Sibling relationships: Perceptions of four- and five-year-old children and their mothers

Judith Bell Bray
Iowa State University

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Sibling relationships: Perceptions of four- and five-year-old children and their mothers

by

Judith Bell Bray

A Dissertation Submitted to the Graduate Faculty in Partial Fulfillment of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

Major: Child Development

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GENERAL INTRODUCTION

Until recently social scientists have mainly focused on the importance of parent-child interaction in the socialization process. Little attention was directed toward the influence of sibling interaction, even though researchers perceived the family as a "unity of interacting personalities" (Irish, 1964). Even when the family has been researched as a unit, the focus has been on the competencies associated with particular parent-child relationships and the roles peers play in the development of social skills (Pepler, Corter & Abramovitch, 1982).

Sibling relationships and interaction patterns have now become a major research focus; the once popular views of the negative attributes of sibling relationships are no longer being presented. Researchers have given more credence to the roles siblings play in the socialization process. There is no doubt that having a sibling is a significant experience in the life of a child, and strong emotional ties are present in the relationship. The bonds that exist between siblings can be described as:

"Siblings are similarly bound to one another through the care and help given by an elder to a younger, through cooperation in childhood games which imitate the activities of adults, and through mutual economic assistance as they grow older. Thus, through reciprocal material services sons and daughters are bound to fathers and mothers and to one another..." (Murdock, 1949, p. 9).

Sibling interaction has come to be recognized as a vital subsystem in the function of family life. Children move in a variety of social systems, and few children are restricted to parent-child interactions. Instead children have access to child-parent systems, child-peer systems and child-sibling systems; each system is characterized by different
interaction patterns as well as some interrelatedness (Pepler et al., 1982).

While the effects of the sibling interaction on the socialization process are still unclear, research studies have found certain behavior patterns prevail in sibling relationships. Major findings of these studies revealed that siblings spend a great deal of time interacting with one another (e.g., Abramovitch, Corter & Pepler, 1980; Dunn & Kendrick, 1981); in addition, different behaviors characterize the older sibling's actions toward the younger sibling and vice versa (e.g., Brody, Stoneman & MacKinnon, 1982; Stoneman, Brody & MacKinnon, 1984). Some studies have indicated that age interval does not influence sibling interaction (Abramovitch, Corter & Lando, 1979; Abramovitch et al., 1980); however, other studies found sibling ordinal position affected the types of behavior directed toward siblings by one another (Berndt & Buller, 1985).

Although little attention has been directed toward preschool children's perceptions of the quality of the sibling relationship, several descriptors have been identified as characteristics of the sibling relationship. For example, older children used social and caregiving terms in describing good siblings and recreational and abstract terms in describing bad siblings (Bigner & Jacobsen, 1980). In another study, interviews of school-aged children revealed that perceptions of the sibling relationship included the following qualities: intimacy, prosocial, companionship, similarity, nurturance of and by sibling, admiration of and by sibling, affection, dominance of and over sibling, quarreling,
antagonism, competition, parental partiality, and a general relationship evaluation (Furman & Burhmester, 1985).

According to Olson (1977), an "insider" (i.e., the person himself/herself) provides information on personal feelings and behavior as well as his/her perceptions of the other person. This viewpoint is more personal than that which is provided through observation and rating scales. Interviewing children helps uncover the subjective definitions about experiences and accesses children's perceptions about significant others and events in his/her environment (Yarrow, 1960). Therefore, children's perceptions of the sibling relationship are important to investigate; such information will provide insights to how young children perceive the child-sibling subsystem within the larger family unit. Perhaps, as understanding increases regarding young children's feelings and thoughts about the sibling relationships, parents may be helped to provide more empathetic guidance to sibling interactions.

This study was an attempt to obtain more information regarding 4- and 5-year-old children's perceptions of the sibling relationship. The four objectives in this study were to:

1. Investigate the perceptions of sibling relationship qualities of 4- and 5-year-old children with older siblings.
2. Investigate differences in 4- and 5-year-old children's perceptions of relationship qualities with their older sibling as a function of sex composition of the dyad.
3. Study the relationship among family constellation variables and the child's perception of the sibling relationship.
4. Examine the relationship between maternal perceptions and child perceptions of the sibling relationship.
Explanation of Dissertation Format

This dissertation contains a review of the literature relating to sibling relationships' perceptions and interaction patterns (Section I) and an article prepared for publication (Section II). The article contains a review of sibling research, a description of study procedures, the results of the study, and a discussion of the findings and implications for further research. Tables relevant to the article prepared for publication are presented in Appendix A. Additional appendices include examples of instruments and correspondence used in this study, a coding map of the data and supplementary tables.
SECTION I: SIBLING RELATIONSHIPS, INTERACTION PATTERNS
AND PERCEPTIONS: LITERATURE REVIEW
INTRODUCTION

Although past research has dealt primarily with the role parents play in the socialization process, the idea of the importance of sibling relationships is not new to developmental research or children's literature. Sibling relations and/or interactions have long been topics of both the literature and the scientific fields because of the significance of the sibling relationship in the lives of children (Jalongo & Renck, 1985). Reviews of the literature on sibling relationships suggest that imitation, dominance, agonism and prosocial behavior are characteristic behaviors found in sibling relationships (Summers, 1987). Interaction patterns of siblings, maternal behaviors and developmental implications have also been addressed in research studies (Dunn, 1983). Furthermore, variability found in sibling behaviors is not culturally bound; Whiting and Whiting (1975) found variability in behaviors between siblings in their study of children in six different cultures.

Siblings are a subsystem of the integral family unit. The roles siblings play are varied, ranging from companionship to emotional support. The sibling relationship is life long and the bonds that develop during childhood continue throughout adulthood. Papalia and Olds (1982) describe the sibling relationship as:

"The relationships we have with our brothers and sisters are, for the most part the longest-lasting ones we will have with anyone. They begin in infancy, long before we will meet our future spouses, and usually end in old age, generally long after our parents have died. Furthermore, there is an intensity and a specialness to these relationships that is rarely duplicated. These are the people who share our roots, who emerge from the same font of values, who deal
with us more objectively than our parents and more candidly than anyone we’ll ever know. Not surprisingly siblings are a major influence in our lives" (p. 271).

Even though siblings are a working subsystem, little attention has been placed on their viability as genuine agents of socialization. Irish (1964) contended that siblings are an important subgroup for research. Due to the uniqueness of the relationship, siblings perform many roles that are exclusive sibling functions. "Siblings exert power, exchange services, and express feelings in a reciprocal way with one another that is often not revealed explicitly in the presence of parents" (Bank & Kahn, 1975, p. 318). In mother absent/mother present laboratory studies, greater amounts of positive behavior are exchanged between siblings in the absence of the mother than in her presence (Brody, Stoneman & MacKinnon, 1986; Howe, 1987; Pepler, Corter & Abramovitch, 1982).

Bank and Kahn (1982), capitalizing on their roles as individual and family therapists, explored the sibling relationship in a clinical setting across ages relative to the reasons strong bonds develop between siblings. Clinical evidence revealed that bonding is fostered, in part, by the high accessibility siblings have with one another. Bank and Kahn viewed sameness in sex as well as closeness in age as key factors in facilitating access between siblings.
LITERATURE REVIEW

Perceptual Abilities and Sibling Relationships

An important consideration for understanding the sibling relationship is the children's perception of the sibling relationship. In order to conceptualize others, an individual must come to understand other's behaviors and come to understand others as persons (Shantz, 1983). Selman (1971) suggests perspective taking is an age-related social-cognitive skill; the young child fails to distinguish his/her thoughts and perceptions from the thoughts and perceptions of others. With increasing age, the child becomes aware that other persons have perspectives that may not be like his/her own perspectives. Selman believes that, although children are not entirely egocentric free, they are capable of conceptual role taking by six years of age.

In a review of literature on social cognition, Shantz (1983) suggests that, in their descriptions of others, children use a mixture of memory, language capabilities, attributions and attention-holding mechanisms in expressing these concepts. Children's descriptions of others change with age; before seven or eight years of age, children tend to define others in terms of their environment and observable behavior. During middle childhood, there is a shift toward describing others in terms of personality traits; in the adolescent years, others are defined within the framework of personality traits and situational factors.

Social-cognitive development also may be viewed as a shift from an egocentric to other orientation. The major changes in this mode of
thinking are centered around the child's ability or inability to differentiate. The young child in contrast to the older child tends not to: (1) clearly differentiate the psychological and physical aspects of a person; (2) differentiate observable aspects from underlying aspects of a person; (3) clearly differentiate his/her perceptions of a person from other persons' perception of a person; and (4) differentiate good and bad qualities within a person (Shantz, 1983). In integrating these concepts, Shantz (1983) draws a comparison to the child's understanding of his/her physical world (i.e., conservation and classification) by pointing out the younger child's inability to conceptualize and understand his/her physical environment.

However, Gelman and Baillargeon (1983) reviewed data that suggested the young child is much more capable of understanding the perspective of others than formally thought. They suggested that preschool children can successfully perform simple classification, conservation and number concepts under the right conditions. The researchers suggested that preschool children are not capable of performing all Piagetian tasks on the same level as older children; however, it is not clear as to what the preschool child's limitations actually mean (Gelman & Baillargeon, 1983).

It has been suggested that perceptual ability in young children may be associated with social sensitivity (Borke, 1971). Social sensitivity has been defined as the "ability to accurately perceive and comprehend the behavior, feelings and motives of other individuals" (Rothenberg, 1970, p. 335). Borke (1971) contended that, although social sensitivity increases with age, children as young as three years were aware that
other people had feelings and therefore were capable of interpersonal perception. For example, Borke (1975) adapted Piaget’s three mountain task to a more age-appropriate task for preschool children and found that 3- and 4-year-old children were capable of understanding another person’s perspective in that task.

Other research has dealt more specifically with children’s perspective-taking ability and the sibling relationship. In a teaching situation, where preschool-aged children were asked to teach younger siblings how to work a toy, Stewart (1983a) found that children who had greater perspective-taking ability were much more thorough in their teaching; perspective-taking males gave the most specific operating instructions, especially in same-sex dyads. Furthermore, Stewart and Marvin (1984) found a relationship between perspective-taking abilities and caregiving behaviors in preschool children. Perspective-taking children were more likely to offer caregiving behaviors to younger siblings; also, mothers tended to ask for assistance in caregiving when preschool children were perspective takers. In a more recent study, Howe (1987) found that it was not the child’s perspective-taking ability that was associated with the caregiving behavior; instead, the needs of the younger sibling were related to the caregiving behavior of the older siblings.

Interestingly, Dunn and Munn (1985) found that, by 18 months, children have the understanding of how to annoy a sibling and have some idea as to how the mother will react to the verbal appeals of the child. It seems that, some time during the course of the second year of life, children become aware of the emotional state of others and are aware of how
to either annoy or work to alleviate the situation by laughing, teasing or offering comfort and support. Furthermore, by age two, children were capable of expressing their own feelings as well as talking about the feelings of others (Dunn, Bretheron & Munn, 1987).

Little attention has been directed toward the study of perceptions of the quality of the sibling relationship. Koch (1960) examined the attributes and attitudes in sibling relationships of 5- and 6-year-old children and concluded that siblings do indeed influence one another. Among major findings related to the sibling relationship, Koch found: first-born females reported higher amounts of association with their siblings than first-born males; children in mixed-sex pairs preferred to play more often with other children than with siblings; and second-born children expressed preference for play with siblings more often than did first-born children. The reasons given for preference of others over the sibling were those relating to negative behaviors (i.e., bossing and fighting), while those reasons given for preference for playing with the sibling over other children were related to positive behaviors (i.e., companionship, protection, and general liking of the sibling). In addition, Koch (1960) reported that closely spaced, same-sex female pairs strongly identified with one another and that the first-born females enjoyed caregiving behaviors more if the sibling was the same sex.

In a study of younger elementary school children, Bigner (1974) found that children shifted from using concrete and egocentric descriptions of siblings to nonegocentric and abstract descriptions. Furthermore, the liked qualities of siblings were described in more detailed nonegocentric
and abstract terms. Children in closely spaced dyads used more detail in their descriptions of the older sibling than did the children in widely spaced dyads. In an investigation of 5- to 13-year-old children's perceptions of a "good" or "bad" sibling, Bigner and Jacobsen (1980) asked children to describe their siblings. Children tended to describe siblings in terms of social behavior (e.g., not doing things that were wrong), caregiving behavior (e.g., sharing), recreational activities (e.g., playing with sibling), and abstract behavior (e.g., a pest). Males and females described siblings differently; males used social and recreational behaviors and females used caretaking and abstract behaviors to define "goodness" in a sibling. In addition, sex composition and age-spacing influenced the perception of sibling roles. Perceptions of a "good" sibling were described in terms of caregiving behaviors (i.e., nurturing, helping, or assisting) and perceptions of a "bad" sibling were described in terms of social and abstract terms (i.e., unwillingness to play).

Using a self-report questionnaire, Furman and Burhmester (1985a) examined school-aged children's perceptions of their personal relationships in their social networks and found that children seek different functional roles from different people. Parents were looked to for affection, reliable reliance, enhancement of worth and instrumental aid. Friends received the highest ratings for companionship and shared the highest rating with mothers for intimacy. Sibling relationships were perceived as those with the most conflict, but were also viewed as an important source for companionship. Children also reported that their sibling
relationships were not particularly satisfying. In addition, family con-
stellation variables affected the relationship qualities; older children
were more often sources of instrumental aid, while same-sex siblings,
especially those that were close in age, were sources of intimacy and
companionship.

In a related study, Furman and Burhmester (1985b) interviewed school-
aged children on their perceptions of the qualities of their sibling
relationships. The interview data were analyzed by dividing the verbal
protocols into thought units; judges classified the thought units into
categories based on the similarities of the statements. They identified
16 sibling relationship qualities: intimacy, prosocial behavior, com-
panionship, similarity, nurturance by sibling, nurturance of sibling,
admiration by sibling, admiration of sibling, affection, dominance by
sibling, dominance over sibling, quarreling, antagonism, competition,
parental partiality and a general relationship evaluation. Using the 16
relationship qualities previously identified, Furman and Burhmester
(1985b) developed a self-report questionnaire that was administered to
fifth- and sixth-grade children. From this phase of the study, they
found that family constellation variables influenced the sibling
relationship; same-sex siblings felt closer to one another than mixed-sex
siblings. Closely spaced dyads had the strongest feeling of warmth and
closeness; however, they also had the highest level of conflict. Older
siblings, especially in widely spaced dyads, reported having greater sta-
tus and power than younger siblings. There is some asymmetry in the sib-
ling relationship; older siblings show more positive qualities (e.g.,
nurturance and admiration) but they also have more power and status qualities.

