

RELATIONSHIP OF EMPATHY, PERSPECTIVE-  
TAKING ABILITY, AND CAREGIVING IN  
YOUNG CHILDREN TO INFANT  
SIBLING ATTACHMENT

By

NANCY VICKREY BANKS

Bachelor of Arts

Rice University

Houston, Texas

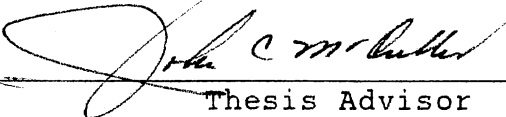
1970

Submitted to the Faculty of the  
Graduate College of the  
Oklahoma State University  
in partial fulfillment of  
the requirements for  
the Degree of  
MASTER OF SCIENCE  
December, 1989

Thesis  
1909  
B218r


RELATIONSHIP OF EMPATHY, PERSPECTIVE-  
TAKING ABILITY, AND CAREGIVING IN  
YOUNG CHILDREN TO INFANT  
SIBLING ATTACHMENT

Thesis Approved:

  
\_\_\_\_\_  
Thesis Advisor

  
\_\_\_\_\_

  
\_\_\_\_\_

  
\_\_\_\_\_  
Dean of the Graduate College

## ACKNOWLEDGEMENTS

Without the help of a number of people, this research could not have been done. First, I want to thank the subject families who volunteered their time, sometimes braving bad weather and impossible parking situations, for no recompense other than a handful of teddy grahams. These families truly made this research possible.

It is due to the support and direction of my advisor, Dr. John McCullers, that this thesis was initiated and completed. My committee members, Mona Lane and Dr. James D. Moran encouraged and advised me. In addition, Dr. Moran provided videotapes and other equipment, helped me to secure assistants and to arrange the room, and to set up the videotaping equipment.

Dr. Robert B. Stewart gave me valuable advice and direction in formatting the strange situation procedure and in using the perspective-taking games. This thesis is a partial replication of his 1983 study and his research with Marvin in 1984.

Dr. Cochenaur and the Child Development Lab allowed me to conduct research in the Conference room. Mary



Wilson, Faye Tevebaugh, and Jane Jacob took messages and gave me encouragement and coffee. Tammi Sullivan and Dr. Patti Self assisted with the videotaping equipment. Anne Bomba was an emergency stranger, helped me set up the research room, and crawled on floors so I could aim the camera "toddler high". Carla Goble provided encouragement, advice, and some emergency camera work. Gail McMillian and Lois Mickel allowed me to recruit assistants from their classes.

Several individuals helped me recruit the subject families: Theresa Harcey (Heritage Christian Day Care), Cheryl Chilton (KinderCare Learning Center, Inc.), Juanita Thompson (Stillwater Neighborhood Nursery), Helen McQuiston (Sunshine Tree Learning Center), Charlene Swaim (Rainbow Preschool), Bobbie Daugherty, Kitty Courtney, Ellen Crawford-Adams, and Dr. Susan Bullard.

Teresa Tully and Cindee Clark helped with scheduling and reminder calls to subjects, camera operators, and strangers. Camera operators were Julie Isch, Teresa Tully, Cindee Clark, Karen Cowlshaw, Dave Chapin, DeAnn Lowder, Jenny Kinnison, Greg, Deana Brazwell, Michelle Kumpe. Strangers included Leigh Bernard, Lisa Breckenridge, Judy Berna, Krista Iba,

Jenny Kinniston, Tami Kinzer, Michelle Kumpe, Lisa Menes, Despo Michaelidou, Chriti McGuire, Rachelle Payne, Dottie Peterson, Sarah Putnam, Mary Swinson, and Glenda Walters. A special thanks goes to Julie Isch and Karen Cowlshaw, who coded tapes and put in far more hours than required. A special thanks goes to Stephen Kimmel, who provided and taught me to operate the statistical program.

And finally, I would like to acknowledge my husband, Dan Banks. Dan provided financial and emotional support, editorial skill, and assistance with the computer. His encouragement kept me going when I would have quit.

This thesis is dedicated to my daughters, Emily and Laura, whose relationship motivates me to explore the process of sibling attachment.

