital admission negatively affected parenting distress and family cohesion and had a continuing impact on parenting distress and family adaptability at 3 months post discharge. Social support positively affected parenting distress, quality of mother-child relationship, and the family's adaptability. Family cohesion was higher in 2-parent families compared to single-parent families.

Source	Design/Theory	Focus/Measures	Sample	Results
Youngblut & Broton (2006)	Descriptive, correlational/No explicit theory	Comparison of mothers' and fathers' reactions to child's head injury, perceptions of child's injury severity, and social support and mental health/FACES II, Parenting Stress Index, Parent Mental Health, Parent Concerns Scale, Parental Stressors Scale, Multidimensional Scale of Perceived Social Support	$n = 106$ families, $n = 97$ mothers, $n = 37$ fathers, children preschool age, 46% Caucasian, 34% African American, 19% Hispanic, 1% Asian, USA	Mental health after discharge related to social support and baseline mental health, mothers' parental distress was related to perceived injury severity and social support. Greater family cohesion was related to baseline mental health, social support, and being in a two-parent family for mothers and social support for fathers
Youngblut & Lauzon (1995)	Cross-sectional, comparative/No explicit theory	A comparison of family functioning between families with children hospitalized in a pediatric intensive care unit (PICU) and families with children hospitalized in a general care unit (GCU)/FACES III, Feetham Family Functioning Survey, Pediatric Risk of Mortality Scale	$n = 27$ PICU families, $n = 25$ GCU families, 84% Caucasian, 15% African American, 4% Native American, USA	Severity of illness in the child was negatively related to family adaptability in mothers and family cohesion in fathers, length of hospital stay was negatively related to fathers' perceptions of family adaptability and cohesion and mothers' perceptions of family adaptability
Youngblut & Shiao (1993)	Pilot study, correlational, repeated measures design/Family Systems Theory	A description of child behaviors and family functioning after a child's discharge from a PICU and an exploration of the relationship between family reactions and child's severity of illness and child and family outcomes after discharge, Parental Concern Scale, and Parental Stressor Scale: PICU, Posthospitalization Behavior Questionnaire, Feetham Family Functioning Survey, FACES III, Pediatric Risk of Mortality Scale	$n = 9$ families, average child age = 19.5 months, all Caucasian, USA	PICU admission stressful for parent, regardless of severity of child's illness, mother's perception of family may be negatively affected
Youngblut, Singer, Madigan, Swegart, & Rodgers (1998)	Descriptive, Correlational/Family Systems Theory	An exploration of differences in home environments, stress in mother-child relationship, and mothers' satisfaction with family functioning in employed and nonemployed single mothers of low birth weight (LBW) and full-term preschool children/Parenting Stress Index, Feetham Family Functioning Survey, Home Observation for Measurement of the Environment	$n = 61$ families with full-term preschoolers and $n = 60$ families with LBW preschoolers, 66.1% African American, USA	Employed mothers had more positive perceptions and provided more enriching home environments for their children. But when sociodemographic factors were controlled mothers' employment was not related to any of the mother-child or family measures.

Table 3

Intervention Model: Nursing Research Studies on At-Risk Parent-Child Relationships: 1980-April, 2008