Sibling Interaction

While the effects of sibling interaction on the socialization process are still unclear, behavior patterns have been identified that prevail in sibling relationships. Abramovitch, Corter and Lando (1979) observed sibling pairs in the home and reported that in same-sex sibling pairs of preschool-aged children (mean: 20 months for the younger sibling and age spacing ranging from 1-4 years), older children initiated more prosocial and agonistic behavior than younger siblings. Older females showed more prosocial behavior over all groups, and younger siblings imitated more often than older siblings. Abramovitch, Corter and Pepler (1980) reported similar results with mixed-sex pairs; older children initiated more prosocial and agonistic behaviors than younger siblings, and younger siblings showed more imitative behavior than older siblings. Furthermore, the behavior patterns, reported in the earlier studies, were similar 18 months later (Pepler, Abramovitch & Corter, 1981); however, over the 18-month period both younger and older siblings showed higher amounts of prosocial behavior.

In a follow-up study, which occurred three years after the initiation of the study, Abramovitch, Corter, Pepler and Stanhope (1986) reported that sibling interaction patterns continued to be similar to those reported in previous studies. Older children initiated more prosocial and agonistic behaviors than younger siblings, and younger siblings engaged
in more imitative behaviors than older siblings. In addition to examining sibling interactions, the authors conducted naturalistic observations of these children's peers in dyad situations in the home and failed to find any consistent patterns of correlation between sibling and peer interaction behaviors. However, several trends did appear: (1) both older and younger siblings showed more prosocial and play-related behavior with peers than with each other; (2) the visiting peer assumed a less dominant role in interactions in dyad situations with both the older and younger siblings; and (3) there was no difference in the amount of prosocial, agonistic and imitative behavior in the older and younger peer dyads.

In the initial and follow-up studies, Abramovitch and her colleagues reported high levels of sibling interactions; also, the age interval between the sibling pairs, as well as the sex composition of the dyad, had little effect on the sibling interaction. The researchers suggested that siblings do play an important role in the child's socialization process due to the great amount of time they spend together.

However, Teti, Bond and Gibbs (1986) found that infant children in widely spaced dyads engaged in higher amounts of reciprocal social play with older siblings than did children in closely spaced dyads. Furthermore, infants with older siblings of three or more years experienced a more intellectually and socially stimulating environment because of the older sibling, indicating that age spacing had a direct influence on sibling behavior.
Dunn and her colleagues have accumulated a vast amount of data on sibling relationships (Dunn & Kendrick, 1981a, 1981b, 1982a, 1982b; Dunn & Munn, 1985; Dunn, Bretherton & Munn, 1987) which focuses on communication between mother and child about the younger sibling and the roles siblings play in the development of prosocial behavior. In a study of the impact of mother-child (i.e., older sibling) interaction patterns on the quality of the sibling relationship, Dunn and Kendrick (1981a) found that older female siblings directed low amounts of positive behavior toward the younger sibling when the mother-child interaction was previously dominated by high amounts of joint play and maternal attention. This finding held regardless of the younger sibling's sex. Furthermore, the younger sibling also directed little positive behavior toward the older sibling under the same mother-child patterns of interaction. However, if the interaction between the mother and older sibling had been prohibitive or controlling in nature, the older female sibling showed higher amounts of positive behavior directed toward the younger sibling. There was no evidence of this pattern of interaction for older male siblings in the study.

In a later study, Dunn and Munn (1986) found that, although younger siblings were capable of performing positive/prosocial acts toward older siblings, the motivation to do so was not present; the older siblings were more likely to perform prosocial acts than younger siblings. Dunn and Kendrick (1982a) have found differences in the behaviors of the sibling pairs, especially for first-born boys. In a 6-month period, same-sex sibling pairs showed a significant increase in the amount of friendly
behavior directed toward one another and no increase in the amount of hostile behavior, especially if the older sibling had been interested in and affectionate toward the sibling at birth. However, mixed-sex pairs showed an increase in the amount of aggressive behaviors; also, the younger sibling did not show an increase in the amount of positive behavior directed toward the older sibling.

In examination of the interaction patterns between preschool-age children and younger infant siblings, Lamb (1978a) reported that, even though older siblings offered toys and vocalized to their younger siblings and the younger siblings imitated and followed the activities of the older sibling, the siblings engaged in more parent-child interactions than child-child interactions. Similar findings in a short term longitudinal study (Lamb, 1978b) indicated that interaction patterns of the siblings were differentiated (e.g., older siblings acted as leaders and younger siblings served as followers), and siblings directed more social behavior toward the parents than toward each other.

However, Lamb (1978a, 1978b) found that younger children showed high levels of imitative and monitoring (observing) behaviors which is consistent with the interaction patterns reported by Abramovitch and Dunn in their longitudinal studies. Furthermore, Dunn and Kendrick (1982b) contended that salience is an important feature of the sibling relationship; younger and older siblings paid attention to one another, reflecting the frequency of interaction between the siblings.
Similar results regarding sibling interaction patterns have been found when researchers have examined the interaction patterns of preschool-age children with older siblings. If the preschool-age child is the younger member of the pair, he/she received more prosocial and aggressive behavior from the older sibling; however, if the preschool-age child is the older member of the pair then he/she showed more dominant behavior toward the younger sibling (Berndt & Bulleit, 1985).

In order to gain more knowledge about sibling interactions, researchers have focused on the roles that are assumed by elementary school-aged children and their younger siblings (Brody, Stoneman & MacKinnon, 1982, 1986; Brody, Stoneman, MacKinnon & MacKinnon, 1985; Stoneman, Brody & MacKinnon, 1984). A clear differentiation of roles was assumed during sibling-child interactions; older siblings assumed more dominant roles in their interactions with younger siblings, while the younger sibling assumed the observer helpee role in compliance with the older sibling. When the older sibling’s friend was involved in the interaction, there was a decrease in the amount of dominant behavior displayed by the older sibling toward the younger sibling; however, the interaction was not as equalitarian in nature as peer-peer interaction (Brody, Stoneman & MacKinnon, 1982). Furthermore, when older children showed helpful and prosocial behavior toward younger siblings, they tended to have mothers that reported themselves as open to experience, enjoying parenting and encouraging of curiosity (Brody et al., 1986).

Minnett, Vandell and Santrock (1983) examined interactions between 7- and 8-year-old children and their siblings and reported that first-born
7- and 8-year-old children were more likely to praise, teach and show dominant behavior toward their siblings than second-born 7- and 8-year-old children. In addition, widely spaced 7- and 8-year-old children (3- to 4-year interval) were more likely to show positive behaviors (i.e., affection and high activity) toward one another than closely spaced siblings (1- to 2-year interval). Brody et al. (1985) extended their research on role relationships to compare behaviors of preschool-aged with school-aged sibling pairs in order to examine the effects of age and gender on the amount of prosocial and agonistic behaviors that siblings demonstrate toward one another. Age group and sex influenced the behaviors; school-age females exhibited more prosocial behavior toward one another than any other dyad in the study and also assumed the teacher role more often than any other group. Preschool-age males showed the highest amounts of agonistic behaviors.

Maternal Influence

There are a number of studies concerning the influence of maternal absence and presence on the interaction patterns of children with peers and siblings. Overall, the investigations have provided evidence that maternal interaction patterns with children plays an influential role in the quality of sibling relationships (e.g., Baskett, 1986; Dunn & Kendrick, 1982b; Howe, 1987; Robb, Mangelsdorf & Fury, 1987). In families where the mother and older sibling engaged in active discussions relating to the younger sibling’s needs and feelings, the older sibling was more
likely to be aware of the younger sibling's wants, likes and needs. Furthermore, if discussions about the younger sibling had taken place between the mother and older sibling, more positive, friendly behaviors toward the younger sibling were shown by the older sibling over time. This also led to the younger sibling showing positive, friendly behavior toward the older sibling (Dunn & Kendrick, 1982b).

In observing interactions between children and other family members in the home, Baskett and Johnson (1982) reported that children directed more behavior toward parents than toward each other, and interactions between the siblings were more negative in nature (i.e., annoying activities, yelling, nonverbal activities and negative commands) than positive. In a study on the effect of maternal presence on sibling interaction patterns, Baskett (1986) compared sibling behaviors in mother-present and mother-absent situations. When the mother was present, siblings tended to be more helpful, interacting and attending than when mother was absent. On the other hand, when mother was absent, the behavior was more ignoring and teasing; it also involved more independent play between the siblings. However, Corter et al. (1982, 1983) found that the frequency of interaction between the siblings was lower and more agonistic in nature when the mother was present than when she was absent. Howe (1987) reported that siblings engaged less positive interaction in the presence of the mother as compared to when the mother was absent.

Sex composition of the dyads influenced the types of behaviors emitted (Baskett, 1986). During the mother-present situation, same-sex sibling pairs were more helpful and attending to one another than were the
mixed-sex dyads who were more disapproving, ignoring and independent. The pattern of interaction that was characteristic when the mother was present decreased for both mixed- and same-sex dyads when the mother was absent.

In studies of sibling attachment, it has been shown that siblings serve as attachment figures for one another. Stewart (1983b) found that older siblings responded with comfort to a distressed sibling in the absence of the mother; in the presence of a stranger, the younger sibling actively sought out the older sibling for comfort and a secure base.

Dunn and Kendrick (1982a) interviewed mothers and collected maternal reports about their preschool children’s behavior toward their infant siblings. In addition to the maternal interviews, observations of the interaction patterns of the siblings were conducted. The maternal reports and the observational data were congruent with one another. For example, children reported by their mothers to be physically affectionate toward their infant siblings were also observed to hold the infant more during the observation.

Summary

Numerous research studies indicate that siblings have a significant influence in the socialization of one another (e.g., Dunn, 1983; Furman & Burhmester, 1985b). It also has been shown that family constellation variables influence the roles that siblings assume in certain situations (Brody et al., 1982; Stoneman et al., 1984).
Sibling status variables are influential in the quality of the sibling relationship and the roles that are assumed in the sibling interaction. Narrowly spaced, same-sex sibling dyads show more companionship, intimacy and conflict than widely spaced mixed-sex dyads (Furman & Burhmester, 1985a and 1985b; Minnett et al., 1983). Older siblings assume a more dominant, but yet a more nurturant, role in sibling interaction, especially in widely-spaced dyads (Furman & Burhmester, 1985a, 1985b; Brody et al., 1982, 1986; Stoneman et al., 1984). Same-sex sibling dyads show more prosocial behaviors than opposite-sex dyads (Abramovitch et al., 1979; Dunn & Kendrick, 1982a; Furman & Burhmester, 1985a, 1985b). Dunn and Kendrick (1982b) found that emotions between siblings varied from comfort and concern to ambivalence and hostility; however, there were great individual differences in the sibling relationships.

Both positive and negative perceptions on the part of the child have been reported regarding the sibling relationship. These perceptions are influenced by the sex and age of the siblings (Bigner & Jacobsen, 1980; Furman & Burhmester, 1985b). Most of these studies have been conducted with school-age subjects.
REFERENCES CITED


SECTION II: SIBLING RELATIONSHIPS: PERCEPTIONS OF FOUR- AND FIVE-YEAR-OLD CHILDREN AND THEIR MOTHERS
INTRODUCTION

Although emphasis has been placed on parents as the primary socializing agents in the lives of children, researchers have discovered the varied and important roles that siblings play in the socialization process. Irish (1964) suggested that siblings are an important subgroup for family life research. The sibling relationship is somewhat autonomous in its functions; siblings serve as identifiers, regulators, teachers, guardians, models, and caretakers (Bank & Kahn, 1975; Furman & Burhmester, 1985). While there is recognition that siblings influence one another's lives, the exact nature of that influence may be dependent on a variety of factors and also vary considerably among sibling dyads (Furman & Burhmester, 1985).

While a number of investigators have focused their investigations on the interaction patterns of siblings (Abramovitch, Corter & Lando, 1979; Abramovitch, Corter & Pepler, 1980; Abramovitch, Corter, Pepler & Stanhope, 1986; Dunn & Kendrick, 1981, 1982; Whiting & Whiting, 1975), less attention has been paid to siblings' perceptions and attitudes toward each other. Therefore, there is a need to investigate further the multifaceted and qualitative aspects of the sibling relationship (Furman & Burhmester, 1985).

The major goal of the present research was to investigate the qualities of the 4- and 5-year-old child's sibling relationship through the assessment of the child's perception of the relationship. For purposes of this study, 4- and 5-year-old children were interviewed about their
relationship with their next oldest sibling. The children's responses to
the interview were considered as important sources for further explora-
tion of the qualitative aspects of the sibling relationship, particularly
as it is viewed by the younger 4- to 5-year-old sibling in the dyad. In
addition, the congruence of the mother's perception with the child's per-
ception of the sibling relationship was of interest in the present study.

From observational studies, research has indicated that young sib-
lings spend a great deal of time interacting with one another
(Abramovitch et al., 1979; Abramovitch et al., 1980; Dunn & Kendrick,
1981, 1982). Some observational studies and ratings by others of the
interaction patterns revealed that diversity in the sibling relationship
among preschool children and their younger siblings may be a function of
the age of the siblings, rather than the sex composition or age spacing
of the dyad (Abramovitch et al., 1979, 1980; Pepler, Abramovitch &
Corter, 1981). For example, Abramovitch and her colleagues (1979, 1980)
conducted several studies with preschool-aged children and their younger
siblings and found that older female siblings engage in more prosocial
behavior than any other group, while older males were more physically
aggressive than any other group. Furthermore, older children engaged in
more prosocial and agonistic behavior than their infant siblings, while
the younger siblings engaged in imitative behavior more often than their
older siblings (Abramovitch et al., 1979, 1980; Pepler et al., 1981).
These patterns of interaction between younger siblings and older siblings
remained stable over a three-year period (Abramovitch, Corter, Pepler &
Stanhope, 1986).
While the child's view is a subjective look at the relationship, it merits attention as a measure of personal meaning attached to the sibling relationship. Olson (1977) advocated a multimethod approach to obtain a more complete understanding of the intricacy of interpersonal relationships. Using information from the insider's point of view, as well as information from an outsider's point of view, provides a more in-depth understanding to the complex sibling relationship. Yarrow (1960) suggested that interviewing children helps uncover the subjective definitions about experiences and helps to access children's perceptions about significant others and events in his/her environment.

