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Socio-Cultural Variations in Interactions: A Study of Children with Disabilities and their Mothers

by

Elina O. Alexandrova

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Socio-Cultural Variations in Interactions:

A Study of Children with Disabilities and Their Mothers

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Running head: MOTHER-CHILD INTERACTIONS

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Elina O. Alexandrova

Abstract

This investigation compared interaction behaviors of African-American and European-American mothers with children who had or were at medical risk for disabilities as measured by Maternal Behavior Rating Scale (MBRS; Mahoney, 1992). The relationships between these mothers' interaction ratings and three groups of independent variables (mother/family demographic characteristics, measures of family functioning, and child characteristics) were also examined. T-tests were used to examine the differences between the two groups. Significant differences were found on SES variables, particularly income. Samples were restricted to those with incomes of \$32,500 or less. Analysis of covariance procedures were performed using race and family structure as independent variables and mother's age, mother's education, child's age, and family income as covariates. Statistically significant main effects were found for race on interaction ratings including expressiveness, enjoyment, warmth, sensitivity, responsiveness, inventiveness, effectiveness, and acceptance, and for family structure on pace and directiveness. No interaction effects were observed. Intra-item correlations of the maternal interaction ratings were completed separately for the African-American and European-American groups. High Pearson correlation coefficient (based on Fisher Z transformations) calculated between the comparable elements of the two samples' correlation matrices indicated similarity of internal structure patterns of MBRS for the two groups. Differences found on maternal interaction ratings by race may reflect cultural variations. For example, family structure (e.g. the role of extended family members), sociocultural contexts, and parenting goals and beliefs might contribute to the observed differences. Further research is needed to complete the investigation of the appropriateness of the MBRS for use with different sociocultural populations.

Socio-Cultural Variations in Interactions: A Study of Children with Disabilities and Their Mothers.

Child development research in the United States has long focused on characteristics of parent-child interactions in order to predict their influence on the child's subsequent development. Research on the factors associated with the child's developmental competence has taken two separate yet related courses. One focus of the research has examined the influence of parental behaviors on the child's developmental competence through the establishment of a secure attachment, while the other has examined the influence of particular parental behaviors on the child's developmental competence directly. The concept of "developmental competence" usually refers to age-appropriate skills with objects and people (Bates, Olson, Pettit, & Bayles, 1982). The literature generally identified two main dimensions of parent-child interaction behavior, parental control or directiveness and parental emotional affect or warmth, responsiveness, and sensitivity (Lojkasek, Goldberg, Marcovitch, & MacGregor, 1990; Schaeffer, 1959). As major determinants of child developmental outcome, these dimensions of interaction are considered to be particularly crucial in infancy (Bornstein & Tamis-LeMonda, 1989) and early childhood. Generally, maternal restrictiveness and intrusive directiveness were reported to be associated with delays in cognitive development (Elardo, Bradley, & Caldwell, 1977). On the other hand, maternal positive affect and responsiveness have been associated with advanced cognitive development (Elardo et al., 1977; Lewis, 1993; Olson, Bates, & Bayles, 1984; Radin, 1971). The issue of whether the particular qualities of mother's interaction behavior are

detrimental or beneficial to the child's development is perhaps the most important question to arise from the literature.

The answer to this question is complicated by the fact that maternal interaction behaviors were found to differ across different populations, such as various cultural groups and social classes (e.g. Bornstein, Tal, & Tamis-LeMonda, 1991; Farran & Ramey, 1980; Jennings & Connors, 1989; Lewis and Wilson, 1972). Mothers were also reported to interact differently with their children who had developmental delays than with nondelayed children (e.g. Caissie & Cole, 1993; Marfo, 1989; Tannock, 1988). Bornstein (in press) who has studied mother-infant interactions across various cultures postulated that because of different cultural goals, certain maternal behaviors might have quite different impact on child development across various contexts and, conversely, various forms of behaviors might serve ultimately the same function. In other words, across cultures the same maternal interaction behavior may serve the same or different functions. Similarly, different maternal interaction behaviors may serve the same or different function. Therefore, few generalizations on the impact of certain behaviors can be made across contexts unless the behaviors in question are studied specifically in these contexts. The present study represents an effort to provide a better understanding of variations in mother-child interactions across social and cultural contexts in a population of children with or at risk for disabilities. First, the review of literature will examine variations in maternal interaction behavior across contexts as described in the current literature. It will present evidence from the existing literature on 1) the relationship between maternal interaction behaviors and child developmental outcomes, 2) socio-cultural variables related to maternal interaction behavior, 3) variations in maternal interaction behavior across various social and cultural groups, 4) theoretical

and methodological problems in interpretation of results of cross-context studies, 5) the specifics of studying African-American culture, and 6) the specifics of maternal interaction behavior with children who have disabilities.

Literature Review

Mother-child interactions and child development

Parental responsiveness, the most widely studied component of parent-child interactions, initially attracted the attention of researchers primarily because it was found to be a predictor of cognitive as well as socio-emotional domains of child development (Bell & Ainsworth, 1972; Yarrow, Rubenstein, & Petersen, 1975). While the term "parental responsiveness" was defined somewhat differently in various research literature, the major characteristics of the concept appeared to be consistent. For example, responsiveness in general was defined as "ways caregivers react to their infants' initiations, verbalizations, demands, and distress" (Carlile & Holstrum, 1989, p. 480). The definition of maternal responsiveness was presented as "mother's prompt, contingent, and appropriate (not simply contingent) behaviors" (Bornstein & Tamis-LeMonda, 1989, p. 50), and further elaborated as "those actions of mothers that have identifiable, immediate, and direct antecedents in the behavior of their infants" (Bornstein et al., 1991, p. 69).

Some of the first studies on mother-child interactions and specifically maternal responsiveness were undertaken by Bowlby as well as Ainsworth and Bell as a result of their interest in the development of attachment. It was hypothesized that the quality of mother-child interactions is related to the development of mother-child attachment which in turn influences child development. A securely attached infant was defined as a child who developed a representational model of

significant others who are responsive, available, and helpful (Bowlby, 1969). Investigations on parent-child interactions discovered that parents' responses to infant's cues were indeed crucial to the security of parent-infant attachment (Ainsworth, Blehar, Waters, & Wall, 1978; Bell & Ainsworth, 1972; Bowlby, 1969).