## TABLE OF CONTENTS

Chapter	Page
MANUSCRIPT FOR PUBLICATION . . . . .	1
Cover Page. . . . .	1
Abstract. . . . .	2
Introduction. . . . .	3
Method . . . . .	8
Results . . . . .	16
Discussion. . . . .	25
References. . . . .	30
APPENDIX A: LITERATURE REVIEW . . . . .	37
Sibling Relationship . . . . .	38
Attachment . . . . .	41
Caregiving . . . . .	43
Cognitive Perspective-taking . . . . .	44
Empathy and Affective Perspective-taking . . . . .	47
Present Study . . . . .	52
References . . . . .	54
APPENDIX B: COMMUNICATIONS WITH PARENTS AND SUBJECT RECRUITERS . . . . .	62
Letter to Child Care Directors . . . . .	63
IRB Approval . . . . .	64
Recruitment Letter to Mother . . . . .	65
Telephone Call to Mother . . . . .	66
Confirmation Letter to Mother . . . . .	67
Consent to Participate in Research . . . . .	69
Instructions for Mother . . . . .	71

Chapter	Page
APPENDIX C: INSTRUMENTS . . . . .	72
Script of the Photo Album Task . . . . .	73
Photocopies of Photographs in the Album Task. . . . .	75
Glad and Sad/ Photo Album Form . . . . .	82
Glad and Sad Game Board and Matching Cards. . . . .	83
Birthday/ Syllogisms Game Form . . . . .	87
Hide and Seek Game Form . . . . .	88
Photocopy of Photograph of Hide and Seek Game. . . . .	89
Strange Situation Procedural Details. . . . .	90
Explanation of Strange Situation Procedure (SSP) Rating Form . . . . .	94
SSP Behavioral Ratings Form . . . . .	97
Summary of Behavioral Ratings Form. . . . .	98
Diagram of the Research Room . . . . .	100
APPENDIX D: DATA . . . . .	101
Summary of Responses to Family Information Form	102
Raw Data: Family Information Form and Results from Games and Other Measures . . . . .	117
APPENDIX E: SELECTED STATISTICAL ANALYSES. . . . .	167
Correlations . . . . .	168
T-tests . . . . .	171
Means and Ranges for Selected Variables . . . . .	174

Relationship of Empathy, Perspective-Taking Ability,  
and Caregiving in Young Children to  
Infant Sibling Attachment  
Nancy Vickrey Banks and John C. McCullers  
Department of Family Relations and Child Development  
Oklahoma State University

This article is based on the Master's thesis research of the first author conducted under the direction of the second. The author wishes to thank the other committee members, James D. Moran and Mona Lane. Thanks are due Karen Cowlshaw and Julie Isch for assistance in coding the videotapes, and appreciation is extended to all the families who participated in the study.

## Abstract

The subjects were 36 mother, infant (aged 11 to 23 months), and older sibling (aged 30 to 79 months) triads. A variation of the Ainsworth (1978) Strange Situation Procedure (Stewart, 1983) was used to assess attachment and caregiving: several measures were used to assess the older sibling's level of empathy and perspective-taking ability. Highly significant correlations were obtained between older sibling's caregiving and infant attachment,  $r = .69$ ,  $p < .0001$ , and between sibling's caregiving and level of empathy,  $r = .70$ ,  $p < .0001$ . However, caregiving was not significantly related to perspective-taking. The age of the older sibling was found to be related to caregiving ( $r = .36$ ,  $p < .03$ ), empathy ( $r = .51$ ,  $p < .001$ ), and perspective-taking ability ( $r = .75$ ,  $p < .0001$ ). These findings suggest that empathy may be a more important factor in child caregiving and infant sibling attachment than perspective-taking ability.

Relationship of Empathy, Perspective-Taking Ability,  
and Caregiving in Young Children to  
Infant Sibling Attachment

The sibling relationship is an unique one, often being the relationship of longest duration in an individual's life. Though research results have been contradictory, the existence, number, gender, and birth spacing of siblings have been shown to have lasting social and cognitive effects (Abramovitch, Pepler, & Corter, 1982; Bryant, 1982; Bryant & Crockenberg, 1980; Cicirelli, 1972; Minette, Vandell, & Santrock, 1983; Rosenberg, 1982; Schlacter, 1982). In some ways, the sibling relationship may be as important to an individual's development as the parent-child bond (Bryant, 1980; Cicirelli, August, 1982; Dunn, 1983; Lamb, 1978).