Therefore, children's perceptions of the sibling relationship are important to investigate; such information will provide insights to how young children perceive the child-sibling sub-system within the larger family unit. An important consideration in regards to interviewing children about others is the child's ability to understand the behavior of others. While there may be some question regarding the level of children's capabilities as perspective-takers (Shantz, 1983), there is literature that suggests that young children are not as preoperationally bound as once thought (Gelman & Baillargeon, 1983).

In fact, Dunn and her colleagues (Dunn, Bretheron & Munn, 1987; Dunn & Munn, 1985) suggested that children two years of age and under have some understanding about the feelings of others. For example, children as young as 18 months had the understanding of how to annoy a sibling; somewhere in the second year, children became aware of the emotionality
of others and worked to alleviate situations by laughing, teasing or offering comfort (Dunn & Munn, 1985).

Research efforts directly related to the child's perspective-taking ability and the sibling relationship have been limited. However, research results have indicated that children who have greater perspective-taking ability are those who give more thorough instructions to younger siblings on how to work a toy (Stewart, 1983) and offer assistance to distressed younger siblings (Stewart & Marvin, 1984).

Perceptions of the quality of sibling relationships have been documented for older children in studies by Furman and Burhmester (1985) and Bigner and Jacobsen (1980). Older children used a variety of descriptors in discussing their sibling relationships. For example, in a two-phase study, Furman and Burhmester (1985) interviewed upper elementary school-aged children about their sibling relationships and found they mentioned a number of qualities related to the sibling relationship. Those qualities listed most frequently were: companionship, affection, intimacy, prosocial behaviors, quarreling, antagonistic behaviors, and admiration of sibling. On the basis of these interviews, Furman and Burhmester (1985) developed a self-report rating scale to assess the previously identified qualities and administered the questionnaire to another sample of upper elementary school children. Through factor analysis, warmth/closeness, relative status/power, conflict and rivalry were identified as four factors underlying sibling relationships. In addition to identifying these factors, family constellation variables were examined. Children, in same-sex, narrowly spaced dyads, reported greater amounts of
closeness to siblings than children in mixed-sex, widely spaced dyads. In addition, when the subjects were the older sibling in the dyad, they reported offering more nurturance toward their younger sibling as well as being dominant over the younger sibling. The reverse was true when the subject was the younger member of the sibling dyad. Children in narrowly spaced dyads reported more conflict with siblings than children in widely spaced dyads.

In another study, Bigner and Jacobsen (1980) investigated second-born 5- to 13-year-old children's perceptions of the "goodness" and "badness" in sibling roles. In describing their siblings, older children used social, recreational, caregiving and abstract behavior as descriptors for defining qualities that made a "good" or "bad" sibling. Furthermore, sex of sibling and age spacing between siblings affected the perception of the sibling relationship. Children with older brothers tended to use caretaking and recreational terms in their descriptions of a "good" sibling, while children with older sisters used social and abstract terms in describing the "good" sibling. However, sex composition of the sibling dyad also affected the description; mixed-sex dyads used more social and caretaking terms in their descriptions than same-sex dyads. Children in closely spaced dyads described their sibling roles in more detail than those children in widely spaced dyads (Bigner & Jacobsen, 1980).

In a study in which young children were interviewed about their sibling relationship, Koch (1960) reported that first-born females reported higher amounts of association with their siblings than first-born males. Koch also found that children in mixed-sex pairs preferred to play more
often with other children than with their siblings. Closely spaced female pairs identified more with one another and caregiving behaviors were enjoyed more by first-born females when the sibling was the same sex.

Relatively little is known about how mothers perceive the relationships that preschool-aged children have with their siblings. Dunn and Kendrick (1982) interviewed mothers and collected maternal reports about their preschool children's behavior toward their infant siblings. In addition to the maternal interviews, observations of the interaction patterns of the siblings were conducted. The maternal reports and the observational data were generally congruent with one another. For example, children reported by their mothers to be physically affectionate toward their infant sibling were also observed to hold the infant more during the observation. Stillwell (cited in Stillwell & Dunn, 1985) found in a 1984 study, when interviewing 6-year-old children and their mothers about sibling relationships, that there were large individual differences in children's perceptions of the sibling relationship. She also found that 6-year-olds used more positive and negative affective terms when describing their siblings than parents or friends. Also reported by Stillwell was high agreement between independent reports and child reports of the sibling relationship. However, Stillwell and Dunn (1985) explored the continuities of sibling relationships in 6-year-old children with younger siblings and failed to find the relationship between children's and maternal reports of the relationship that was previously reported by Stillwell in 1984. However, there were significant correlations between
the positive comments made by the children when they were two and three years old and the percentage of positive comments made when the children were six years old. Furthermore, the child's positive comments directed toward the sibling when the child was two and three years of age were correlated with the maternal measure of the relationship when the child was six years old.

Previous studies have shown that maternal presence influences the interaction between siblings (Baskett, 1986; Baskett & Johnson, 1982; Howe, 1987). Mother's ratings were included in the present study to explore the congruence between the child's and mother's perceptions. Congruence may serve to validate the young child's perceptions; on the other hand, lack of agreement should spur further study regarding its meaning. For example, lack of agreement could mean that siblings generally do behave differently in the presence of the mother, or there might be a lack of sensitivity to actual feeling revolving about the relationship.

In the present study, 4- and 5-year-old children's perceptions of their relationship with their next older sibling were examined as a function of the sex composition and age spacing of the dyad. On the basis of the literature reviewed relating to sibling perceptions, it was hypothesized that mixed-sex sibling dyads would perceive their siblings as less affectionate, more antagonistic and lower in companionship than children in same-sex sibling dyads. Furthermore, mixed-sex sibling dyads would perceive their siblings as more agonistic in nature than same-sex dyads. It was hypothesized that age spacing would influence the perceptions of the sibling relationship; closely spaced siblings would perceive their
siblings as more intimate/affectionate and more as companions than would widely spaced dyads.

Specifically, the objectives of the study were to: (1) investigate the perceptions of sibling relationship qualities of 4- and 5-year-old children with older siblings; (2) investigate differences in 4- and 5-year-old children's perceptions of relationship qualities with their older sibling as a function of sex composition of the dyad; (3) study the relationship among family constellation variables and the child's perception of the sibling relationship; and (4) examine the relationship between maternal perceptions and the child's perception of the relationship.
METHOD

Subjects

The subjects in this study were 106 4- and 5-year-old children enrolled in preschools and day care centers in a midwestern university community. The Hollingshead Two Factor Index of Social Position (Hollingshead, 1957) was used to determine the socioeconomic status (SES), taking into account the educational and occupational level of the parents. The mean social position for both the father and the mother was Class II. Based on the sex composition of the sibling pair, four groups of sibling dyads were studied: 21 younger boys with older brothers, 35 younger boys with older sisters, 29 younger girls with older brothers and 21 younger girls with older sisters. The subjects ranged in age from 4.0 years to 5.11 years (mean: 4.7 years). Age spacing between the siblings ranged from 10 months to 9.5 years (mean: 3 years). Mothers of these children provided demographic information and a rating of the sibling relationship for seven different relationship categories.

Measures

Sibling Interview

In order to obtain information from 4- and 5-year-old children about perceptions of their relationships with their older siblings, an interview schedule was developed which was designed to optimize responses from the young child (Bray, 1988). The interview was developed with some questions adapted from those used by Furman and Burhmester (1985) and
Dunn (personal communication, Dept. of Individual and Family Studies, Penn State University, May 1987); additional questions were developed through pilot testing. The interview consisted of three parts: (1) open-ended interview questions; (2) yes/no questions with probes; and (3) questions about picture sets portraying siblings in positive and negative interactions.

There were four open-ended questions with a series of standard probes designed to elicit responses from the child about the sibling relationship: (1) "What is it like having a brother/sister?"; (2) "Tell me some of the things you and ____ do when you are together"; (3) "What are the things you like about ____?"; and (4) "What are the things you don't like about ____?" Following each question, there were three probes administered to foster more conversation about the older sibling (e.g., "Tell me more."). The second part of the interview had 18 yes/no questions that were directly related to the open-ended part of the interview but were more specific (e.g., "Does ____ do things to make you cry?"). Following each yes/no question, an additional probe was given to foster conversation with the child (e.g., "What does ____ do to make you cry?"). The third part of the interview had 10 picture sets of black and white line drawings of sibling pairs portrayed with neuter sex in various types of interaction (e.g., sharing blocks/not sharing blocks). A descriptive statement was matched to each picture set and the child was asked to point to the picture that was most like his/her older sibling (e.g., "This is a picture of a boy who is not sharing blocks with his sister. This is a picture of a boy who is sharing blocks with his sister. Which
is most like ____?". The picture sets were modeled after a self-concept scale (Crase & Mahtaney, 1981).

Maternal Rating Scale

A maternal rating scale of sibling relationships was developed (Bray, 1988). The scale was based on the categories of observed sibling behavior reported in the literature; the literature included studies in sibling interaction patterns and sibling perceptions. The maternal rating scale, which was developed by the researcher in consultation with other child developmentalists, has seven categories indicative of the sibling relationship: intimacy/affection, prosocial, companionship, aggression, antagonism, dominance, and imitation. Mothers were asked to rate the behavior of the older sibling toward the younger sibling as well as the behavior of the younger sibling toward the older sibling. A certainty scale, ranging from 1-99 (1 = rarely, 50 = occasionally, and 99 = often) was utilized for the ratings (Wolins & Dickinson, 1973). Before the finalization of the maternal rating scale, three child developmentalists reviewed the scale and provided feedback on the wording and organization of the items.

Procedure

The children who participated in this study were from 14 preschools and day care centers. Parents were contacted directly through the centers after the support of the center director was given. Only 4- and 5-year-old children with older siblings were eligible to participate in the
study, thus a large number of centers were contacted. At the time parental consent was granted, demographic information was requested from the parents regarding the child's name and date of birth as well as the name and date of birth for the next oldest sibling. The name of the sibling was requested in order to personalize the interview with the 4- and 5-year-old child as well as provide clarity for the child and the interviewer regarding the identity of the target sibling for the interview. If the child had more than one older sibling, the next oldest sibling was identified as the focus of the interview for the specific relationship.

Each child was individually interviewed about their older sibling. The interview was administered in the same order for all 106 children. The interviews were conducted by the investigator and one assistant; both interviewers were female Child Development graduate students who had experience working with young children. With the exception of three children who were interviewed at home, all the children were interviewed at the preschool or day care center where they were currently enrolled. The interviews were handwritten and also audio-taped for the purpose of checking accuracy of the written version.

The children were taken to an area separate from the ongoing classroom activities. A period of time was spent playing with play dough to help establish rapport between the interviewer and child. When the interviewer felt that a comfortable atmosphere had been established, the interview process was initiated. The interviewer began by telling the child, "Today we are going to talk about your brother/sister." The child was asked to name his/her older brother/sister and was asked to pretend
that their sibling was the one pictured in a black and white line drawing. The line drawing was portrayed in neuter sex. If the child had more than one older sibling, the interviewer told the child which sibling was the target child for the interview. It was explained to the child that the tape recorder was being used to help the interviewer remember what they talked about; but the interviewer also would be writing down what they talked about. The interview began with the open-ended question, "What is it like having a brother/sister?"

The interview lasted approximately 20 minutes. After the interview had been completed, the child was thanked for talking to the interviewer, given a sticker for his/her participation, and reintroduced to the activities in the classroom.

A maternal rating scale and a short questionnaire requesting some background information (i.e., age, education and occupation of parents, date of birth, ordinal position of the siblings, and total number in household) was sent home with the parent when the child was picked up from school. A self-addressed stamped envelope was provided for the parents' convenience in returning the forms.

**Coding of Responses**

After the interviews had been completed, the primary investigator listened to each audio-tape to insure accuracy of each hand-written interview. After the interviews had been transcribed and typed, the verbal protocols were divided into thought units. A definition of a thought unit was adapted from Furman and Burhmester (1985). For the purposes of
this study, a thought unit was defined as any singly expressed unit of thought that did not reflect a change in thought, idea, behavior or action.

The investigator and another child developmentalist developed further criteria for division of protocols into thought units; they trained on dividing thought units until interrater reliability was satisfactory (range 74-100%; mean: 93%). Training of the division of thought units was carried out using the pilot data. Once satisfactory interrater reliability had been obtained, the investigator completed dividing the verbal protocols into thought units. Periodic checks for reliability in dividing protocols into thought units were made.

After the protocols had been divided into thought units, the investigator and the child developmentalist trained on the classification of thought units into the following categories: intimacy/affection, prosocial, companionship, aggression, antagonism, dominance, imitation, general positive, general negative and no response. The majority of these categories were derived from the literature as also was reflected in the maternal rating scale. Three additional categories (i.e., general positive, general negative and no response) were developed to handle more global behaviors as well as those instances in which the child made no response to a question. Once satisfactory interrater reliability was obtained (range 89-100%; mean: 96%), a coding manual was developed, defining each of the categories and listing specific examples for each category.
Next, two judges were trained to classify the thought units into the existing categories. Both judges were females with Child Development backgrounds. Each judge was given a coding manual with specific examples from each category (Bray, 1988). Initially the investigator and the two judges met and reviewed the training materials. The investigator discussed each category definition and the specific examples for each category. In addition, the conventions for judging certain types of thought units were reviewed. Following the initial training period, the investigator and the two judges met and trained on the classification of thought units using the verbal protocols obtained during pilot testing. After satisfactory interrater reliability was established (80-92%; mean: 86%), each judge was given a set of 10 verbal protocols to judge independently. A reliability check was made after the first set of 10, and interrater reliability was 90% for the two judges. Following the initial reliability check, each judge was given the verbal protocols to classify, and periodic reliability checks were made throughout the classification process. Interrater reliability ranged from 65 to 97%, with a mean of 85% throughout the classification process.

Scoring

In order to analyze the data from the sibling interview, preliminary analyses were computed within each category. Frequencies were computed for each relationship category by a judge and transformed using Tukey-Freeman transformations (Table 1). The transformed variables were intercorrelated across judges and questions. In addition, yes/no probes were
intercorrelated. The preliminary analyses were computed within each category. In each case it was observed that the correlations were generally low, but positive, except for antagonism and imitation. These two categories were dropped. For the remaining categories, a single score was derived by adding across judges and questions. Table 2 presents judge reliability for each category by question. In addition to the judge reliability within questions for each relationship category, judge reliability was computed across questions for each relationship category. Interquestion reliability ranged from .48 to .86. The relatively low reliabilities reflected variability from question to question. The relatively high reliabilities reflected interjudge agreement when the judges responded to the same question.