The significance of secure attachment across time has been widely demonstrated in studies that examined the relationship between parent-infant attachment and child's later behavior and social and cognitive competence at different ages. The following examples are typical of the results of attachment studies. Securely attached infants were found to be more responsive, sociable, self-soothing, cried less, and scored higher in cognitively sophisticated kinds of exploration (van den Boom, 1990). They were also reported to be persistent, cooperative, enthusiastic, and effective (Matas, Arend, & Sroufe, 1978) as well as confident, independent, and positive in their affect (Arend, Gove, & Sroufe, 1979). In addition, the quality of attachment at 18 months correlated with problem-solving abilities and autonomous functioning at 24 months (Arend et al., 1979). As preschoolers, securely attached children showed higher levels of ego-resiliency, were more resourceful, persistent, and flexible, and responded in a more affectively appropriate fashion compared to children who were insecurely or anxiously attached (Arend et al., 1979). Secure attachment was also predictive of child's subsequent social interactions, such as social competence in play with age peers (Lieberman, 1977) and peer leadership, curiosity, and social involvement (Waters, Wippman, & Sroufe, 1979). Securely attached children also seemed to be less aggressive and disruptive (Shaw, Keenan, & Vondra, 1994).

Overall, secure attachment was found to be strongly associated with the child's later competence, primarily through reinforcement of the child's independent exploratory behavior. It

appears that maternal behavior provides the link between the establishment of secure attachment and child's competence. Maternal responsiveness and sensitivity contribute to the establishment of attachment in the first place and later continue to promote child competence, which is supported by the evidence of continuity of maternal behavior across ages (Olson et al., 1984). The mother who is sensitive, responsive, and emotionally available to her infant is said to provide a secure base that enables the infant to separate easily and freely explore the surroundings (Frodi, Bridges, & Grolnick, 1985). Exploratory behavior in children has been, in turn, linked to later cognitive competence (Bell & Ainsworth, 1972; Jennings, Harmon, Morgan, Gaiter, & Yarrow, 1979). It was suggested that because infants of responsive mothers learn that their behavior can exert an effect on their environment and they are able to control some of their own experiences, their development is enhanced compared to the development of infants whose mothers are less responsive (Bornstein et al., 1991). Therefore, according to the attachment perspective, infant socio-emotional and cognitive development is maximized through establishment of secure attachment with the caregiver when the caregiver is sensitive (defined as "aware of the infant's emotional signals and interpret them accurately") and responsive (Main, Tomasini, & Tolan, 1979).

As mentioned earlier, another group of mother-child interaction studies examined more directly the relationship between maternal interaction behaviors and child developmental competence. For example, by providing an opportunity to explore the environment without excessive restrictiveness and control over the child's behavior, mother can contribute to the child's competence (Elardo et al., 1977; Yarrow et al., 1975). Further, relatively high amount of verbal and play stimulation were related to developmental competence in infants (Elardo et al., 1977; Olson et al., 1984; Yarrow et

al., 1975). Mother's affective tone was found to play a dominant role. Maternal warmth appeared to enhance child's ability to organize play activities in meaningful ways by promoting autonomy and competence (Jennings & Connors, 1989). Overall, the most consistent correlates of infant and early childhood competence have been variables pertaining to maternal warmth and responsiveness (Beckwith & Cohen, 1989; Ramey, Farran, & Campbell, 1979; Yarrow et al., 1975).

The relationship between maternal control or directiveness and child competence has also been widely studied. Maternal control is the term used to describe "all types of behavior, verbal and nonverbal, that mothers employ to regulate or direct the ongoing behavior and activity of their children during any interactive episode" (Marfo, 1992, p. 219). Specifically, maternal directiveness refers to a mother's tendency to control a child's behavior, which can be expressed through use of commands, questions, topic changes, long speaking turns, or as a high rate of turn-taking (Tannock, 1988). Across the literature the definitions of directiveness vary, with some researchers equating directiveness with intrusiveness and harsh control and others defining it more in terms of didactic teaching. Overall, while maternal responsiveness and sensitivity appeared to correlate positively with the child's competence, maternal control over the child's behavior or directiveness was most typically reported as being negatively correlated with child cognitive development (Clarke-Stewart, VanderStoep, & Killian, 1979; Elardo et al., 1977; Jennings & Connors, 1989). For example, in infants, maternal restrictiveness was linked to lower quality of exploratory play (Jennings et al., 1979). Mother's directiveness was significantly negatively correlated with Japanese preschooler's number-conservation score (Hatano, Miyake, & Tajima, 1980). Additionally, children with developmental delays whose mothers were more controlling and directive tended to be more deficient

in their social problem solving as compared with those whose mothers were less controlling (Herman & Shantz, 1983). In general, whereas maternal warmth was found to relate primarily to verbal ability (Hatano et al., 1980), maternal restrictiveness and intrusive directiveness, on the other hand, have been found to relate more strongly to non-verbal than to verbal aspects of intelligence (Hatano et al., 1980; Jennings & Connors, 1989; Olson et al., 1989). By interfering with children exploring and mastering their physical environment, restrictive and directive mothers were hypothesized to impede children's development of concepts about environment (Jennings & Connors, 1989). However, Jennings and Connors (1989) concluded that maternal restrictiveness was a multidimensional variable. The results of their study suggested that maternal directiveness, in fact, contained a "stimulating, facilitative element" as well as an "intrusive, restrictive element" (p. 171). At this point, more research is necessary in order to differentiate the two interrelated aspects of maternal directiveness and determine what amount of directiveness is necessary and appropriate to enhance child development.

Sociocultural variables related to parent-child interactions

Parental behavior towards the child, including sensitivity and responsiveness, seem to be greatly influenced by the infant's own characteristics as well as demographic and psycho-social characteristics of the family, and quality of the infant's attachment. First, infant's temperament, responsivity, presence of handicaps, and other characteristics appear to influence parental response primarily due to the mutually dependent nature of parent-child relationship. The infantile and the parental behaviors are said to "function as a chain of interlocking elements where each element gains new dimensions resulting from its position in the chain, from its past role in similar interactions, and from the impact

of the elements on the social situation" (Papousek & Papousek, 1983, p. 127). Both members of the dyad were said to be preadapted to reinforce the other member's motivation for similar interactions, which constitute the constant mutual influence of the members of the dyad on each other (Bornstein et al., 1991; Lojkasek et al., 1990; Spangler, 1990; Yarrow & Goodwin, 1964). Second, parental interaction behavior is interrelated with other psycho-social factors that affect the nature of interactions. Spangler (1990), for instance, reported that maternal responsiveness was associated with maternal attitudes. Mothers who perceived their children as difficult were observed to be less responsive to them than mothers who had more positive attitudes towards their children. A relationship has been demonstrated between mothers' perceptions of their children and the level of maternal directiveness. Mothers who perceived their children as intrinsically motivated were less directive (Jennings & Connors, 1989). Further, in a study of children with Down syndrome, parental age was found to be consistently the most powerful predictor of maternal responsiveness, with older mothers being more responsive than younger mothers (Lojkasek et al., 1990). Maternal responsiveness, however, has not been found to correlate with maternal IQ (Beckwith, 1971). Yet, mother's education was significantly correlated with all responsiveness measures, maternal teaching style, and affective and instrumental qualities of interactions in a study of preschoolers with developmental delays (Goldberg, Lojkasek, Gartner, & Corter, 1989).