Source	Design/Theory	Focus/Measures	Sample	Results
Beeber, Holditch-Davis, Belyea, Funk, & Canuso (2004)	RCT, pre- and post-test intervention pilot study/Synthesis of interpersonal theory of nursing and interpersonal therapy	Testing a short-term, home-based depressive symptom intervention/Center for Epidemiological Studies – Depression scale, maternal-child observation	<i>n</i> = 16 mothers, child ages 1–5 years, <i>n</i> = 10 African American, <i>n</i> = 6 Caucasian non-Hispanic, USA	The intervention group showed a significantly greater decrease from baseline in depressive symptom severity at 8 and 16 weeks in contrast to the mothers receiving usual care. Observations of maternal interactions showed improvement in the intervention mothers.
Drummond, Fleming, McDonald, & Kysela (2005)	Pre-test-post-test Experimental/No explicit theory	Family problem-solving/Diagnostic Instrument for Screening Children, Family Problem Solving Instrument, Interactive Language Assessment Device	<i>n</i> = 57 families, mothers (48) and fathers (41), grandmother (4), child mean age = 49.2 months, no racial/ethnicity data reported, Canada	Parents participating in a family problem-solving intervention increased the amount of time spent playing with their children and time in cooperative parent-child interactions.
Gross et al. (2003)	Experimental/No explicit theory	Parent-child interactive behavior/multiple informants, Toddler Care Questionnaire, Parenting Scale, Videotaped interaction using the Dyadic Parent-Child Interactive Coding System – Revised, Center for Epidemiological Studies Depression Scale, Everyday Stressor Indicator, Neighborhood Problem Scale, Eyberg Child Behavior Inventory, Kohn's Problem Checklist	<i>n</i> = 208 parents, 77 teachers, parent-child dyads of 2- to 3-year-old children; 57% African American, 29% Latino, 3% Caucasian, 26 immigrants, USA	Parent training led to more positive parent behavior but only when offered directly to the parents (as opposed to through teachers who were trained), all intervention parents reduced negative parent commands, no intervention effects were found for child negative behavior. Parent training was found to reduce negative child classroom behavior.
Horodyski & Gibbons (2004)	Descriptive comparison/Barnard's model of parent-child interaction	Sensitivity to cues, response to distress/NCAT Teaching Scale	<i>n</i> = 30 mothers, child mean age = 16 months, "predominantly Caucasian" (<i>p</i> .301) only reported race/ethnic status, USA	Mothers participating in Early Head Start were not significantly different in their mother-child interactions compared to a normed-referenced national sample. More than 40% of mothers remained at high risk for poor interaction.
Keefe, Barbosa, Froese-Fretz, Kotzer, & Lobo (2005)	Multiple site RCT/parent-infant interaction framework based on a developmental psychobiologic perspective	Evaluation of home-based nursing intervention for infant fussiness/crying, REST routine, incorporates use of infant behavior assessment, pattern recognition, individualized infant schedules, specific management strategies, parent education and support/Fussiness Rating scale	<i>n</i> = 164 mothers and fathers, child ages 2–6 weeks, "predominantly Caucasian" (<i>p</i> .234) only reported race/ethnic status, USA	REST participants cried significantly less than control group at 8 weeks (1.2 hrs/day v. 3 hrs/day)
Keefe, Froese-Fretz, & Kotzer (1997)	One-group, pre- and post-test design/parent-infant interaction framework based on a developmental psychobiologic perspective	Refining and testing the REST infant irritability program/Infant irritability, Mother Infant Communication Screening, Parenting Stress Index	<i>n</i> = 22 families, children ages 11 days to 8 weeks, all families Caucasian	Infant fussiness decreased, mother-infant communication improved, primarily in the movement/visual, verbal, and touch areas, and parenting stress decreased after intervention.
Keefe, Karlson, Lobo, Kotzer, & Dudley (2006); Keefe, Lobo, Froese-Fretz,	Two-site, randomized clinical trial/parent-infant interaction framework based on a developmental psychobiologic perspective	Evaluation of the effectiveness of a home-based nursing intervention in reducing parenting stress in three groups of families with irritable infants/Parenting Stress Index – Short Form	<i>n</i> = 121 families, mean infant age 5 weeks, majority Caucasian (control 71.2%, treatment group 81%), USA	There was a reduction in parenting stress over time for both treatment and control groups, mothers in treatment group reported reduced parenting stress on the parent-child dysfunctional interaction subscale.

Source	Design/Theory	Focus/Measures	Sample	Results
Kotzer, Barbosa, & Dudley (2006)				
Tucker, Gross, Fogg, Delaney, & Lapporte (1998)	Two-group experimental/Bandura's self-efficacy, Webster-Stratton behavioral parent training intervention	Examine whether parent training effects were maintained at 1-year follow-up, determine if there were effects not evident at 3 months that were evident at 1 year, examine if dosage was associated with change in parent-child outcomes/multiple informants, Toddler Care Questionnaire, Parenting Scale, Videotaped interaction using the Dyadic Parent-Child Interactive Coding System – Revised, Center for Epidemiological Studies Depression Scale, Everyday Stressor Indicator, Neighborhood Problem Scale, Eyberg Child Behavior Inventory, Kohn's Problem Checklist.	n = 11 families and 12 children in intervention group, 12 families and 12 children in comparison group, 78% Caucasian, 22% African American, 4% Hispanic, USA	Significant gains in maternal self-efficacy, decreases in maternal stress, and improvements in mother-child interactions were maintained at 1 year post intervention. Minimal intervention effects were found for fathers.