The process of attachment formation, like the sibling relationship, appears to have important developmental consequences for the individual. The effect on the infant of attachment to the mother differs from the effect of attachment to the father (Lamb, 1977). If the infant also forms an attachment to siblings, then sibling attachment may affect the development of the infant, and in a different way from

the infant's attachment to either parent.

The study of sibling attachment has been relatively ignored by researchers, who have tended to examine sibling rivalry or effects of birth order. Studies of attachment generally refer to the mother-infant (Ainsworth & Bell, 1970; Bowlby, 1969, 1979) or the father-infant bond (Lamb, 1981; Lewis, 1981). Although sibling attachment may be qualitatively different from the parent bond (Baskett & Johnson, 1982), studies have found sibling attachment behavior demonstrated by infants in a modification of the Ainsworth (1978) strange situation procedure (Howe, 1987; Stewart, 1983; Stewart & Marvin, 1984).

Attachment can be inferred from a child's attempt to stay close to, communicate with or contact a parent or other attachment figure (Cicirelli, 1982) or from the use of the attachment figure as a secure base from which to explore (Ainsworth & Bell, 1970). Dunn (1983) defined siblings as displaying attachment behavior if one child provided a secure base for the other, was missed when absent, and was used as a source of comfort and security. Samuels (1980) found that 23-month-old infants increased their locomotor exploration in an unfamiliar backyard in the presence of their preschool-



aged sibling and that sibling absence was related to infant distress.

While Lamb (1978), distinguishing between affiliation and attachment, stated that infants were not attached to their preschool-aged siblings, other researchers have found attachment theory to be applicable to siblings and useful in understanding the sibling relationship (Cicirelli, August, 1982; Dunn & Kendrick, 1981; Howe, 1987; Stewart, 1983; Stewart & Marvin, 1984). When placed in a situation that prevented use of either parent as an attachment figure, infants displayed attachment to their siblings, especially to the those siblings who provided caregiving (Stewart, 1983).

Stewart and Marvin (1984) explored the relationship between the child's perspective-taking ability and caregiving to infant siblings, finding that children who were able to take perspective were the most likely to provide caregiving to their infant siblings. Children who could make inferences about another's point of view, were more able to respond effectively to a younger sibling's distress over separation from mother. However, in a later study, Howe (1987) found no association between perspective-taking ability and child

caregiving, casting some doubt on the role of perspective-taking in child caregiving.

Perspective-taking ability may enable an individual to understand the thoughts, motives, needs, and feelings of another, but need not encompass motivation to help. Although perspective-taking skills might be evident in specific prosocial acts, perspective-taking ability does not insure increased rates of prosocial behavior (Iannotti, 1985).

In Stewart's (1984) study not all caregivers were perspective-takers, nor did all the perspective-takers comfort their distressed infant siblings. Affective and cognitive perspective-taking have been found to be significantly related, but affective perspective-taking has been found to be more strongly related to prosocial behavior (Denham, 1986). Perhaps affective perspective-taking, and the broader construct of empathy, rather than cognitive perspective-taking, are the crucial factors in the development of child caregiving and sibling attachment. Empathic children are more likely to adjust their behavior to another's needs, helping when needed and assuaging feelings when hurt (Marcus & Roke, 1980). Logically, the empathic child should be more likely to be a caregiver than a child less

concerned with the feelings of others.

Empathy has been defined as cognitive awareness of others' emotional states, and as both cognitive awareness and vicarious affective response to others' emotional states (Borke, 1971; Hoffman, 1979, 1980). Though there has been debate about the extent and even the existence of empathy in young children (Borke, 1971, 1972; Chandler & Greenspan, 1972), Hoffman (1979) declared that people of all ages display empathy to those in distress.

The purpose of this research was to clarify the relationship between sibling attachment and child caregiving, as related to empathy and cognitive perspective-taking ability. Children who could better understand and interpret their younger siblings needs were expected to more effectively demonstrate appropriate caregiving behaviors than siblings who could not take the infants' viewpoint. The infants were expected to show more attachment to siblings who provide appropriate caregiving.