The picture sets resulted in a score derived from the positive and negative responses. Two of the picture sets were reversed for the positive and negative scoring; scores ranged from 4 to 14, with a higher score reflective positive behavior.

Ratings of the Maternal Rating Scale (MRS) were made on a certainty scale ranging from 1 to 99. These scores were transformed according to a
program developed by Wolins and Dickinson (1973). The transformations weigh response differences at the extremes of the scale more heavily than those in the center of the scale. Normal deviates replace the existing score in the following manner: 1 - -2.33, 50 ~ 0.0 and 99 - 2.33. These transformations improve reliability and/or validity on affective scales.

Because two categories were highly correlated, they were joined to form a single category for the mother's ratings of the younger sibling toward the older sibling and older sibling toward younger sibling. The categories of intimacy/affection and prosocial were combined and considered as the prosocial category. Ratings of the young sibling's behavior toward the older and the older sibling toward the younger were correlated .63 and .62, respectively. Furthermore, the categories of aggression and antagonism were combined and considered as the aggression category (r = .62 for younger toward older; .71 for older toward younger). Thus, the categories on the MRS were reduced from seven to five. Table 3 represents the categories of maternal ratings utilized in the analysis.

The responses to the yes/no items in the sibling interview were factor analyzed to determine the factors measured in that section of the instrument. The factor analytic procedure utilized was the iterative least squares, and the rotation procedure was varimax.
RESULTS

Two sets of MANOVAs were computed. The first one involved 10 dependent variables derived from the children's responses to the sibling interview. The independent variables were derived from the ages and sexes of the sibling pairs. The second MANOVA involved 10 dependent variables derived from maternal responses and the independent variables used in the first analysis.

Of the eight MANOVAs, only one was significant \[ F(10,82) = 3.71, p = .0004 \], suggesting younger 4- and 5-year-old children were more likely to attribute intimacy/affection to their older siblings than older 4- and 5-year-old children. The univariate statistic based on the Type III Sums of Squares (SAS Institute Inc., 1985) did not reach the same level of statistical significance \[ F(1,91) = 6.57, p = .0120 \].

MANOVA results indicated that in general children's responses did not vary according to the ages and sexes of the sibling pairs. However, the univariate analysis indicated several trends emerging from the data. Sex of the sibling affected the child's general positive perception (e.g., "He's nice") of the sibling \[ F(1,91) = 5.22, p = .0247 \]. Children with older sisters perceived their siblings in a more general positive manner (mean = 21.64) than did children with older brothers (mean = 19.34). There appeared to be a trend for age of child x sex of sibling effect for companionship \[ F(1,91) = 4.35, p = .04 \]. Older 4- and 5-year-old children with female siblings (mean = 25.90) and younger 4- and 5-year-old
children with male siblings (mean = 24.8) tended to see their older sib­
lings as more of a companion than those older children with male siblings
(mean = 21.7) and younger children with female siblings (mean = 23.5).

MANOVAs on the maternal responses revealed only one significant
result \( F(10,73) = 2.06, p = .05 \), suggesting an age of child x sex of
sibling effect. Older 4- and 5-year-old children with female siblings
were reported by mothers as receiving higher levels of companionship from
their older siblings \( F(1,82) = 7.79, p = .006 \) than any other group.

Pearson product-moment correlations were computed to explore the
relationship among children's and maternal perceptions of the sibling
relationship. In addition, the correlations among perceived relationship
qualities, maternal ratings, and demographic characteristics were
explored.

Only a few correlations were significant when the relationship cat­
egories which were derived from the interview were correlated with each
other and with other variables. The category of general positive was
significantly related to the age of the sibling \( r = .24, p < .01 \). As
siblings increased in age, the child was more likely to report higher
levels of general positive behavior (e.g., "She makes me laugh.")

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As Table 4 indicates, children who described their siblings as com­
panions also used general positive behaviors in their descriptions of the
sibling's behavior \((r = .27, p < .005)\). Furthermore, children who described their sibling as a companion perceived the sibling as more prosocial \((r = .31, p < .001)\).

Children who perceived the older sibling as dominant viewed the sibling as displaying more general negative behaviors \((r = .41, p < .0001)\). Dominance was significantly related to aggression \((r = .25, p < .01)\); children who perceived the relationship as dominated by the older sibling also perceived the older sibling as more aggressive. Furthermore, children who perceived their older sibling as aggressive tended to describe the sibling in a general negative manner as well \((r = .30, p < .002)\). Furthermore, there were no significant correlations among the open-ended questions and the responses to the yes/no questions and the picture sets.

Table 5 presents the correlations of maternal ratings on the behaviors of the younger sibling toward the older sibling and the older sibling toward the younger sibling. In general, when the mother viewed the behavior of the younger sibling as prosocial, she also viewed the behavior of the older sibling as prosocial \((r = .72, p < .0001)\). Additionally, when the mother reported the behavior of the younger sibling toward the older sibling as aggressive in nature, she was likely to report the behavior of the older sibling toward the younger sibling as aggressive \((r = .74, p < .0001)\). Mothers who maintained a higher social position reported less aggressive behavior by the younger sibling toward the older sibling \((r = .29, p < .005)\).
Maternal ratings of companionship behaviors of the younger sibling toward the older sibling were correlated with her perception of companionship behaviors of the older sibling toward the younger sibling \( (r = .87, p < .0001) \). Mothers' perceptions of companionship were correlated with her perception of other sibling behaviors as well; when the younger child showed prosocial behaviors toward the older child, the older child was likely to show companionship related behaviors toward the younger sibling \( (r = .39, p < .0001) \) and less likely to engage in aggressive acts toward the younger sibling \( (r = -.24, p < .05) \).

Table 6 indicates the interitem correlations for maternal perceptions of sibling behavior. For example, when mothers perceived the younger child in a companionship role, they also perceived prosocial behaviors being portrayed by the younger child toward the older child \( (r = .43, p < .0001) \).

Maternal reports indicated that when younger siblings were imitative, they were also likely to be viewed as a companion of the older sibling \( (r = .31, p < .002) \), as well as exhibiting prosocial behaviors toward the older sibling \( (r = .41, p < .0001) \). Furthermore, imitation by the
younger sibling was related to more positive behaviors displayed by the older sibling \((r = .37, p < .0004)\), as reported by the mother. However, as the age of the older sibling increased, the amount of imitative behavior by the older sibling decreased \((r = -.27, p < .01)\).

Mothers saw a similar pattern of behaviors by the older sibling toward the younger sibling (Table 7). Older siblings who were reported as being prosocial in nature were also likely to demonstrate companionship related behaviors toward their younger siblings \((r = .40, p < .0001)\). Mothers who reported the older sibling as dominant over the younger sibling were also likely to report that the older sibling was aggressive toward the younger sibling \((r = .59, p < .0001)\). Furthermore, mothers who reported the older sibling as aggressive were not likely to report the sibling as prosocial \((r = -.37, p < .001)\).

Maternal perceptions of the sibling relationship did not correlate with the child’s perception of the sibling relationship. For example, even though the mother reported that the younger sibling demonstrated companionship behaviors toward the older sibling and vice versa \((r = .87, p < .0001)\), there was no significant correlation with the child’s use of companionship in describing the older sibling \((r = .11, p < .29)\).

Results of the factor analysis of the 18 responses to yes/no questions indicated an emergence of two factors for "good" and "bad."
Generally, factor loadings larger than .49 were considered interpretable. Factor loadings for the "good" factor ranged from -.01 to .90; 10 of the factor loadings were at or above the .49 level. Factor loadings for the "bad" factor ranged from -.006 to .71; six of the factor loadings were at or above the .49 level. When two factors emerge from what appeared to be a homogeneous set of items differing primarily in the direction (positive or negative) stated item, then these two factors might be interpreted as difficulty factors (Rummel, 1970). However, if the two factors were difficulty factors, they would be expected to correlate substantially with each other. As it happens, when two scores were derived from the "good" items and the "bad" items, they correlated -.05. This suggested that the tendency for a child to say "good" or "bad" things about a sibling are independent of each other.
DISCUSSION

This study explored 4- and 5-year-old children's perceptions of their relationships with older siblings, using the insider's perspective rather than drawing totally on the observations or reports from others. The interview technique has previously been considered a valuable measurement tool in accessing children's perceptions concerning significant others in their lives (Yarrow, 1960). Research has shown that siblings are important socializing agents in the lives of young children (Abramovitch et al., 1979, 1980; Pepler et al., 1981). In general, children viewed their siblings both positively and negatively. Although companionship descriptors were used most often in talking about the siblings, children also used prosocial, aggressive, general positive and general negative descriptions frequently.

There were about as many "significant" findings concerning perceived relationship qualities as a function of four different age and sex combinations as one should expect by chance. A few of these findings are discussed below. MANOVA results indicated that younger children were more likely to view intimacy/affection as a relationship quality than older children; however, sex composition of the sibling dyad did not influence the perceptions of the intimate quality of the sibling relationship. In contrast, a study of school-aged children (Furman & Burhmester, 1985) found that children in same-sex pairs reported greater feelings of
closeness than children in mixed-sex pairs. The age finding in the present study suggests that young children may be recipients of more nurturant behavior from the older sibling.

There were two trends that emerged from the MANOVA analyses. The first trend indicated that sex of the sibling influenced the child's general positive perceptions of the relationship. Children with female siblings described the relationship as more positive than children with male siblings ($p = .0247$). Some support for this trend can be found in observational studies of same- and mixed-sex sibling pairs (Abramovitch et al., 1979, 1980). These studies have shown that older female siblings display more prosocial behavior than older male siblings. It may be that the positive perceptions which younger children have toward their older sisters is a function of the amount of prosocial behavior demonstrated by the older sister. Prosocial behavior is evident from general comments made by children in the present study (e.g., "She's nice" and "Makes me laugh").

A second trend emerged which indicated that the interaction of age of the younger siblings (i.e., 4- and 5-year-old) with sex of the older sibling influenced perceptions of companionship ($p = .04$). Older children with female siblings and younger children with male siblings were likely to report more companionship with their siblings than children in the other groups. Since the sex of the younger child was not an influencing factor, it is difficult to interpret these results. This finding gains limited support from Koch's (1960) finding that second-born males with a same-sex sibling reported more frequent association with siblings than
those with a sibling of the opposite sex. Furthermore, Koch (1960) re-
ported that second-born siblings in general stated that they preferred
the sibling as a playmate over others, but also reported limited play
with the sibling. In general, studies have found few sex differences for
patterns of sibling interaction between preschool-aged children and their
younger siblings (Abramovitch et al., 1979, 1980).

Correlational results revealed that the children's use of the general
positive category was significantly related to the sibling's age; as the
age of the sibling increased, children used more general positive
descriptors in their responses. Furman and Burhmester (1985) found
school-age children in closely spaced dyads reported more conflict than
children in widely spaced dyads. Abramovitch and her colleagues
(Abramovitch et al., 1979, 1980; Pepler et al., 1981) did not find that
the interval between the preschool-aged children and their younger sib-
lings affected the interaction patterns between the siblings.

Intercategory correlations showed that when children described the
sibling as a companion, they also viewed the older sibling positively and
more prosocially. Furthermore, children who perceived the sibling as
domineering also perceived their brother or sister as more aggressive and
more negative in general. In general, these findings are supported by 5-
and 6-year-olds reports (Koch, 1960) that they preferred to play with the
sibling for the companionship and protection the sibling offered as well
as the general liking of the sibling. Inversely, children reported
fighting and bossiness of the sibling as reasons not to play with the
sibling (Koch, 1960).
Mothers who reported that the younger child exhibited companionship behaviors toward the older sibling also reported the older sibling demonstrated companionship toward the younger sibling. It should be noted that there may be a rater bias, since the mother was rating both siblings. Children used companionship descriptors frequently in their descriptions of the relationship; however, these findings were not correlated with maternal perceptions for companionship. Both maternal and child accounts perceive companionship as an important aspect of the relationship; results seem to reflect the high levels of interaction between siblings reported in observational studies (Abramovitch et al., 1979, 1980; Dunn & Kendrick, 1982).

When the MANOVA and correlational results are considered together, there appear to be two major underlying categories reflecting positive and negative affective qualities emerging from the data. This generalization is confirmed when the results of the factor analysis are considered; from the analysis, two factors emerged which represented "good" and "bad." The factors were not correlated, suggesting that children who say good things about their siblings are just as likely to say bad things as other children who do not say good things about their siblings. Thus, children were inconsistent in their responses to the interview questions regarding the relationships with their siblings. It would be expected that children who say more positive things about their siblings would be less likely to say as many negative things about their siblings, and vice versa, but the frequencies of the relationship categories do not support this expectation. One could argue that the nature
of the interview caused the response inconsistency, but the high judge agreement within categories makes this an unlikely explanation. In a study of older children, Bigner and Jacobsen (1980) explored sibling perceptions along the "good"/"bad" dimension and did not find any differences in the mean number of constructs used to describe the "goodness" and "badness" of either sex sibling. Children used nurturant qualities to describe a "good" sibling and used social power qualities (i.e., describing behaviors that impeded interactions) to describe a "bad" sibling. Also, in studies involving older children, it has been found that good/bad qualities are attributed to the sibling relationship.

The inconsistency also could be a direct result of a normal sibling relationship; children may be honestly reflecting on the "good" and "bad" that is part of the relationship on a day to day basis. However, another aspect that might be considered regarding the inconsistency is that the interview method may not be very informative with this age child. Stillwell and Dunn (1985) suggested that the lack of significant relationships between behavioral measures and communication measures in their study on the continuity of sibling relationships could be a function of two different dimensions (i.e., behavioral aspects and verbal aspects). In addition, Stillwell (cited in Stillwell & Dunn, 1985) reported that children used more affective terms, both positive and negative, in describing their siblings than in their descriptions of other significant persons.