Other studies of parent-child interactions found strong correlations of various socio-economic dimensions of family life with maternal interaction style. Mothers of children with disabilities who perceived they had more family support and resources had higher responsiveness scores (Boyce, Behl, & Godfrey, 1993). Mothers from middle- and lower-classes demonstrated different interaction styles

in terms of amount and kinds of stimulation, vocalization, and contingency of behavior (Lewis & Wilson, 1972). In fact, among all the psycho-social variables investigated for their influence on parent-child interactions, SES seemed to correlate most consistently with parental perceptions, parental behaviors, and subsequent children's competence (Bradley, Caldwell, & Elardo, 1977; Farran & Ramey, 1980; Lewis & Wilson, 1972; Olson et al., 1984; Walters, Connors, & Zunich, 1964). Specifically, the literature consistently reported less verbal, entertaining, and toy-play behaviors among lower-class mothers compared to middle-class mothers (Field & Pawlby, 1980; Lewis & Wilson, 1972).

Yet, according to the newly emerging ecocultural (ecological/cultural) perspective, a variable such as SES correlates with child outcome only to the degree that it correlates with the ecocultural factors that affect family functioning and therefore child outcome (Schneider & Gearhart, 1988). Ecocultural niche theory is comprehensive in its view of the family environment and takes the family's own perspectives into account. Ecocultural approach links child developmental outcomes with more global measures of family functioning than such a traditional family assessment as SES. According to this perspective, ecocultural effects are mediated via the activity settings of the daily routines in the child's life. These daily routines are said to create opportunities for development-sensitive interactions and consequently shape child activities and development. Both routines and interactions are in turn shaped by the family ecocultural niche (Bernheimer, Gallimore, & Weisner, 1990; Gallimore, Weisner, Kaufman, & Bernheimer, 1989). Ecocultural niche is said to reflect both family ecology (e.g., income, housing, availability of relatives and services) and cultural ecology (beliefs, goals, and culturally appropriate conduct of marriage and family relationships and child upbringing)

(Gallimore et al., 1989). Weisner (1984) identified a number of ecocultural niche factors that were considered to be cross-culturally relevant to child development. Among others, they included 1) the personnel likely to be around children and what these people are likely to be doing; 2) the status of women, such as whether the mother is the primary caretaker; and 3) "cultural alternatives", such as available sources of information and stimulation. Weisner (1984) found that these comprehensive assessments of family environment were essentially different from the traditional measures of family functioning and appeared to be better predictors of child developmental outcome, most likely because the new measures took into account the context in which mother-child interactions took place and demonstrated the interdependence of external and internal factors affecting the interactions.

Variations in interactions across social and cultural groups

As mentioned before, ecocultural theory holds that parent-child interactions are formed primarily by the family's ecocultural niche (Gallimore et al., 1989). As family ecocultural environment varies with culture and social class, so does maternal interaction behavior. Recently, a number of child development researchers have conducted cross-cultural investigations and examined ways in which socio-cultural norms influence child-rearing practices and attitudes. Maternal responsiveness was said to be "affected by cross-cultural differences in local conventions of conversational interaction, particularly as specified by cultural scripts governing the mother-infant relationship" (Richman, Miller, & LeVine, 1992; p. 614). Yet, the interpretation of cross-context studies poses various problems for researchers because of the difficulty of differentiating universal from culturally specific goals, functions, and behaviors. As discussed earlier, Bornstein (in press) raised important

questions on whether one form of maternal behavior serves the same or different functions universally and whether different forms of behavior serve ultimately the same or different functions.

Several studies have provided evidence in support of cultural universals of interaction. For example, at-home interactions of mother-infant dyads in the United States, France, and Japan were observed (Bornstein et al., 1989, 1991, 1992). Across cultures, mothers responded equally with nurturance to their infants' vocalizing distress and with imitation to their infants' vocalizing nondistress (Bornstein et al., 1992), and similarly engaged their infants in tactile-kinesthetic play (Bornstein et al., 1991). On the other hand, a number of studies showed that parent-infant interactions in various cultures were different in many respects. For example, caretaker-infant dyads from nonindustrial groups such as the Mayan Indians (Brazelton, 1977), Zambians (Goldberg, 1977), and Guatemalans, (Klein, Lasky, Yarbrough, Habicht, & Sellers, 1977) engage in more physical or proximal than verbal or distal interactions as compared with dyads from industrial societies such as Great Britain or the United States. Comparison between industrial societies such as Great Britain and the United States (Field & Pawlby, 1980) demonstrated that the British mothers gazed at the infants and engaged in infant game playing less frequently, while they vocalized, sang, and engaged in toy play more often than American mothers. Further, primiparous mothers in the United States, France, and Japan were quite dissimilar in the degree and kinds of stimulation and responsiveness to their 5-month old infants (Bornstein et al., 1991). Specifically, American mothers displayed significantly higher rates of extradyadic responsiveness (i.e., emphasizing a property, object, or event in the environment), while Japanese mothers' responsiveness was oriented within the dyad, which corresponds well with general Japanese intra-dyadic orientation versus American

autonomy/environment-orientation (Bornstein, in press). In another cross-cultural study, mother-infant interactions in a rural Gusii community of Kenya and suburban Boston, Massachusetts were compared (Richman et al., 1992). While Gusii mothers sought primarily to quiet and soothe their babies, American mothers stimulated and verbally interacted with their infants. Thus, the responsiveness of the mothers from these two groups was directed toward different goals. Gusii were physically responsive while Boston mothers were predominantly verbally and visually responsive. Richman and associates (1992) came to the conclusion similar to the one made by Bornstein (in press) in that there was no evidence that one group of mothers was more responsive than the other. The two groups only differed in the forms of responsiveness they emphasized which were consonant with more general values of their respective cultures.

Despite the extensive evidence that maternal behavior does differ across cultures, it has not yet been documented that these behaviors serve different functions in child upbringing. Therefore, the possibility that different forms of responsiveness serve ultimately same function, such as promoting adjustment to child's own culture, still remains valid. In order to be able to see the actual consequences of maternal responsiveness, it must be assessed longitudinally and with regard to the socio-cultural context in which interactions take place. The problem of interpreting quality and functions of maternal behavior appears particularly relevant to studies of variations in maternal behaviors of African-Americans versus European Americans because of cultural differences in childrearing goals and expressions of affect and nurturance.

Studies of African-American culture as a special case of cross-cultural research

African-American culture as a part of the American culture and simultaneously a culture with its own traditions and regulations represents a special case in cross-cultural research. In studies where African-American and European-American populations are compared, the interpretation of results is complicated by the fact that racial rather than cultural differences are primarily emphasized. However, a clear distinction needs to be made between the two concepts. African-American as well as European-American populations are not homogenous groups, they both include various discrete subcultures with their own traditions, values, and social expectations concerning different aspects of life (e.g., child-rearing). Weisner (1993) suggested that "ethnic categories are often imposed from outside, and in fact may not even be recognized as fully legitimate by the group so labeled. For instance, the category "blacks" in North America incorporates descendants of slaves, recent immigrants from the Caribbean or Africa, and many other widely different contemporary cultural communities" (p. 55).