It is interesting to note in the present study that children's perceptions of the sibling relationship did not correlate with the maternal perceptions of the sibling relationship. This result was somewhat
surprising, since Dunn and Kendrick (1982) reported congruence between
the observed behavior directed toward the sibling and maternal reports.
Stillwell (cited in Stillwell & Dunn, 1985) reported that maternal re­
ports concerning the quality of the sibling relationship was significant­
ly correlated to 6-year-old children’s positive and negative comments
about their siblings. Even though Stillwell used the interview method,
the older age of her subjects may have produced different results than in
the present study. However, Stillwell and Dunn (1985) failed to find the
relationship between children’s and maternal reports; the failure to
replicate Stillwell’s original finding was attributed to a significantly
smaller sample size. However, the lack of a significant correlation
between maternal reports and child perceptions of the relationship point
to another set of inconsistencies in reporting perceptions of the sibling
relationship.

Overall, the study raises several questions. Does maternal presence
have such an influence on the interaction between siblings that the per­
ceptions of the mother and child are drastically different? Or could it
be that the child lacks the sensitivity to relate the actual feeling
revolving around the relationship? If the lack of sensitivity is the
issue, the next question becomes one of language capabilities of the
child and the response to the interview.

One of the concerns at the onset of this study was that the children
would be unwilling to talk to strangers about their siblings. However,
this was not the case; children talked freely about their sibling
relationship but also often did not stay on task and rambled on with irrelevant and tangential information. Although judge reliability was fairly high, the judges often had difficulty classifying the thought units due to the sentence structures and grammatical errors made by the children. For example, the judges had difficulty classifying thought units that were part of a long chain of related topics. Most of this difficulty revolved around the child’s tendency to stop and start without making an introduction to their next thought. In addition, children would sometimes shift focus within an ongoing train of thought. This observed speech pattern is similar to that reported by Wood, McMahon and Cranston (1980) in children’s conversations in group settings.

In the classroom, teachers of young children often tend to direct the majority of the conversations to a specific and immediate context but seldom involve children in conversations about others, the past or the future (Wood et al., 1980). Therefore, adults may establish limitations regarding children’s conversations in general, and these limitations may carry over and affect the child’s response to the interview. Researchers who pursue this approach should realize that the quality of the conversation may not fully reveal the thoughts of the child and realize that holding an interesting conversation with a 4- or 5-year-old child is not an easy task, especially when the child is being asked to share his thoughts and feelings with a stranger. Furthermore, it is thought that children work the hardest in their communication when trying to tell someone about past events and occurrences (Wood et al., 1980).
The present study suggests that using the interview method with young children may not be the most informative tool by which to assess sibling relationships. However, it should be noted that the present study, although exploratory in nature, employed a larger sample size relative to other studies, as well as utilized conservative statistical procedures.

Thus, it is difficult to assess whether the results of the present study, with disappointingly few results of statistical significance, are a function of the methodology and/or may actually differ from other studies due to the sample size and statistical procedures.

In summary, while the overall results of this study indicate that it may be fruitless to ask children to talk about their interpersonal relationships, it is interesting to note the difference that one year seems to make in the child’s ability to communicate his/her inner thoughts and feelings about significant others in their lives (e.g., Stillwell, cited in Stillwell & Dunn, 1985). Further exploration through observational studies is needed in order to determine the relationship between child and maternal perceptions and the effect that maternal presence plays on the perceptions children and mothers have about the sibling relationship. The lack of association between child and maternal perceptions in the present study could be due to the inconsistency in the child’s reporting of the sibling relationship. However, on the other hand, this inconsistency could reflect the true nature of the sibling relationship of positive and negative affect. The child’s responses may have been situationally determined, depending on the emotional quality of the relationship between the siblings on a given day.
REFERENCES CITED

Abramovitch, R., Corter, C., & Lando, B. (1979). Sibling interaction in

Abramovitch, R., Corter, C., & Pepler, D. J. (1980). Observations of

and peer interaction: A final follow-up and a comparison. Child
Development, 57, 217-229.

Bank, S., & Kahn, M. D. (1975). Sisterhood-brotherhood is powerful:
Sibling sub-systems and family therapy. Family Processes, 14, 311-337.

Baskett, L. M. (1986). Effects of maternal presence on sibling inter­
action. Paper presented at the biennial meeting of the Southwestern
Society for Research in Human Development, San Antonio, Texas.

with parent versus siblings: A behavioral analysis. Child

"goodness" and "badness" in sibling roles. Home Economics Research
Journal, 8, 274-280.

year-old children and their mothers. Unpublished doctoral
dissertation, Iowa State University, Ames, Iowa.

University, Ames, Iowa.

feeling states between mothers and their young children. Developmental
Psychology, 23, 132-139.

Dunn, J., & Kendrick, C. (1981). Interaction between young siblings:
Association with the interaction between mother and firstborn child.
Developmental Psychology, 17, 336-343.

standing. Cambridge, MA: Harvard University Press.


ADDITIONAL REFERENCES CITED


SUMMARY

The present study investigated 4- and 5-year-old children's perceptions of their older siblings as a function of the age and sex of the siblings. In addition, maternal perceptions of the relationship were examined; the relationship between child and maternal perceptions also was of interest.

Four- and five-year-old children with older siblings (n=102) and their mothers (n=94) participated in the study. The children were interviewed about their relationships with their older siblings using an interview developed by the researcher. The interview contained three sections: (1) four open-ended questions with probes; (2) 18 yes/no questions with probes; and (3) 10 picture sets, portraying neutral gender sibling pairs in positive and negative interactions.

The children's responses to the interview were divided into thought units; thought units were classified into relationship categories by two judges. Frequencies were computed for each relationship category by judges and transformed using Tukey-Freeman transformations. The transformed data were intercorrelated across judges and questions; in addition, yes/no probes were intercorrelated. The preliminary analyses were computed for each category. In each case, it was observed that the correlations were generally low, but positive, except for antagonism and imitation. Thus, these two categories were dropped. For the remaining
categories, a single score was derived by adding across judges and questions. Subsequently, the yes/no items in the interview were factor analyzed to determine the factors measured by that portion of the interview. The factor analytic procedure utilized was iterative least squares, and the rotation procedure was varimax.

Mothers reported their perceptions of the sibling relationship using the Maternal Rating Scale. Mothers rated the behavior of the younger sibling toward the older sibling as well as the behavior of the older sibling toward the younger sibling. A certainty scale ranging from 1 to 99 was utilized for the ratings (i.e., 1 = rarely, 50 = occasionally, 99 = often).

To determine whether children described the relationship with their siblings differently, a MANOVA procedure was computed. The MANOVA involved 10 dependent variables derived from the children’s responses to the sibling interview. The categories were as follows: intimacy/affection, prosocial, companionship, aggression, dominance, irrelevant, general positive, general negative, yes/no positive and yes/no negative. The independent variables were derived from the ages and sexes of the sibling pairs. The maternal ratings also were submitted to the MANOVA procedure and involved 10 dependent variables derived from maternal responses and the same independent variables used in the analysis of children’s responses. The dependent variables were the relationship categories of: intimacy/affection, prosocial, companionship, aggression, and dominance. Each category was rated for the younger sibling toward the older siblings and vice versa. Pearson product-moment correlations
were computed to explore the relationship among children's and maternal perceptions of the sibling relationship. In addition, the relationships among perceived relationship qualities, maternal ratings and demographic characteristics were explored.

In general, the results indicated that 4- and 5-year-old children did not differ in their perceptions of the older siblings as a function of age, sex or various pairings of age and sex. However, younger children were more likely to attribute intimacy/affection to their older sibling than older children in the 4- to 5-year-old group. In addition, children with older sisters regarded their older siblings in a more general positive manner than did other children. Intercategory correlations revealed that children who reported prosocial behaviors of their siblings also reported general positive behaviors of their siblings. In addition, when the child reported the older sibling as dominant, the sibling also was reported as aggressive.

Factor analysis of the yes/no questions revealed an emergence of two factors of "good" and "bad." The two factors were not significantly correlated, suggesting that young children say good and bad things about their siblings.

Analyses of maternal responses indicated only one significant difference in the sibling pairs; older 4- and 5-year-old children received higher levels of companionship from older sisters than any other group. Correlational analyses revealed that mothers reported high levels of companionship between the siblings. When she reported the younger sibling as prosocial or aggressive toward the older sibling, she also reported
the older sibling as prosocial or aggressive toward the younger sibling. Maternal perceptions of the relationship did not correlate with the child's perceptions of the relationship. The overall results indicated that, while it may not be very informative to study young children's perceptions of sibling relationships by asking them about their siblings, it might also be speculated that children report both positive and negative behaviors because that is part of their experience.
ACKNOWLEDGMENTS

There are many people to which I would like to express my gratitude for their help and support throughout my graduate study and in conducting this investigation. My thanks are extended to the following:

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The University Human Subjects Review Committee approved this study and certified the protection of the rights and welfare of the subjects.
APPENDIX A: TABLES
Table 1. Frequencies of relationship categories reported in open-ended questions

<table>
<thead>
<tr>
<th>Qualities</th>
<th>Means (transformed data)(^a)</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intimacy/Affection</td>
<td>14.45</td>
<td>3.94</td>
</tr>
<tr>
<td>Prosocial</td>
<td>18.58</td>
<td>4.78</td>
</tr>
<tr>
<td>Companionship</td>
<td>24.21</td>
<td>7.34</td>
</tr>
<tr>
<td>Aggression</td>
<td>17.28</td>
<td>4.98</td>
</tr>
<tr>
<td>Dominance</td>
<td>12.21</td>
<td>2.77</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>35.83</td>
<td>11.28</td>
</tr>
<tr>
<td>General positive</td>
<td>20.59</td>
<td>5.62</td>
</tr>
<tr>
<td>General negative</td>
<td>17.58</td>
<td>5.1</td>
</tr>
</tbody>
</table>

\(^a\)Square root transformation (Tukey-Freeman).

N = 102.
Table 2. Correlation of interjudge agreement by question and category of child's responses to the sibling interview

<table>
<thead>
<tr>
<th>Category</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>QYN</th>
<th>Combined questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intimacy/Affection (INA)</td>
<td>.95</td>
<td>.74</td>
<td>.96</td>
<td>.87</td>
<td>.90</td>
<td>.67</td>
</tr>
<tr>
<td>Prosocial (PRO)</td>
<td>.84</td>
<td>.68</td>
<td>.90</td>
<td>-.03</td>
<td>.94</td>
<td>.62</td>
</tr>
<tr>
<td>Companionship (COM)</td>
<td>.88</td>
<td>.86</td>
<td>.90</td>
<td>.78</td>
<td>.70</td>
<td>.74</td>
</tr>
<tr>
<td>Aggression (AGG)</td>
<td>.90</td>
<td>.62</td>
<td>.91</td>
<td>.92</td>
<td>.84</td>
<td>.48</td>
</tr>
<tr>
<td>Dominance (DOM)</td>
<td>.76</td>
<td>.83</td>
<td>.17</td>
<td>.74</td>
<td>.62</td>
<td>.61</td>
</tr>
<tr>
<td>Irrelevant (IRR)</td>
<td>.96</td>
<td>.91</td>
<td>.80</td>
<td>.87</td>
<td>.90</td>
<td>.86</td>
</tr>
<tr>
<td>General Positive (GPOS)</td>
<td>.80</td>
<td>.61</td>
<td>.72</td>
<td>.66</td>
<td>.83</td>
<td>.67</td>
</tr>
<tr>
<td>General Negative (GNEG)</td>
<td>.82</td>
<td>.74</td>
<td>.75</td>
<td>.64</td>
<td>.74</td>
<td>.60</td>
</tr>
</tbody>
</table>

N = 102.

Q1 - Q4 refers to the questions presented in the open-ended format of the interview.

QYN refers to the probes presented with the 18 yes/no questions.
Table 3. Maternal rating categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MY Prosocial</td>
<td>Behaviors that can be described as helping, sharing, teaching, nurturing, caregiving, caretaking, demonstrating affection or any other behavior that is indicative of positive interaction between siblings.</td>
</tr>
<tr>
<td>MO Prosocial</td>
<td></td>
</tr>
<tr>
<td>MY Companionship</td>
<td>The amount of time that siblings spend together in joint or cooperative interaction.</td>
</tr>
<tr>
<td>MO Companionship</td>
<td></td>
</tr>
<tr>
<td>MY Aggression</td>
<td>Behaviors that can be described as hostile or aggressive in nature (both physical and verbal behavior). Involves behaviors that are disruptive or reflect some disagreement or conflict between the siblings.</td>
</tr>
<tr>
<td>MO Aggression</td>
<td></td>
</tr>
<tr>
<td>MY Dominance</td>
<td>Indicates how much one sibling takes control of the relationship through bossiness or other assertive behaviors.</td>
</tr>
<tr>
<td>MO Dominance</td>
<td></td>
</tr>
<tr>
<td>MY Imitation</td>
<td>The amount of time one sibling engages in behavior that imitates the other sibling's actions.</td>
</tr>
<tr>
<td>MO Imitation</td>
<td></td>
</tr>
</tbody>
</table>

MY = Maternal ratings of younger sibling toward older sibling.
MO = Maternal ratings of older sibling toward younger sibling.
<table>
<thead>
<tr>
<th></th>
<th>Dominance</th>
<th>Irrelevant</th>
<th>General positive</th>
<th>General negative</th>
<th>Intimacy/affection</th>
<th>Prosocial</th>
<th>Companionship</th>
<th>Aggression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance</td>
<td>--</td>
<td>.33**</td>
<td>.13</td>
<td>.41***</td>
<td>.10</td>
<td>.14</td>
<td>.28*</td>
<td>.25*</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>--</td>
<td>.03</td>
<td>.44***</td>
<td>.01</td>
<td>.13</td>
<td>.22</td>
<td>.19</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td></td>
<td></td>
<td>.02</td>
<td>.12</td>
<td>.21</td>
<td>.27*</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td></td>
<td></td>
<td>.13</td>
<td>.004</td>
<td>.10</td>
<td>.14</td>
<td>.30*</td>
<td></td>
</tr>
<tr>
<td>Intimacy/</td>
<td></td>
<td></td>
<td>.12</td>
<td>.004</td>
<td>.09</td>
<td>.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>affection</td>
<td></td>
<td></td>
<td>.002</td>
<td>.10</td>
<td>.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prosocial</td>
<td></td>
<td></td>
<td>.31**</td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Companionship</td>
<td></td>
<td></td>
<td></td>
<td>.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N = 102.

p < .01*.

p < .001**.

p < .0001***.
Table 5. Correlations among maternal ratings of relationships of younger siblings toward older siblings and older siblings toward younger siblings

<table>
<thead>
<tr>
<th></th>
<th>MO Prosocial</th>
<th>MO Companionship</th>
<th>MO Aggression</th>
<th>MO Dominance</th>
<th>MO Imitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MY Prosocial</td>
<td>.72****</td>
<td>.39***</td>
<td>-.24*</td>
<td>-.19</td>
<td>.23*</td>
</tr>
<tr>
<td>MY Companionship</td>
<td>.46****</td>
<td>.87****</td>
<td>-.05</td>
<td>-.04</td>
<td>.01</td>
</tr>
<tr>
<td>MY Aggression</td>
<td>-.19</td>
<td>-.05</td>
<td>.74****</td>
<td>.34***</td>
<td>.05</td>
</tr>
<tr>
<td>MY Dominance</td>
<td>-.00</td>
<td>-.10</td>
<td>.42****</td>
<td>.45***</td>
<td>.14</td>
</tr>
<tr>
<td>MY Imitation</td>
<td>.37***</td>
<td>.26**</td>
<td>-.07</td>
<td>-.12</td>
<td>-.04</td>
</tr>
</tbody>
</table>

N = 91-94.