To examine cross-cultural differences within black culture, mother-infant interactions of two different groups within the black population (Haitian immigrants and African-Americans) were compared (Field, Widmayer, Adler, and deCubas, 1992). The results showed that the Haitian mother-infant dyads received higher ratings on face-to-face interactions than the black American dyads, but lower ratings on feeding interactions rating scale, suggesting diversity of interaction styles within the socially defined black culture. The authors concluded that "the fact that both these groups are black is only a superficial similarity" (p. 173), because Haitian immigrants and black Americans living in Miami are very different cultural groups in many respects. For example, poverty that was

characteristic of both groups had different origins. One group relied extensively on welfare whereas the other was supported by very low-wage labor.

However, while overall socio-cultural characteristics are significant, Weisner (1993) argued that families are not helpless victims of their circumstances (e.g., SES), but they actively organize and direct their life routines and interact with their environment. In other words, there is an interactive relationship between individual members of the culture and their ecocultural niche. Weisner (1993) concluded that the variations in behaviors of African-American parents are influenced by individual factors as well as their ethnic background.

In most studies of mother-child interactions across African-American and European-American cultures, the findings have suggested that in studies where race was controlled or when it systematically varied with SES, SES has been associated with "differences in maternal behavior over and above the effects associated with race" (Farran & Haskings, 1980, p. 781). In other words, middle-class African-American parents were more similar to middle-class European-American parents than to lower-class African-American parents, and similarly, African-American and European-American parents of lower SES were more alike. For instance, middle-class European-American mothers interacted more actively with their preschool children than lower class European-American mothers (Kogan and Wimberger, 1969; Zunich, 1961). Similar results were reported for middle- and lower-class African-American mothers and their preschool children (Hess & Shipman, 1965; Kamii & Radin, 1967; Zegiob & Forehand, 1975). In both ethnic groups, lower-class mothers were more directive and controlling, especially with their daughters, as well as more critical of their children than middle-class mothers (Zegiob & Forehand, 1975). Young (1970) in her qualitative account of life

in a southern African-American community also observed differences within the African-American community based on SES. Thus, middle-class African-American parents were less likely to restrict the manipulation and exploration of objects than lower-class African-American parents. Considering the above mentioned facts, it is not surprising that Radin (1971) observed no differences in African-American and European-American samples on such dimensions of parent-child interactions as maternal reinforcement, consultation with the child, and sensitivity to his needs for lower-class dyads when SES was controlled. Thus, it was suggested that different classes (or other intra-cultural strata for that matter) might often effectively assume socializing roles essentially equivalent to different cultures, proposing that SES differences can account for more differences between African-American and European-American child-parent interactions than differences in their ethnicity and culture *per se* (Bornstein et al., 1991).

However, certain differences between African-American and European-American groups have been identified, regardless of differences in SES. For example, in a preliminary analysis of maternal behaviors of European-American and non-European-American (predominantly African-American) dyads of children with various disabilities, Boyce (1993) found several differences in interaction behaviors and styles. European-American mothers scored significantly higher than non-European-American mothers on measures of responsiveness, affect, quality, and appropriateness of interactions. Also, European-American mothers scored significantly higher in responsiveness on the Appropriateness Scale than African-American mothers (Onufrak, Saylor, Fyberg, & Boyce, 1993).

Certain cultural differences in interaction behavior could be partially explained by certain characteristics of African-American culture in general. It was well-documented, for example, that

African-Americans as a group experience lower levels of education and suffer greater levels of unemployment (McLoyd, 1990; Allen and Majidi-Ahi, 1980; US Census Bureau, 1991). African-American families are more likely to reside in inner-city neighborhoods, struggle with crime, poor housing, and have limited access to proper medical and mental health care (Kazarda, 1985; Wilson, 1987). In the African-American culture, a strong reliance on the extended network of friends and family that allows for a greater sharing of both physical and psychological resources has been noted by various authors (Anderson, 1991; Stack, 1975; Taylor, 1985). This importance of extended network is likely to influence child rearing practices. For instance, caregiving responsibilities could be shared with related or unrelated kin. Therefore, the mother's role may be defined somewhat differently across the two cultures.

It was suggested that different interaction styles may be necessary and adaptive in particular contexts, such as living in dangerous inner-city neighborhoods. The results of the study of low-income African-American families presented evidence in support of cultural specificity of interaction styles. The study found that for this group of African-Americans, a style of interaction that was very directive was adaptive, and did not necessarily represent harsh control. Thus, an authoritarian style was suggested to constitute an appropriate adjustment in circumstances where parents are expected to impose on their children the necessity to follow rules (Brooks-Gunn & Chase-Lansdale, 1995). This evidence provided additional support for the fact that interpretation of cross-cultural differences in interactions should be made within the ecocultural context of the groups studied and a lot of caution should be exercised when the interpretations are made by outsiders of this ecocultural context.

Besides a possibility of cultural bias in the interpretation of research results, there is a danger of cultural bias inherent in the testing procedures employed by cross-cultural studies. Recent research addressed the problem of European-American cultural bias of tests and measures applied to African-American samples. For example, Scarr and Weinberg (1976) studied variations in IQ scores among African-American and European-American children and reported that when African-American children were adopted by European-American families and thus were fully exposed to the culture of IQ tests and the school, they performed just as well as European-American children on the tests.

One more word of caution needs to be said in a discussion of social classes and cultural groups. It was noted that class and culture tend to be "used to explain differences, rather than being treated as media which provide the variability necessary to help pinpoint the processes at work" (Lewis & Wilson, 1972, p. 112). When class and culture are used as explanatory variables, it is likely that individual differences will be overlooked within the groups they characterize. Yet, the group differences that might become apparent are not the final goal in themselves, it is "the process which produces these differences which is at the heart of scientific inquiry" (Lewis & Wilson, 1972, p. 113). This approach should be applied to the study of mother-child interactions and in the interpretations of the results of cross-context studies.

Maternal interactions with children who have developmental delays

Across cultures, children with disabilities represent a distinct population because of these children's special needs and significant adaptive problems that their families face. While ecocultural theory predicts that most accommodations to child-rearing are common for families with and without children with disabilities (Gallimore et al., 1989), some accommodations are likely to be unique to

disabled children (Gallimore, Weisner, Bernheimer, Guthrie, & Nihira, 1993). Thus, the findings of studies of mothers' interactions with nondisabled children cannot be directly generalized to interactions of mothers with their children who have disabilities.

One of the major problems, however, with studying population of children with disabilities is that, according to Kagan and Klein (1973), the distinction between universal and culturally specific competencies implies a parallel distinction between absolute and relative retardation. These authors suggested that it is only possible to classify a child as retarded relative to another in his community rather than by some arbitrary universal criteria. It is generally accepted that children with or at risk for disabilities require more assistance than healthy children in order to reach the maximum in their development. The significance of the amount and kinds of stimulation given in infancy for the development of grossly deprived infants, such as infants in institutions, was well documented (see Yarrow and Goodwin, 1965, for review of this literature). Such variables of maternal care as achievement stimulation, social stimulation, and stimulus adaptation were shown to correlate significantly with the infant's developmental progress (Yarrow & Goodwin, 1965).

It was documented that difficult behavioral and interaction styles characteristic of children with disabilities and stressful life circumstances associated with caring for such children possibly make it harder for parents to be responsive (Onufrak et al., 1993). The most distinctive quality of maternal interaction behavior characteristic of mothers who have children with disabilities in contrast with mothers of nondisabled children was identified as excessive control over the child's behavior. The majority of interaction studies have described mothers of children with disabilities as more directive and controlling than mothers of nondisabled children in interactions with their children (Cunningham,

Reuler, Blackwell, & Deck, 1981; Herman & Shantz, 1983), and children with disabilities as less responsive and compliant to mothers than are same-age nondisabled children (Schneider and Gearhart, 1988). Marfo (1988), for example, suggested that children who were mentally retarded tended to be inactive and unresponsive in interactive contexts while their mothers tended to exhibit excessive amount of control and directiveness. The concern was raised about the long-term developmental implications of excessive directiveness due to the fact that directiveness has the tendency to deny children opportunities to respond (Marfo, 1992).

The major dilemma in the interpretation of results of these studies appears to be whether it is the unresponsiveness and passivity of children with developmental delays during mother-child interactions that results in the mothers' adaptive increase in directiveness designed to encourage the child's participation or whether it is the mother's perceptions of her delayed child that leads to her relatively stable directive style which might actually impede the child's development (Tannock, 1988). However, the conclusions of past research in this area are problematic because most interpretations of appropriateness of certain interaction behaviors for mothers of children with disabilities come from disabled-nondisabled comparison research. In other words, most studies contrasted maternal behaviors of mothers who have children with disabilities with maternal behaviors of mothers of normally developing children (Cunningham et al., 1981; Schneider & Gearhart, 1988). These studies tended to present mothers of children with disabilities as a homogenous group with a distinct interaction style rather than individuals whose styles vary depending on many circumstances (Crawley & Spiker, 1983). Yet, a number of characteristics of children with developmental delays were said to influence interaction behaviors of their mothers. Brooks-Gunn and Lewis (1984) found that the

infant's with disabilities general functioning rather than chronological age influenced maternal level of responsiveness. They also reported that various kinds of disabilities influenced maternal responsiveness differently. Thus, mothers of children with developmental delays were generally more responsive than mothers of children with Down syndrome and cerebral palsy. On the other hand, responsiveness was directly related to the child's behavioral repertoire. In addition, maternal directiveness was reported to vary as a function of the children's increasing age and cognitive competence (Mahoney, 1988a) and children's level of participation in the interactions (Mahoney, 1988b).

Primarily due to the methodological limitations of disabled-nondisabled group comparisons, past research often assumed such variables as responsivity and performance orientation or directiveness were mutually exclusive (Boyce et al., 1993; Mahoney & Powell, 1988), suggesting that while responsiveness benefits child development, directiveness does not. However, Marfo (1989) concluded that to look at maternal control and directiveness as an inherently negative interaction behaviors is to simplify their significance and fail to "distinguish between the adaptive qualities of parent behavior on one hand and the potential developmental effects of such adaptive behavior on the other" (p. 55). According to Marfo (1989), the equation of directiveness with lack of responsiveness and sensitivity, as is often done by the researchers, does not have any theoretical and empirical support. First, Schaffer & Crook's (1979) study demonstrated that directiveness and sensitivity were not necessarily incompatible characteristics. Further, Crawley and Spiker (1983) found no relationship between directiveness and other maternal qualities in their study of 2-year old children with Down syndrome. They also concluded that directiveness was not a strictly negative feature of

dyadic interactions. In fact, they reported a tendency for children whose mothers were both highly sensitive and highly directive to have higher mental development indices than other subgroups of children. This finding might indicate that mother's directiveness was adaptive to the child's level of functioning. Additional evidence in support of adaptive nature of maternal directiveness was presented by Tannock (1988). While mothers of the children with Down syndrome exhibited higher overall levels of directiveness in most of the measured aspects, these mothers were no more directive than were mothers of non-delayed children when the antecedent interaction behavior of the child was taken into account. Since mothers of children with Down syndrome were as sensitive and responsive as mothers of nondelayed children in this study, the conclusion was made that maternal directiveness may serve as a supportive strategy to enable children with developmental delays to participate more fully in interactions than would otherwise be possible. According to Tannock (1988), maternal directiveness is best interpreted as a multidimensional phenomenon. It is likely that mothers compensate for their children's diminished or absent capacities and interactions, and that mother-child interactions do not necessarily become dysfunctional. Therefore, the examination of mother's directiveness should be done in relation to the child's interactive behavior.

The use of observational methodology in mother-child interaction research

Various research methods are available in the field for investigation of mother-child interactions (e.g., parent report measures, observational methods). Observational methodology has become an increasingly important tool to study the nature and effects of parent-child interactions in the research concerned with typically developing children and children with disabilities for several reasons. Behavioral observation is considered to be one of the most objective and reliable ways of collecting

data in developmental psychology (Brody & Stoneman, 1983; Ritter & Langlois, 1988). It is also the most direct methodology available (Clarke-Stewart, 1973; Mahoney & Powell, 1988). Its increased usage has also resulted from researcher's discontent with total reliance on parent report measures (Brody & Stoneman, 1983; Casto & Mastropieri, 1986), and researchers' encouragement of the use of multiple measures to assess the parent-child relationship (Casto & Mastropieri, 1986).

The various observational coding systems available in the field fall into two categories: behavioral rating scales and behavioral frequency counts. The former begin at a fairly global and qualitative level and are used to rate any given number of predefined behaviors of the persons observed. The latter record the frequencies of specific predefined behaviors. Typically, both types of coding systems use videotaped recordings. One of the major disadvantages of behavioral count systems when used for studying children with disabilities is that counting molecular units of behavior may be problematic because of the children's limited motor and communication development, and their limited display of affect. While coding has been found to be more subject to observer bias when global rating systems are used (Ritter & Langlois, 1988), global rating scales have been reported to have better long-term predictive power than behavioral count systems (Jay & Farran, 1981). Consequently, a global behavior rating scale has been chosen for the current study of maternal interactions with children who have or are at risk for disabilities. The Maternal Behavior Rating Scale (MBRS; Mahoney, 1992), which has been developed and used since 1985 to investigate maternal interaction behavioral styles, was used in this study to measure twelve aspects of maternal interaction behavior.