MY = Maternal ratings of younger sibling toward older sibling.

MO = Maternal ratings of older sibling toward younger sibling.

p < .05*.

p < .01**.

p < .001***.

p < .0001****.
Table 6. Intratet correlations of maternal ratings of the younger sibling toward the older sibling

<table>
<thead>
<tr>
<th>MY Prosocial</th>
<th>MY Companionship</th>
<th>MY Aggression</th>
<th>MY Dominance</th>
<th>MY Imitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MY Prosocial</td>
<td>--</td>
<td>.43****</td>
<td>-.12</td>
<td>-.01</td>
</tr>
<tr>
<td>MY Companionship</td>
<td>--</td>
<td>.00</td>
<td>-.02</td>
<td>.31**</td>
</tr>
<tr>
<td>MY Aggression</td>
<td>--</td>
<td>--</td>
<td>.37**</td>
<td>.16**</td>
</tr>
<tr>
<td>MY Dominance</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-.11</td>
</tr>
<tr>
<td>MY Imitation</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

N = 91-94.

MY = Maternal ratings of the younger sibling toward the older sibling.

p < .05*.

p < .001**.

p < .001***.

p < .0001****.
Table 7. Intracorrelations of maternal ratings of older sibling toward younger sibling

<table>
<thead>
<tr>
<th></th>
<th>MO Prosocial</th>
<th>MO Companionship</th>
<th>MO Aggression</th>
<th>MO Dominance</th>
<th>MO Imitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO Prosocial</td>
<td>--</td>
<td>.40****</td>
<td>-.37***</td>
<td>-.26**</td>
<td>.08</td>
</tr>
<tr>
<td>MO Companionship</td>
<td>--</td>
<td>.06</td>
<td>-.08</td>
<td>-.03</td>
<td>.03</td>
</tr>
<tr>
<td>MO Aggression</td>
<td>--</td>
<td>--</td>
<td>.59****</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td>MO Dominance</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>MO Imitation</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>

N = 91-94.

MO = Maternal ratings of older sibling toward younger siblings.

p < .05*.

p < .01**.

p < .001***.

p < .0001****.
APPENDIX B: SUPPLEMENTARY TABLES
Table 8. Probabilities of full models and partial effects from Type III sums of squares for children's responses to the sibling interview

<table>
<thead>
<tr>
<th></th>
<th>INA</th>
<th>PRO</th>
<th>COM</th>
<th>AGG</th>
<th>DOM</th>
<th>IRR</th>
<th>GPOS</th>
<th>GNEG</th>
<th>QR</th>
<th>QN</th>
<th>MANOVA df 10,82</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex of child</td>
<td>.14</td>
<td>.35</td>
<td>.12</td>
<td>.38</td>
<td>.51</td>
<td>.53</td>
<td>.05</td>
<td>.81</td>
<td>.10</td>
<td>.73</td>
<td>.64</td>
</tr>
<tr>
<td>Sex of sibling</td>
<td>.34</td>
<td>.06</td>
<td>.18</td>
<td>.62</td>
<td>.32</td>
<td>.36</td>
<td>.02</td>
<td>.04</td>
<td>.79</td>
<td>.72</td>
<td>.14</td>
</tr>
<tr>
<td>Age class of child</td>
<td>.01</td>
<td>.27</td>
<td>.46</td>
<td>.42</td>
<td>.01</td>
<td>.12</td>
<td>.19</td>
<td>.38</td>
<td>.09</td>
<td>.08</td>
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<td>.54</td>
<td>.98</td>
<td>.55</td>
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<tr>
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<td>.89</td>
<td>.79</td>
<td>.33</td>
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<td>.354</td>
<td>.56</td>
<td>.06</td>
<td>.47</td>
<td>.63</td>
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<td>.50</td>
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<td>Age of child x age of sibling</td>
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<td>.94</td>
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<td>.32</td>
<td>.76</td>
<td>.06</td>
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<td>.99</td>
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<td>.59</td>
<td>.48</td>
<td>.66</td>
<td>.16</td>
<td>.77</td>
<td>.79</td>
<td>.34</td>
<td>.81</td>
<td>.74</td>
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<tr>
<td>Age class of child x sex of sibling</td>
<td>.88</td>
<td>.99</td>
<td>.04</td>
<td>.73</td>
<td>.43</td>
<td>.96</td>
<td>.61</td>
<td>.13</td>
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<td>.44</td>
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<tr>
<td>Total df 8,91</td>
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<td>.61</td>
<td>.38</td>
<td>.51</td>
<td>.16</td>
<td>.20</td>
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<td>.38</td>
<td>.36</td>
<td>.73</td>
<td></td>
</tr>
</tbody>
</table>

Age class = younger or older.

Note: The values in the body of the table are derived from the univariate analysis based on the Type III sums of squares (SAS Institute, Inc., 1985). The row marginals are from MANOVAs dealing with all dependent variables. The column marginals are the overall tests within a single dependent variable (relationship categories) but for all independent variables. If both of the marginal probabilities are low and the probability in that row and column is also low, then one may judge that the effect corresponding to that dependent variable and that independent one should be interpreted with a relatively high degree of confidence.
Table 9. Probabilities of full models and partial effects from Type III sums of squares for MRS

<table>
<thead>
<tr>
<th></th>
<th>MY Pro-social</th>
<th>MO Pro-social</th>
<th>MY Companion-ship</th>
<th>MO Companion-ship</th>
<th>MY Aggression</th>
<th>MO Aggression</th>
<th>MY Dominance</th>
<th>MO Dominance</th>
<th>MY Imitation</th>
<th>MO Imitation</th>
<th>MANOVA df=10,73</th>
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<tbody>
<tr>
<td>Sex of child</td>
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<td>.802</td>
<td>.355</td>
<td>.399</td>
<td>.875</td>
<td>.623</td>
<td>.192</td>
<td>.324</td>
<td>.229</td>
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<td>.983</td>
<td>.402</td>
<td>.779</td>
<td>.073</td>
<td>.417</td>
<td>.282</td>
<td>.472</td>
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<td>.18</td>
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<td>.479</td>
<td>.075</td>
<td>.077</td>
<td>.336</td>
<td>.970</td>
<td>.061</td>
<td>.620</td>
<td>.663</td>
<td>.575</td>
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<td>.491</td>
<td>.324</td>
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<td>.520</td>
<td>.401</td>
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<td>.143</td>
<td>.096</td>
<td>.212</td>
<td>.181</td>
<td>.003</td>
<td>.191</td>
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<td>.462</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
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<td>.672</td>
<td>.412</td>
<td>.147</td>
<td>.969</td>
<td>.670</td>
<td>.575</td>
<td>.885</td>
<td>.658</td>
<td>.871</td>
<td>.75</td>
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<tr>
<td>age class of sibling</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age class of sibling x</td>
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<td>.033</td>
<td>.976</td>
<td>.888</td>
<td>.915</td>
<td>.721</td>
<td>.520</td>
<td>.090</td>
<td>.266</td>
<td>.387</td>
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</tr>
<tr>
<td>sex of child</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age class of child x</td>
<td>.647</td>
<td>.150</td>
<td>.092</td>
<td>.006</td>
<td>.067</td>
<td>.272</td>
<td>.959</td>
<td>.591</td>
<td>.899</td>
<td>.872</td>
<td>.04</td>
</tr>
<tr>
<td>sex of sibling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total df = 8,82</td>
<td>.29</td>
<td>.23</td>
<td>.35</td>
<td>.05</td>
<td>.48</td>
<td>.45</td>
<td>.04</td>
<td>.38</td>
<td>.31</td>
<td>.72</td>
<td></td>
</tr>
</tbody>
</table>

Age class = younger or older.

Note: The values in the body of the table were derived from the univariate analysis based on the Type III sums of squares (SAS Institute, Inc., 1985). The row marginals are from the MANOVAs dealing with all the dependent variables. The column marginals are the overall test within a single dependent variable (MRS), but for all independent variables. If both of the marginal probabilities are low and the probability in that row and column is also low, then one may judge that the effect corresponding to that dependent variable and that independent variable should be interpreted with a relatively high degree of confidence.
Table 10.Sibling interviews yes/no items and factors

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you like having a brother/sister?</td>
<td>.90</td>
</tr>
<tr>
<td>2. Does ____ ever make you cry?</td>
<td>.56</td>
</tr>
<tr>
<td>3. When you and ____ are playing, does ____ share toys with you?</td>
<td>.68</td>
</tr>
<tr>
<td>4. Is it fun having a brother/sister?</td>
<td>.72</td>
</tr>
<tr>
<td>5. Do you fight with ____?</td>
<td>.57</td>
</tr>
<tr>
<td>6. Does ____ do things that make you happy?</td>
<td>.51</td>
</tr>
<tr>
<td>7. Is ____ the best person to play with?</td>
<td>.65</td>
</tr>
<tr>
<td>8. When you need help with something, does ____ help you?</td>
<td>.60</td>
</tr>
<tr>
<td>9. Does ____ do things that make you mad?</td>
<td>.71</td>
</tr>
<tr>
<td>10. Do you like to play with ____?</td>
<td>.91</td>
</tr>
<tr>
<td>11. Does ____ help you when you get hurt?</td>
<td></td>
</tr>
<tr>
<td>12. When ____ is mad at you, does he/she hit you?</td>
<td></td>
</tr>
<tr>
<td>13. Does ____ like to play with you?</td>
<td>.77</td>
</tr>
<tr>
<td>14. Does ____ take care of you when your father and mother are busy?</td>
<td></td>
</tr>
<tr>
<td>15. Does ____ call you names?</td>
<td>.68</td>
</tr>
<tr>
<td>16. Do you and ____ give each other hugs and kisses?</td>
<td></td>
</tr>
<tr>
<td>17. When you and ____ are doing things together, does he/she boss you around/make you do things?</td>
<td>.60</td>
</tr>
<tr>
<td>18. When you have been away from ____ all day, are you happy to see him/her?</td>
<td>.82</td>
</tr>
</tbody>
</table>
APPENDIX C: CORRESPONDENCE
October, 1987

Dear Director,

I am a graduate student in Child Development at Iowa State University. As part of my doctoral degree program, I am conducting a study which examines preschool children's perceptions of their sibling relationship under the director of Dr. Dahlia Stockdale. Sibling relationships are an important component in the socialization process but little is known about how young children perceive their relationships with their older brothers and sisters. This study will lend additional insights into the importance of sibling relationships.

Currently, I am inviting 4- and 5-year-old children to participate in the study and am interested in involving your center in the study. The amount of center involvement would be minimal. Parent letters and consent forms would be sent home with the children and subsequently returned to the child's teacher. In addition, the child would be interviewed at your center by a child developmentalist. The interview lasts approximately 20 minutes; a quiet place would be needed for the interview. Knowing that day care centers operate around a daily routine, we would schedule the interviews in the most efficient manner possible and in direct cooperation with each head teacher.

I have enclosed a copy of the research proposal, instruments and a parent letter. After you have had an opportunity to review the materials, please return the enclosed letter indicating your decision regarding your center's participation. In the meantime, I would be happy to answer any questions you might have. Please feel free to contact Judith Bray (294-3040) or Dr. Dahlia Stockdale (294-5186). Thank you for your time and your response to this request.

Sincerely,

Judith Bray
Graduate Student

Dr. Dahlia Stockdale
Major Professor in Charge of Research
LETTER OF INTENT TO PARTICIPATE IN THE STUDY ON PRESCHOOL CHILDREN’S PERCEPTIONS OF THEIR SIBLING RELATIONSHIPS

The nature and general purpose of the research procedure and this institution’s level of involvement have been explained to me. I understand that the children who have parent permission to participate in this study will be interviewed while in attendance at this facility. It is my understanding that the interviews will be arranged at a time that is convenient for the head teachers and that the interviews will last approximately 20 minutes each.

____ I am willing for ___________________________ to participate in the study as described in the attached letter.

(Name of Preschool or Day Care Center)

____ I am not willing for ___________________________ to participate in the study as described in the attached letter.

(Name of Preschool or Day Care Center)

Director’s Signature

Date

Bray/Stockdale Research
October 1987

Dear Parents,

I am a graduate student in Child Development at Iowa State University. As part of my doctoral degree program, I am conducting a study which examines preschool children's perceptions of their sibling relationship. In normal sibling relationships, both positive and negative interactions occur making the sibling relationship an important influence in the life of a child. Although interaction between siblings has been studied extensively, little is known about how young children perceive the relationship with their older brothers or sisters. Studying the child's view of the relationship will provide additional insights regarding the importance of sibling influence in the socialization process.

In order to carry out this investigation, 4- and 5-year-old children will be invited to take part. The children will be involved in a 15-20 minute interview about their sibling relationship. The interview will be tape recorded to insure accuracy of recording responses. Parents will be asked to provide some background information; in addition, mothers will be asked to complete a brief rating scale regarding their perception of the sibling relationship. No subject will be identified by name and each child will be assigned an identification number. Please note that all information will be kept confidential.

We value your participation in this study. However, due to the nature of the study, we will be unable to consider step-families. At the conclusion of the study, I would be happy to share overall results with you. If you have any questions, please feel free to contact Judith Bray (294-3040) or Dr. Dahlia Stockdale (294-5186) and we will be happy to discuss the study with you.