Conclusion

The following conclusions can be drawn from this literature review. First, maternal responsiveness and sensitivity in infancy have been found to be strong predictors of the child's later competence and developmental outcome. The relationship of maternal directiveness to child development is not as clear, but certain levels of directiveness may be beneficial to children who are unable to interact in typical ways. Maternal directiveness especially appears to be beneficial when combined with other characteristics such as warmth and sensitivity. Second, maternal interaction behavior is one of the many human behaviors that is quite sensitive to the ecocultural context in which mother-child interactions take place. Specific cultural norms, social class expectations, and individual adaptations made by the mother to her infant's physical, cognitive, and emotional state significantly impact mother-child interactions in general, and maternal responsiveness in particular. Overall, sociocultural variations in maternal interaction behaviors should be interpreted with caution because 1) the family ecocultural niche is not likely to be assessed comprehensively, 2) the functions that certain behaviors ultimately serve in different cultures have not been positively identified, and 3) further research is needed to assess reliability, validity, and usability of the available observational methodology for different sociocultural contexts. As a result, meaningful comparisons of mothers' interaction behaviors in terms of their long-term outcomes are difficult to make.

Purpose of study

Most of the previous research on parent-child interactions focused on European-American, urban, middle-class, mother-child dyads from intact, nuclear families. Even when mother-child interactions were compared cross-culturally, many significant social and cultural variables have not

been taken into account. Virtually no studies have looked at cross-cultural variations of maternal interactions with children who are developmentally delayed. Most studies that have focused on studying children with disabilities compared them with nondisabled children rather than trying to identify within-group variations in the population of children with disabilities. The present study addresses limitations of previous research by studying mother-child interactions cross-culturally and focusing on within-group variations in the population of children at risk for disabilities. Furthermore, considering that the literature suggests a high likelihood of variations in maternal behavior across different sociocultural settings, it seemed useful to examine the appropriateness of such a global rating system as MBRS for two sociocultural groups. Thus, the overall purpose of this study was to examine the appropriateness of MBRS for African-American and European-American cultures in a population of children who had or were at medical risk for disabilities. This goal was planned to be accomplished in two major ways. First, we wanted to compare interaction behaviors of African-American and European-American mothers. It was hypothesized that maternal interaction behaviors of African-American and European-American mothers would differ, primarily as a function of mother's socioeconomic class and/or specific cultural agenda. Second, we wanted to perform intra-item correlations of the maternal interaction ratings separately for the two groups to compare group correlation matrices. The extensive data set of videotaped mother-child dyad free-play interactions, child development assessments, comprehensive demographic information, multiple measures of family functioning, and standardized ratings of maternal interaction behaviors were provided by the Longitudinal Studies of the Effects and Costs of Alternative Interventions for Children with Disabilities and their Families of the Early Intervention Research Institute.

Method

Subjects

The subjects in the study were 255 children who had or were at risk for developmental delays and their mothers. The ages of children ranged from 22 to 49 months (\bar{X} = 32 months). Data were taken from the extant data base of the Longitudinal Studies of the Early Intervention Research Institute. The subjects were from the studies located at Louisiana, Utah, Illinois, South Carolina, and Ohio.

Out of 255 dyads, 55 were African-American and 200 were European-American. Most African-American dyads were from South Carolina (75 percent) and other African-American dyads (14) were distributed almost equally across Louisiana, Illinois, and Ohio samples.

The disabilities of the children represented a variety of categories. The majority of the children (52%) had suffered an intraventricular hemorrhage (IVH) and were considered at risk for developmental delays. Other disabilities included visual impairments (11%), developmental delays (8%), general health impairments (7%), Down Syndrome (5%), and cerebral palsy (5%).

Insert Table 1 about here

Forty seven percent of the children were female. The mean developmental quotient of children was 67.3 as measured by Battelle Developmental Inventory. The average age of children at the time of observation was 28.5 months (African-American) and 32.3 (European-American).

The average age for mothers in both samples was 28 years. Most mothers were not employed outside of home and most mothers had acquired a high-school education (\bar{X} =12.5 years of

education). The mean number of siblings in the families was 1.4. African-American and European-American groups differed significantly on percent of two-parent families and family income. Thirty seven percent of African-American and 81 percent of European-American families had two parents in the home. The average annual income was \$12,163.6 for African-American families and \$30,911.9 for European-American families.

Insert Table 2 about here

Sample description

As mentioned before, 75 percent of African-American sample came from Charleston, South Carolina. For interpretation of the results, it is important to give a brief description of this group of African-Americans. Within African-American culture, the population of South Carolina Sea Islands and surrounding mainland towns such as Charleston represents a distinct community with its own traditions and customs. This community was able to maintain traditions of their African heritage better than most other African-American communities in the United States, including social institutions, folklore, and language (Twining & Baird, 1991). These people were said to be somewhat less acculturated, more African-like, than other segments of the African population in the country. Up to now, in the rural communities of the South Carolina Sea Islands, African-Americans have traditionally maintained three multi-generational domestic groups whose members co-reside in clusters of contiguous or adjacent households (Demerson, 1991). Each domestic group is organized around a "core", which is often the oldest progenitorial couple. This complex of households encompasses brothers and sisters and their families all living in houses next to each other. Just like

their African counterparts, these groups are characterized by a high degree of communication and interdependence (Twinning & Baird, 1991).

According to Twinning and Baird (1991), what sociologists generally call the "extended family" is for African people "the family". This extended family appears a much more typical family structure for the Africans than the nuclear family, prevalent in Europe and the United States. Thus, although significant, a married couple and their children neither constitute an entity in itself nor is it the building block of the extended family. Since the family institution is based on bonds of consanguinity (blood) rather than conjugality (marriage), divorce does not lead to a "broken family" (Sudarkosa, 1980, 1981, cited in Demerson, 1991, p. 60). Even after marital separation both of the extended families continue to interact and are indeed intact. Therefore, in contrast with European-American pattern, marital disruption is not synonymous with "broken family" (Demerson, 1991). Moreover, children are regarded as legitimate whatever the parentage because they belong not only to their biological parents, but to all the adults in the community. Specifically regarding childrearing practices, families are said to organize themselves within a societal context to insure the raising of children within a stable social and economic unit. Families also provide mutual support and refuge for their members. Interestingly, these communities still enjoy an African heritage of the family elders called "Mommas" who "function as matriarchs, teaching to yard and house children alike communal properties, familial lore, and basic survival strategies" (Twinning & Baird, 1991, p. 6). In fact, the old people often care for children while the parents go off to the mainland to work.

The unique characteristics of this group of African-Americans in South Carolina demonstrate that all African-Americans are not a homogenous group with same patterns of socialization, child-

rearing, and norms of mother-child interactions. The same contextual variables, including location (e.g., rural vs. urban), socioeconomic status, cultural traditions representative of a certain group, and language, result in different cultural characteristics within African-American as well as European-American populations. These distinctly cultural rather than generally ethnic or racial characteristics of our samples were the main reason that made us consider our comparison of mother-child interactions to be cross-cultural rather than cross-ethnic.

Home Observation Procedure

Maternal Interaction Measure

Maternal interaction behaviors were assessed via a videotaped 10-minute sampling of free play involving mother-child dyads. Mothers were asked to play with their children as they would at home. All the diagnosticians who conducted the taping followed a standardized protocol which involved the use of uniform play materials and directions given to the mothers. The Maternal Behavior Rating Scale (MBRS; Mahoney, 1992) was used to measure the quality of maternal interaction behaviors with their children with disabilities.

The MBRS rates 12 maternal behaviors (using a 5-point Likert-type scale) that have been reported to relate to child development including enjoyment, sensitivity to child's interests, responsiveness, directiveness, expressiveness, warmth, achievement orientation, inventiveness, verbal praise, effectiveness, pace, and acceptance. Interrater reliability for item-by-item agreement equalled .60 and for agreement within one point equalled .96. Chronbach's alpha ranged from .61 to .88 (Mahoney, 1994).

Family Functioning Measures

Family functioning characteristics were measured via five standardized self-report measures. The parent domain score of the Parenting Stress Index (PSI; Abidin, 1990) was used to measure the mother's level of stress in two domains: child and parent. The Family Support Scale (FSS; Dunst, Jenkins, & Trivette, 1984) was used to assess the availability and helpfulness of various sources of support available to the family. The FSS consists of 18 items that represent sources of social support, both informal (e.g., parents, friends) and formal (e.g., early intervention services). The Family Resource Scale (FRS; Dunst & Leet, 1985) measured the mother's perceived adequacy of resources (e.g., adequate shelter, medical services, etc.). The Family Adaptability and Cohesion Scale, III (FACES III; Olson, Portner, & LaVee, 1985) was used to determine the mother's perceptions of the family's level of flexibility and connectedness. The Family Inventory of Life Events (FILE; McCubbin, Patterson, & Wilson, 1983) was used to assess positive and negative life events and changes that occurred over the past 12 months.

Child Measures

The Battelle Developmental Inventory (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984) was administered to the children as a measure of child developmental functioning. Child Health Index (EIRI, 1986) was used to assess the parents' evaluation of the child's health during the past year. For this study, the only part of the Index used was a global estimate of child health based on a 3-point Likert-type scale which was obtained via parent report. A one signified perception of the child as being less healthy and a three as being more healthy than other children.

Results

Were the African-American and European-American groups in this study qualitatively different from each other prior to the study as assessed by demographic and family functioning measures? In order to answer this question, initial t-tests were completed comparing demographic and family functioning variables for the two groups. The t-test analyses demonstrated statistically significant differences between the African-American and European-American groups for child age, mother's age, mother's education, number of two-parent families, and income ($p < 0.01$). The mean income of African-Americans was \$12,163.60. The mean income of European-Americans was \$30,911.90 (see Table 2). Because of the significant differences in family structure (1 or 2 parents in the home), income, mother's education, and mother's age, we tried matching the subjects on these variables, but this resulted in two very small samples. Therefore, in an attempt to control the family income as the most significant indicator of family SES, the two groups were restricted to those with income of \$32,500.00 or less. The new groups with restricted income below \$32,500.00 included 125 European-American (37.5% decrease in sample size) and 53 African-Americans (3.6% decrease). The results of the t-test analyses with the restricted income samples showed that statistically significant group differences remained on family income, family structure, child's age, child-related stress, and cohesion. The two new groups were no longer significantly different on mother's age, mother's education, family resources, and adaptability. The rest of the analysis procedures were performed on the two restricted income groups.

The next major question was whether mothers' interaction behaviors of African-Americans were different from those of European-Americans as measured by MBRS. Analysis of covariance

procedures were performed to measure differences between the groups on maternal interaction variables. Race and family structure served as the independent variables and the dependent variables were the MBRS ratings of mother interaction. Analysis of covariance procedures were used for two reasons: 1) to increase the statistical power of the study by reducing error variance; 2) to adjust for any differences which were present between the groups prior to the study.

In order to identify which demographic and family functioning variables were significantly related to the 12 maternal interaction variables, Pearson Product-Moment correlations were computed, using pairwise and two-tailed tests of probability. Thus, the final selection of covariates depended on a judgement of which variables could be used to maximize the correlation with the outcome variables in question and still include those demographic or assessment variables for which there were the largest initial differences. As a result of the correlational analyses, the specific covariates used were mother's age, mother's education, child age, and income. Statistically significant main effects were found for race on maternal interaction ratings such as expressiveness, enjoyment, warmth, responsiveness, inventiveness, effectiveness, and acceptance. For family structure, significant effects were found on directiveness and pace. No interaction effects between race and percent of two-parent families were observed.

Insert Table 3 about here

According to Jensen (1980), the similarity of internal structures of an assessment instrument, such as MBRS, for different groups depends on the comparability of the correlation of comparison matrices for the groups. Our final analysis focused on the comparison of the intra-item correlation

matrices of the maternal interaction ratings for the African-American and European-American samples. Pearson correlation coefficient (based on Fisher Z transformations) was calculated between the comparable elements of the two groups' correlation matrices. First, the original correlation scores of each sample were transformed into Fisher Z scores with the formula $z = 1/2 \log_e((1+r)/(1-r))$, where r is the original correlation scores. Second, Pearson correlation coefficient was computed for Fisher Z scores. The resulting correlation coefficient ($r_z = .88$) is high, indicating similar internal structure patterns of MBRS for African-American and European-American samples.

Insert Table 4 about here

Discussion

One major issue in the present study concerned identifying cultural variations in maternal interaction behaviors and the way these behaviors relate to social class differences and mothers' perceptions of family functioning. In contrast with previous findings (Farran & Haskins, 1980; Jones & Kretschmer, 1988; Hess & Shipman, 1965; Zegiob & Forehand, 1975), in our study, race differences were not fully accounted for by SES. We imposed an artificial ceiling on the amount of family income and used income and mother's education as covariates. Despite using these methods, cultural/ethnic differences in most maternal interaction behaviors assessed in this study were still significant.

Thus, African-American mothers scored lower than European-American mothers of children with or at risk for disabilities on most assessed aspects of interaction behavior (e.g., responsiveness, sensitivity, achievement orientation) except for directiveness and pace on which they scored

significantly higher. However, these findings cannot be interpreted in terms of American-American mothers' behavior being less beneficial to their children than European-American mothers' behavior. Various ecocultural factors can be suggested to contribute to the observed group differences.