Please indicate your wishes regarding your child's participation on the attached form. In addition, please fill out the background information at the bottom of the page so the interview can be made as personal as possible. Return it to your child's teacher as soon as possible. Thank you very much for your interest and cooperation in making this study a success.

Sincerely,

Judith Bray  
Graduate Student

Dr. Dahlia F. Stockdale  
Major Professor in Charge of Research
PERMISSION SLIP FOR STUDY ON CHILDREN'S PERCEPTIONS OF THE SIBLING RELATIONSHIP

The nature and general purpose of the research procedure have been explained to me. If I participate in this study, I understand that any questions I have will be answered. I understand that my child will not be identified by name and all information will be kept confidential. Finally, I understand that I am free to withdraw from the study at any time.

Please fill in the name and check the preferred option and return this form to your child's teacher as soon as possible.

____ I am willing for my child __________________________ to participate (Child’s Name) in the study described in the attached letter.

____ I am not willing for my child __________________________ to participate in the study as described in the attached letter.

Parent’s Signature

_________________________________________________________

Date

Younger child’s date of birth ____________________________.

Sex of next oldest sibling ____________________________.

Name of next oldest sibling ____________________________.

Date of birth of next oldest sibling. ________________________.

Bray/Stockdale Research
December 8, 1987

Dear Parents,

This is a reminder about returning the parental consent forms for the sibling research project. Your participation in this study is greatly valued.

I am attaching the parental consent form for your convenience. The original parent letter explaining the study is posted in your child’s classroom. Please fill out the consent form indicating your willingness to participate in the study and return it to your child’s teacher by Friday, December 11.

If you have any questions or concerns, please feel free to contact me at 294-8843 or 294-3040 and I will be happy to discuss the study with you. Thank you for your cooperation in making this research project a success.

Sincerely,

Judith Bell Bray
Graduate Student
February 8, 1988

Dear Mrs. ____________________,

Thank you for your participation in the sibling research project being conducted through the Child Development Department at Iowa State University. The interviews with the children have been completed and I am excited about the information that will be generated from this phase of the study.

Enclosed is an extra copy of the sibling rating scale and general information sheet. If you have already returned your forms, thank you for your response. If you have not completed these, please do so as soon as possible. The information requested on the general background form is for descriptive purposes only and all information will be kept confidential. All questionnaires are identified by number only; this is the number that appears in the upper right hand corner of each form.

I am very excited about this study and I am very appreciative of your cooperation in making it a success. If you have any questions, please feel free to contact me at 292-8443 or 294-3040 and I will be happy to answer any concerns or questions you may have.

Sincerely,

Judith Bell Bray
APPENDIX D: SIBLING INTERVIEW
YOUNGER SIBLING INTERVIEW

Today we are going to talk about your brother/sister. Do you have a brother/sister? What is his/her name? Is _________ older or younger than you are?

I'm going to ask you some questions about. Pretend this is you and your older brother/sister. I'm going to write down what you say to me and I'm going to use the tape recorder to help me remember what we talked about.

INTERVIEW

1. What is it like having a brother/sister?

__________

probe 1> Tell me something about ________. ________

__________

probe 2> I don't know ________, what else can you tell me about him/her? ________

__________

probe 3> Tell me some more about _________. ________

__________

2. Tell me some of the things that you and ________ do when you are together.

__________

probe 1> Tell me more about the things you do with ________. ________

__________

probe 2> Tell me more. ________

__________

probe 3> Anything else you can tell me about ________? ________

__________

3. What are the things you like about ________? ________

__________

probe 1> Tell me the good things about ________. ________

__________

probe 2> What does ________ do to make you happy? ________
probe 3> Tell me more good things about ________.

4. What are the things you don’t like about ________?

probe 1> What are the “yucky” things ________ does?

probe 2> What does ________ do to make you mad?

probe 3> What does ________ do to make you sad?

YES/NO QUESTIONS

1. Do you like having a brother/sister? Y N ?
   Why/Why not? ________________________________

2. Does ________ ever make you cry? Y N ?
   What does ________ do to make you cry? ________

3. When you and ________ are playing, does ________ share toys with you? Y N ?

4. Is it fun having a brother/sister? Y N ?
   Why/Why not? ________________________________

5. Do you fight with ________? Y N ?
   What do you and ________ fight about? ________

6. Does ________ do things that make you happy? Y N ?
   What does ________ do? ________________________

7. Is ________ the best person to play with? Y N ?
   Why/Why not? ________________________________

8. When you need help with something, does ________ help you? Y N ?
   What does ________ help with? __________________
9. Does _______ do things that make you mad? Y N ?
   What does _______ do to make you mad? ____________

10. Do you like to play with _______? Y N ?
    Why/Why not? ________________________________

11. Does _______ help you when you get hurt? Y N ?
    How does _______ help you? ____________________

12. When _______ is mad at you, does he/she hit you? Y N ?

13. Does _______ like to play with you? Y N ?
    Why/Why not? ________________________________

14. Does _______ take care of you when your father and mother are busy? Y N ?
    How does _______ take care of you? ________________

15. Does _______ call you names? Y N ?

16. Do you and _______ give each other hugs and kisses? Y N ?
    Why/Why not? ________________________________

17. When you and _______ are doing things together, does he/she boss you around/make you do things? Y N ?

18. When you have been away from _______ all day, are you happy to see him/her? Y N ?
    Why are you happy to see _______? ________________

**ANSWER SHEET FOR PICTURE SETS**

1. A B 6. A B
2. A B 7. A B
3. A B 8. A B
5. A B 10. A B
INSTRUCTIONS FOR USE WITH PICTURE SETS

The researcher will begin this part of the interview by saying, "Child's Name, I would like you to pretend that this is a picture of Sibling's Name". If the picture set has two children, then the child will be told "Pretend that this is a picture of you and Sibling's Name. The child will then be shown each of 10 picture sets with accompanying statements describing each set of pictures (i.e., sharing/not sharing, helping/not helping, fighting/not fighting, hugging/not hugging, playing together/not playing together, bossing/not bossing, happy/not happy, playing with others/not playing with others, running to meet sibling/not running to meet sibling). For each picture set, the child will be asked "Which boy/girl is most like Sibling's Name. The researcher will direct attention to picture "A" and "B" and ask the child to point to his/her choice.
DESCRIPTIVE STATEMENTS FOR SIBLING PICTURE SETS

1. A. This is a picture of a boy/girl who is not sharing his/her blocks.
   B. This is a picture of a boy/girl who is sharing his/her blocks.

2. A. This is a picture of a boy/girl who is helping pour juice.
   B. This is a picture of a boy/girl who is not helping pour juice.

3. A. This is a picture of a boy/girl who is arguing with his/her brother/sister.
   B. This is a picture of a boy/girl who is not arguing with his/her brother/sister.

4. A. This is a picture of a boy/girl who is hugging his/her brother/sister.
   B. This is a picture of a boy/girl who is not hugging his/her brother/sister.

5. A. This is a picture of a boy/girl who is playing with his/her brother/sister.
   B. This is a picture of a boy/girl who is not playing with his/her brother/sister.

6. A. This is a picture of a boy/girl who is bossing his/her brother/sister.
   B. This is a picture of a boy/girl who is not bossing his/her brother/sister.

7. A. This is a picture of an older brother/sister who is happy to have a younger brother/sister.
   B. This is a picture of an older brother/sister who is not happy to have a younger brother/sister.

8. A. This is a picture of a boy/girl who is hitting his/her brother/sister.
   B. This is a picture of a boy/girl who is not hitting his/her brother/sister.

9. A. This is a picture of a boy/girl who is not helping his/her brother after he/she has fallen down and skinned his/her knee.
   B. This is a picture of a boy/girl who is helping his/her brother after he/she has fallen down and skinned his/her knee.

10. A. This is a picture of a boy/girl running to meet his/her brother/sister.
    B. This is a picture of a boy/girl not running to meet his/her brother/sister.
APPENDIX E: MATERNAL RATING SCALE
December, 1987

Dear Mrs. ______________,

Thank you very much for participating in this research project on siblings' social behaviors. We know that it is normal for siblings to interact in both positive and negative ways and that they are a significant influence in each others' lives. Your unique viewpoint as a parent will help us to better understand how sibling relationships develop within the framework of the sibling pair.

Enclosed is a sibling relationship rating scale and a general information form for you to complete and return to me in the self-addressed, stamped envelope. The rating scale and information form should take about 15-20 minutes of your time. Please rate, by number, the everyday sibling interactions that occur between your 4- or 5-year-old child and his/her older brother or sister; then also rate the relationship between the older sibling and his/her 4- or 5-year-old younger brother or sister. In other words, I would like for you to rate each behavior as you view it from the younger to the older child and vice versa. The information requested on the general background form is for descriptive purposes only and all information will be kept confidential. All questionnaires will be identified by number only.

The directions are printed on the sibling relationship rating scale. If you have any questions, please do not hesitate to contact me at 292-8443 or 294-3040. I will be happy to address any questions or concerns you may have. Thank you for your time and cooperation in making this research project a success.

Sincerely,

Judith Bell bray
Graduate Student
SIBLING RATING SCALE

All ratings are made as to what you believe to be typical behavior of the sibling pair in their daily interactions. Before you begin, think carefully about the siblings and base your ratings on the occurrence of the behavior in everyday sibling interactions. For each item, rate the behavior of the younger sibling directed toward the older sibling and the behavior of the older sibling directed toward the younger sibling. Space is provided for the two ratings under each item.

You are being asked to rate the siblings using the rating scale given below for 7 categories of behavior. The categories describe behavior you would expect to find in most sibling pairs. I am interested in knowing if the siblings display the listed behavior.

In the space provided at the left of each sibling pairing, place a number (1 to 99) that seems to best represent the occurrence of that behavior for each category. You may use any number from "1" to "99" that indicates the extent to which you think the behavior occurs in the sibling relationship.

RATING SCALE

This behavior occurs rarely in the sibling relationship
This behavior occurs occasionally or I am unsure of its occurrence in the sibling relationship.
This behavior occurs often in the sibling relationship.

1

50

99

For example, if you believe the siblings behave fairly frequently as described in item 1, you may decide to place an 80 in the rating column. If you decide to give the siblings a rating of 20, it would indicate that this behavior occurs fairly rarely. A rating of 50 would indicate the behavior occasionally occurs. To the extent that you are not sure how to rate the described behavior, your response should lean toward 50.

Use any number from 1 to 99 with which you feel most comfortable. Make use of the full range of numbers whenever possible. Be sure to rate every statement. Remember you are being asked to rate the relationship between your 4 or 5-year-old child and the older sibling as well as the relationship of the older sibling and the 4- or 5-year-old child.
RATING SCALE

This behavior occurs rarely in the sibling relationship.

This behavior occurs occasionally or I am unsure of its occurrence in the sibling relationship.

This behavior occurs often in the sibling relationship.

1 50 99

1. **Intimacy/Affection:** Behaviors that can be described as being close to one another, such as telling secrets or how much the siblings like each other and the amount of positive affection demonstrated by the siblings.
   Examples: hugging, holding hands, saying he/she likes or loves the other one
   - Younger sibling toward older sibling
   - Older sibling toward younger sibling

2. **Prosocial:** Behaviors that can be described as helping, sharing, teaching, nurturing, caretaking, caregiving or any other behavior that is indicative of a positive interaction between the siblings (i.e., the positive things the siblings do for one another).
   Examples: offers to assist sibling when sibling is hurt, helps sibling with some task, saying sorry to one another
   - Younger sibling toward older sibling
   - Older sibling toward younger sibling

3. **Companionship:** Refers to the amount of time that the siblings spend together in joint or cooperative interaction.
   Examples: playing together or watching television with one another
   - Younger sibling toward older sibling
   - Older sibling toward younger sibling

4. **Aggression:** Behaviors that can be described as hostile or aggressive in nature (both physical and verbal behavior). This involves intentional hostility of one sibling toward the other sibling.
   Examples: biting, hitting, kicking, throwing objects, yelling, saying spiteful and hurtful things to each other
   - Younger sibling toward older sibling
   - Older sibling toward younger sibling
### RATING SCALE

<table>
<thead>
<tr>
<th>This behavior occurs rarely in the sibling relationship</th>
<th>This behavior occurs occasionally or I am unsure of its occurrence in the sibling relationship</th>
<th>This behavior occurs often in the sibling relationship</th>
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<td>1</td>
<td>50</td>
<td>99</td>
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</table>

5. **Antagonism**: Behaviors that can be described as disruptive in nature or reflect some disagreement or conflict between the siblings (quarreling, teasing or irritating one another).
   Examples: interrupting the other’s activity, arguing over who will go first or sit in the front seat of the car
   - Younger sibling toward older sibling
   - Older sibling toward younger sibling

6. **Dominance**: Indicates how much one sibling takes control of the relationship through bossiness or other assertive behaviors.
   Examples: one sibling wanting to run the show, telling the other what to do, standing up for his/her rights with the other one
   - Younger sibling toward older sibling
   - Older sibling toward younger sibling

7. **Imitation**: The amount of time one sibling engages in behavior that imitates the other sibling’s actions.
   Examples: kicks the ball like sibling, does things that brother/sister are doing, dresses or talks like the other sibling
   - Younger sibling toward older sibling
   - Older sibling toward younger sibling
GENERAL PARENT INFORMATION

Please check the appropriate answer or fill in the blank when necessary.

1. Occupation:  

2. Employment Status (check all that apply):
   Full-time student
   Part-time student
   Employed full-time
   Employed part-time
   Homemaker
   Unemployed

3. Educational level (check highest level reached):
   Elementary school completed
   Junior high school completed
   Attended high school
   High school completed
   Attended/ing college
   Undergraduate degree completed
   Attended/ing graduate school
   Master’s degree completed
   Doctoral degree completed

4. Current Marital Status
   Married
   Remarried
   Separated
   Divorced
   Widowed
   Single

5. Total number living in the household: 

6. Sex and dates of birth of the children in the family from the oldest to the youngest:

   Date of Birth   Sex
   1. _____________________________
   2. _____________________________
   3. _____________________________
   4. _____________________________
   5. _____________________________
APPENDIX F: THOUGHT UNIT DIVISION
THOUGHT UNIT DEFINITION

For coding purposes, verbal protocols were divided into individual thought units. A thought unit was defined as any singly expressed thought that did not reflect a change in thought, idea, behavior or action.

Any change in expressed behavior or action was considered a new thought unit. For example, "He hits me and pushes me," was divided into two thought units, even though both units (he hits me/ and pushes me) were classified as Aggression.