First of all, as the sample description indicated, African-American mothers are often not the only caregivers and agents of socialization for their children. Within the sample from the South Carolina site, mothers' roles as caregivers may be limited to certain aspects of caretaking and socialization, such as teaching, controlling, or directing the child, while other caregivers are responsible for providing nurturance and affective quality of interactions, such as sensitivity, acceptance, warmth, etc. It is also possible that when the mother's role as a caregiver is limited, the mother might not actively engage in certain interaction behaviors with an expectation that others will provide them for her child. Thus, Heath (1983) in her detailed description of African-American community family life in South Carolina emphasized that the young child is virtually never left alone and that he/she most commonly spends all of his/her time in the company of many people rather than just the primary caregiver. In fact, infants are held, carried, and cuddled not only by family members but also by all residents of the community.

Further, the fact that parental beliefs and values regarding childrearing affect their interactions with children have been documented. For example, according to Heath (1983), African-Americans from South Carolina believe that adults are the only competent participants of interactions. Adults do not ask children questions or try to clarify what the child wants if the child attempts to express a desire. Caregivers believe they should not have to depend on their young children to tell adults what they need or when they are uncomfortable. Such an attitude of adult decision-making for the child

might contribute to both higher levels of directiveness and lower levels of responsiveness and sensitivity, exhibited by this sample of African-Americans.

It is also important to remember that mothers' interactions with disabled children may be qualitatively different from interactions with nondisabled children. Very little research has investigated cross-cultural variations in maternal interactions with children who are developmentally delayed. Therefore, the findings of this study need to be verified further in other populations.

Lastly, another factor that might partially account for group differences in interactions is the limited application of MBRS for various cultural/ethnic groups. This limitation of the rating system may be reflected in apparent group differences in maternal behaviors. However, while overall intra-item correlations among MBRS variables in this study were quite small, the fact that most correlations were in the same direction for both groups and the internal structure patterns of MBRS for both groups were similar might be interpreted in the sense that MBRS ratings as well as the coders were not culturally biased in any significant way. Further research is needed to complete the investigation of the appropriateness of the MBRS for use with different ethnic/cultural populations.

This study has focused on African-American and European-American mothers' interaction behaviors with their children who had or were at risk for disabilities. As expected, significant group differences were found in maternal interaction ratings, as measured by MBRS. The present study does not purport to draw conclusions about the absolute level of parenting quality of European-American versus African-American mothers or the appropriateness of their behavior for particular sociocultural contexts. This study represented an initial attempt to compare maternal interactions in two different sociocultural contexts within the population of children with developmental delays

through the use of MBRS. The investigation of the Maternal Behavior Rating Scale as a measurement tool of maternal interaction behaviors continues.

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Table 1

Disability Distribution

Type of Disability	Site	African-Americans	European-Americans
Intraventricular Hemorrhage	UT, SC, OH	43	90
Visual Impairments	LA, IL	6	21
Developmental Delays	IL, UT	0	22
Other Disabilities	IL, UT, OH	6	67

Table 2

Sample Characteristics

Demographic and Family Functioning Variables (T-tests)

	African-American (N = 55)		European-American (N = 200)		P Value
	\bar{x}	SD	\bar{x}	SD	
Child's Age (at taping)	28.5	33	32.3	5.7	.00
Child's Health	2.1	.5	2.0	.6	.19
DQ	67.4	21.4	67.2	23.3	.96
Mother's Age	27.8	6.5	30.2	5.7	.01
Mother's Employment (%)	35.2		41.7		.38
Mother's Education	12.4	1.9	13.4	2.1	.00
Income	12,163.6	12,942.9	30,911.9	23,192.6	.00
Two-Parent Families (%)	40.0		86.4		.00
Child Sex (% Female)	49.1		43.0		.42
# Siblings	1.6	1.5	1.4	1.3	.43
Child-Related Stress	118.2	21.0	111.1	21.2	.03
Other Stress	128.0	28.0	128.6	27.0	.88
Family Support	28.3	12.8	28.3	10.2	.98
Family Resources	109.3	21.3	119.8	20.3	.00
Cohesion	34.6	6.4	40.1	5.9	.00
Adaptability	20.8	5.7	22.6	6.2	.05
Stress Events	9.8	9.1	9.8	6.5	.94

Table 3

A Comparison of Maternal Interaction Ratings of African-American and European-American Mothers

Restricted Income Sample ($\leq \$32,500$)

Maternal Behavior Ratings	Group		Race F	Family Structure F	Race X Family Structure F	Sig. Covariates
	African- Americans n=53 Adj. \bar{x}	European- Americans n=125 Adj. \bar{x}				
Expressiveness	2.75	3.17	6.85**	.02	.01	
Enjoyment	2.69	3.03	6.66**	.08	.00	Mom Education
Warmth	2.70	3.00	4.36*	.21	.02	Mom Education
Sensitivity	3.04	3.30	4.08*	.28	.38	
Responsiveness	2.50	2.97	8.00**	.52	1.62	
Achievement	2.56	2.83	2.50	.16	.07	
Inventiveness	2.46	2.73	6.97**	.98	1.74	
Praise	1.89	2.32	2.96	.00	.73	
Pace	3.13	3.02	.11	4.10* [^]	.01	Child Age
Effectiveness	2.67	3.11	8.14**	.14	.06	Child Age
Acceptance	2.54	3.05	9.54**	2.26	.27	Mom Educaion
Directiveness	3.55	3.27	.48	4.64* [^]	.17	

* $p \leq .05$

** $p \leq .01$

[^] Single mothers scored higher than mothers from 2-parent homes

Table 4

Maternal Behavior Rating Scale Intra-Item Correlations

Restricted Income Sample ($\leq \$32,500$)

European-American=Above the diagonal (n=125)

African-American = Below the diagonal (n = 53)

	Express	Enjoy	Warmth	Sensit	Respons	Achieve	Invent	Praise	Effect	Accept	Direct	Pace	
Expressiveness	.74	.67	.35	.32	.19	.48	.33	.19	.55	.00	.27		
Enjoyment	.79		.69	.48	.52	.07	.54	.24	.40	.64	-.17	.26	
Warmth	.60	.68		.44	.46	-.05	.55	.16	.28	.66	-.19	.15	
Sensitivity	.15	.20	.53		.80	-.11	.39	.14	.72	.56	-.61	-.12	
Responsiveness	.15	.19	.54	.73		-.15	.45	.00	.73	.55	-.59	-.01	
Achievement	.25	.21	.09	.23	.00		.04	.43	-.05	-.18	.53	.37	$r_z^a = .88$
Inventiveness	.74	.69	.67	.24	.21	.12		.12	.41	.52	-.15	.18	
Praise	.26	.21	.28	.24	.24	.43	.29		.05	.11	.21	.19	
Effectiveness	.28	.32	.45	.62	.71	.23	.23	.37		.48	-.59	-.16	
Acceptance	.41	.52	.72	.58	.60	-.04	.48	.17	.54		-.42	-.06	
Directiveness	.14	.02	-.13	-.56	-.59	.19	.08	.03	-.50	-.41		.49	
Pace	.48	.39	.19	-.32	-.25	.13	.45	.14	-.19	-.06	.70		

^aCorrelation coefficient is based on Fisher Z transformations of the original correlations in the matrices