Any time a child used an interjection, a new thought unit occurred. For example, "She shares her dolls, but sometimes she doesn’t share all the time. She just shares her baby dolls", was three thought units: Prosocial (She shares her dolls), General Negative (...but sometimes she doesn’t share all the time...), and Prosocial (...she just shares her baby dolls).

A new thought unit also occurred whenever a new topic or person was introduced. In addition, a response to a new question was judged as a separate thought unit.

Repetition of thought units was not coded as a new thought unit. For example, "He plays with me. He plays outside with me", was considered one thought unit. If the child repeated the interview question before responding to the question, it was not considered as a new thought unit. When a question was posed to the interviewer (e.g., "You know what she
does?"), and then answered the question, the total response was coded as one unit of thought.

Any elaboration or explanation that did not involve a change in action, behavior or person was considered as one thought unit. Sometimes the children would begin their response by "Ahh" or "Hmm". These were not coded as a thought unit, but were considered part of the thought unit to which they were attached. Likewise, the children would sometimes end their response with "That's all." When this happened, it was considered as part of the previous thought unit.
DIVISION OF VERBAL PROTOCOLS INTO THOUGHT UNITS: AN EXAMPLE

1. | Nice. |
2. | Sometimes he lets me play with Nintendo. |
3. | Likes to play with me with games. | And he likes to play with Hamlett with me | and take him out | and let him pee. | Today he was late for breakfast. | He got breakfast but he didn’t get to take Hamlett out. | Mom got a new shirt. | She weared it today. |
4. | Dad and me and mom and Sean are going to play a game if I be good today. | If I want Sean too. |
5. | We have a bike ride with mom and dad. | Dad doesn’t go. | A friend of mine, Jessica and Christa, they went with us. | Not today. | We had a race then Jessica started crying. |
6. | He lets me have one of his licorice. | I have licorice. | Mom will let me have some gum. |
7. | Sean. Sometimes Sean bes mean. | But sometimes he good to me. | Mom has some shoes like you. | Mom has some black shoes like you are wearing. |
8. | Sometimes he’s mad. | He kicks me. | And I just tell | and then he didn’t stop it when I told. |
9. | When he’s good | and when he’s not angry | and a bad boy. |
10. | Hmmm. Likes to play with me all the time. | Lets me play with the Nintendo all the time. |
11. I Let me. He says "Sorry" when he does something. Sometimes he
doesn't let me play the Nintendo. Last night. Tonight he did
not.

12. I I don't know nothing else.

13. I Hits me and kicks me. Doesn't use words.

14. I When he shows his food and he spits it back out on his place.
Last night he did that and mom and dad said "Go take a time out
for 1/2 hour."

15. I I hit him. He hits me back. Then I use words and Sean
doesn't.

16. I Not being nice. And he doesn't let me play the Nintendo.

17. I Cause. He likes me. Likes me.

18. I When he doesn't. When he won't let me play the Nintendo and
it's his.

19. I I share toys. He doesn't share very good.

20. I Cause I like him. Just like him. And he's part of our family.

21. I And sometimes I don't. When he doesn't let me share a toy, I
share with him all the time and he doesn't.

22. I When he lets me play with the Nintendo. Tonight he did and
sometimes he doesn't. Tonight we had friends over.

23. I Cause he just is.

24. I When I get an oowie and mom's not here, Sean knows where the band
aids are. And I just got a shot. You know where I got a shot?
Right here. A booster shot. I was scared to take it. And they
had to prick me one time.
25. | He's the best. |
27. |
28. |
29. | Cause. I'm the best friend. |
30. | He just stays home and a babysitter. A babysitter comes. |
31. |
32. | Not kisses. Sean doesn't like kisses. | You know what? Sometimes Sean calls me "Dumb ball."
33. |
34. | Cause I just am. |
APPENDIX G: CODING MANUAL
1. **Intimacy/Affection:** Behaviors that can be described as being close to one another, such as telling secrets or how much the siblings like each other and the amount of positive affection demonstrated by the siblings. This includes hugging, holding hands, saying he/she likes or loves the other one.

   Examples: "Cause he's my friend." "Cause we like each other." "I like him." "I like to give him hugs." "She loves me." "Because I'm his best friend." "When we take walks he holds my hand."

2. **Prosocial:** Behaviors that can be described as helping, sharing, teaching, nurturing, caretaking, caregiving, empathy or any other behavior that is indicative of a positive interaction between the siblings (i.e., the positive things the siblings do for one another). This includes offers to assist sibling when sibling is hurt, helps sibling with some task, saying sorry to one another, being polite or asking permission.

   Examples: "He helps me lift stuff when they're heavy." "When I ride my bike he says, "can I ride my bike?" "Because they can help you get stuff you can't reach." "He helps me pick stuff up in my room." "Because he takes care of me when nobody's home." "Cause she shares things with me." "She goes and gets me a band-aid when I hurt myself." "Sometimes she lets me play with her dishes."

3. **Companionship:** Refers to the amount of time that the siblings spend together in joint or cooperative interaction. This includes playing together or watching television with one another.

   Examples: "We play outside together." "We play together." "We go to the park." "We watch TV."

4. **Aggression:** Behaviors that can be described as hostile or aggressive in nature (both physical and verbal behavior). This involves intentional hostility of one sibling toward the other sibling. This includes biting, hitting, kicking, throwing objects, yelling, saying spiteful and hurtful things to each other, destruction of personal property and personal attach.

   Examples: "He hates me." "Because she hits." "Fights with me." "Because she throws things." "When I color he tears my paper." "Saying, 'I don't like you.'" "When he breaks my things I get mad."
5. **Antagonism**: Behaviors that can be described as disruptive in nature or reflect some disagreement or conflict between the siblings. This includes interrupting the other’s activity, arguing, quarreling, teaching, irritating one another, name calling, yelling and making faces.

Examples: "When he messes with the glue I get sad."
"Over at the neighbor’s won’t give me the car."
"When I was playing with him, says 'nanna nanna boo boo', when I’m trying to catch him."
"She starts arguments for nothing."
"He calls me names."

6. **Dominance**: Indicates how much one sibling takes control of the relationship through bossiness or other assertive behaviors. This includes one sibling wanting to run the show, telling the other what to do, standing up for his/her rights with the other one wanting his/her own way, strongly asserting oneself, expressing power over sibling.

Examples: "I say to him ‘go and get me a drink.’"
"Tells me to play with him."
"And I say ‘no I won’t.’"

7. **Imitation**: The amount of time one sibling engages in behavior that imitates the other sibling’s actions. This includes kicking the ball like sibling, doing things that brother/sister are doing, dressing or talking like the older sibling.

Examples: "I kick the ball just like him."
"I wear skirts just like her."

8. **Irrelevant**: Any response that is not related to the sibling relationship or is unclear of the sib’s involvement. This includes any reference to other persons, personal histories and the interview process. It also includes incomplete thoughts, nonsensical responses, any response that indicates the child’s unwillingness to respond to this question.

Examples: "Sean had the chicken pox a long time ago."
"Sometimes somebody babysitters us."
"When he does a job outside." "Nothing."
"I don’t know." "I forget." "Because."

9. **General Positive**: Any response that is given that is reflective of the positive perception of the sibling relationship but does not fall into the above categories. This includes attempts to entertain one another, admiration of the sibling’s accomplishments that merit recognition, as well as liking physical characteristics and material possessions, and perceived similarities in regards to likes and dislikes.
between the siblings. It also includes a "nothing" response to questions 13, 14, 15, & 16.

Examples:  "Because he's nice to me most of the time."
            "She does funny stuff to make me laugh."
            "Because she draws good pictures."
            "We both like basketball."
            "She don't do yucky stuff."           "Fun."
            "She's nice."                 "Makes me happy."
            "She's my sister."         "She can do flips."

10. General Negative: Any response that is given that is reflective of the negative perception of the sibling relationship but does not fall with the above categories. This includes competition, rivalry, jealousy and ignoring the sib. It also includes a "nothing" response to questions 9, 10, 11 and 12.

Examples:  "Not very fun."                   "He's mean to me."
            "He's mad at me."                  "She's angry with me."
            "Like when she doesn't pay attention to me."
            "And he wouldn't listen to me when I talked to him."

0. No Response: No response was given to the question presented to the child.
APPENDIX H: JUDGE'S MANUAL
INTRODUCTION

The present study is concerned with sibling relationships. Recently researchers have given more credence to the roles siblings play in the socialization process; in the past the focus of research has been placed on the parents as the primary socializing agents. There is no doubt that having a sibling is a significant experience in a child's life. There is also no doubt about the emotional ties that are present in the sibling relationship.

TASKS

The materials you will be dealing with are verbal protocols that have been divided into thought units. These are responses of preschool children to an interview about their sibling. Your task is to classify each of the thought units within each verbal protocol according to specific categories. In order to carry out this task, definitions of 11 sibling relationship characteristics are being provided for you. Other materials provided for you include an index card stating the names of the categories, each respective numerical code and a copy of the interview used in data collection. Identification of the thought units in the verbal protocols are identified by slash marks (/ /).

PROCEDURE

The following procedure is to be followed before and during the classification of thought units:

1. Familiarize yourself with the interview.

The interview was divided into three sections for data collection. The first part of the interview was an open-ended format with a series of standard probes. These questions are number 1-16 on the interview sheet. The second part of the interview, questions 17-34, is more specific with yes/no questions and probes. The third part of the interview consisted of 10 picture sets and is not presented to you for judging.

2. Learn the definitions of each category.

Ten categories have been identified as being descriptive of sibling relationships. The eleventh category is a No Response category. The categories have been specifically defined and examples given for each (attachments: interview questions, definitions and score sheet). The relationship categories include: intimacy/affection, prosocial, companionship, aggression, antagonism, dominance, imitation, general positive and general negative.
3. Classify the thought units.

Before judging a verbal protocol, put the date and identify yourself by judge number and initial on the attached score sheet.

Each interview has been divided into individual thought units and these are identified with slash marks. Space has been provided above each unit of thought for you to indicate your judgment regarding the appropriate category. Refer to the interview and definitions at any time during the judging process to refresh your memory regarding definitions or to clarify categories.

After you have completed a protocol, record the numbers representing categories for each response in the order that they appear. Totals for each category will be tallied by the investigator.

4. Know the conventions.

There are several conventions that you must learn for judging purposes. Please keep these conventions in mind when judging the thought units and refer to them as much as you feel necessary.

a. "Nice" and "mean" are always to be classified in the General Positive and General Negative categories.

b. "Friend" is always an Intimacy/Affection classification.

c. A "nothing" response for questions 9-16 have specific classifying instructions. If "nothing" is the response given to questions 9, 10, 11, or 12, then it is to be classified as General Negative. However, if "nothing" is the response given to questions 13, 14, 15, or 16, then it is to be classified as General Positive. All other "nothing" responses are to be classified as Irrelevant.

d. When there is a compound verb (multiple action) in a sentence, be sure to consider the action within it's context; in other words, you may refer back to previous thought units.

e. Reliability will be checked at certain points during the judging process. In each case the investigator will set the number of protocols to be judged for the next reliability check.

f. It is possible that questions 17 through 34 will have nothing recorded in the protocol. This is particularly true for questions 18, 19, 21, 22, 24, 25, 27, 28, 30, 31, 33, and 34. This is due to the construction of the interview and you are not to judge the lack of response to the question.
g. If the response to the question is a consequence of having an older sibling, it will be classified as General Positive or General Negative.

h. There must be some indication of an interaction between the siblings, either directed toward or directed by one sibling to be classified as Companionship. If no such indication is given, then it is to be classified as Irrelevant (example: "Playing toys" does not indicate an interaction and is therefore classified as Irrelevant).

i. DO NOT project any assumptions into what is said by the child. Take everything at face value, unless you feel there is need for clarification.

j. Use the coding manual as a reference. It has specific examples for each category.
APPENDIX I: CODING MAP FOR DATA
### CODING MAP FOR DATA

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<thead>
<tr>
<th>Card 1</th>
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<td>1-3</td>
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Card 3

1-3  Id #
4    Card
5    Judge 2
6-7  Affection = 01
8-9  Prosocial = 02
10-11 Companionship = 03
12-13 Aggression = 04 Question 1
14-15 Antagonism = 05
16-17 Dominance = 06
18-19 Imitation = 07
20-21 Irrelevant = 08
22-23 General Positive = 09
24-25 General Negative = 10

26-27 Affection = 01
28-29 Prosocial = 02
30-31 Companionship = 03
32-33 Aggression = 04 Question 2
34-35 Antagonism = 05
36-37 Dominance = 06
38-39 Imitation = 07
40-41 Irrelevant = 08
42-43 General Positive = 09
44-45 General Negative = 10

46-47 Affection = 01
48-49 Prosocial = 02
50-51 Companionship = 03
52-53 Aggression = 04 Question 3
54-55 Antagonism = 05
56-57 Dominance = 06
58-59 Imitation = 07
60-61 Irrelevant = 08
62-63 General Positive = 09
64-65 General Negative = 10
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| 26-27 | Affection = 01 |
| 28-29 | Prosocial = 02 |
| 30-31 | Companionship = 03 |
| 32-33 | Aggression = 04 |
| 34-35 | Antagonism = 05 |
| 36-37 | Dominance = 06 |
| 38-39 | Imitation = 07 |
| 40-41 | Irrelevant = 08 |
| 42-43 | General Positive = 09 |
| 44-45 | General Negative = 10 |

**Question 4**

**Questions 17-34**
Card 5

1-3  Id #
4  Card
5-22  Yes/no  Y=1
?=2
N=3
23-32  Picture Sets  A=1
        B=2
33-34  MY1
35-36  MO1
37-38  MY2
39-40  MO2
41-42  MY3
43-44  MO3
45-46  MY4
47-48  MO4
49-50  MY5
51-52  MO5
53-54  MY6
55-56  MO6
57-58  MY7
59-60  MO7

Card 6

1-3  Id #
4  Card
5  Sex of Subject
6  Sex of Sibling
7-12  DOB for Subject (month 7-8, day 9-10, year 11-12)
13-18  DOB for Sibling (month 13-14, day 15-16, year 17-18)
19  Mother's Social Position
20  Father's Social Position
21  Marital Status  1=Married
    2=Remarried
    3=Separated
    4=Divorced
    5=Widowed
    6=Single
22-23  Total # in Household
24-25  Ordinal Position