Based on the findings of Stewart and Marvin (1984), a positive relationship was expected to be found between child's age, conceptual perspective-taking, and caregiving behavior, though Howe's (1987) study cast

some doubt on the relationship between conceptual perspective-taking and caregiving. Empathy was expected to be positively related to age and cognitive perspective-taking, and a better predictor than either of caregiving (Denham, 1986). The effects of gender, age, dyad composition of the sibling pair, and age spacing between children on attachment and caregiving, and the effect of gender and age on empathy were also explored.

#### Method

##### Subjects

The subjects were 36 triads, each composed of mother, infant, and an older sibling, from families living in or near Stillwater, Oklahoma. Families were recruited through preschools, day care centers, churches, and individuals. The infants were 21 boys (ranging in age from 11 to 22 months) and 15 girls (ranging in age from 11 to 23 months). The older siblings were 17 girls (ranging in age from 30 to 64 months) and 19 boys (ranging in age from 35 to 89 months). In 12 dyads, both children were boys; in 8 dyads, both children were girls; 7 dyads consisted of an older brother and younger sister, and 9 dyads of an older sister and younger brother.

All the mothers were white. Those who worked outside the home held professional or skilled jobs; all mothers had at least a high school education. For the most part, the families were two child, intact families (see Appendix D, Summary of Family Information Form for details).

#### Design and Procedure

Participation in the study was voluntary. The study, games, and procedures were explained to the mothers (see Telephone Call to Mother and Confirmation Letter to Mother, Appendix B) and both parents signed a consent to participate form (for informed consent form see Appendix B). After each observation was completed, the study and specific procedures were explained to children who were able to understand them.

The design of the study was a 9-episode variation of the Ainsworth (1978) strange situation procedure (Appendix C) derived from Stewart (personal communication, 1985). The Ainsworth Strange Situation Procedure has been found to be reliable, stable, and valid (e.g., Ward, Vaughn, & Robb, 1988).

The study took place in a 10 foot x 10 foot space arranged as a waiting room with one chair, a table, a bureau and a basket of toys. The floor was marked with

tape in a grid of three foot squares to facilitate the determination of proximity and approach by the observers. While the study was in progress, the mother provided demographic data, and information about social, attachment, and caregiving behaviors that the children had demonstrated at home (see Family Information Form, Appendix C).

Baselines were established during Episodes 1 and 3, with mother, infant, and child together in one room. During Episode 2, the perspective-taking tasks were administered to the older sibling, usually in an adjoining room. The mother left the room in Episode 4, leaving the siblings alone together. If the children were not overly distressed by the separation from mother, a "stranger" (white, female college student) entered the room during Episode 5. The stranger was instructed to act neutrally; to respond to the children, but not to initiate any behavior. The purpose of this episode was to give the child another chance to display caregiving and the infant a chance to use the child as a secure base and/or to maintain proximity.

In Episode 6 the child left the room, leaving the infant alone with the stranger. Again, this was an opportunity for the infant to demonstrate sibling

attachment behavior. In Episode 7, infants were left alone until they displayed distress or for a maximum of one minute. The purpose of the infant alone episode (Episode 8) was to allow the older sibling to reunite with the infant without influence from the stranger. The infant and child reunion gave another opportunity for the older child to exhibit caregiving to a potentially distressed infant, and for the infant to display sibling attachment behaviors. The mother rejoined the children in Episode 9. Because of infant and/or child distress, two or more episodes were shortened or eliminated in 14 cases, one time at mother's request.

A video camera and operator were hidden behind a screen and curtains in one corner of the "waiting room," while a second, stationary, video camera was located behind a one-way mirror in an adjoining room, diagonally opposite the first camera. Another one-way mirror allowed the children to be observed throughout the procedure.

Three independent observers coded the videotaped records. The researcher coded all 36 cases; 32 cases were also coded by one of the two others. The observers were trained to make global judgments about behaviors by

coding and discussing seven videotapes from the pilot study. Two coders were "blind" as to children's age, perspective-taking ability, or Glad and Sad scores. Several months separated the coding of the videotapes from the administration of games, therefore, the researcher also was effectively blind as to the age and perspective-taking ability of each subject.

Attachment, caregiving, fear/wariness, negative, exploratory, or neutral behaviors were recorded on the SSP Form (see SSP Training/ Definitions and Strange Situation Procedure Form, Appendix C), and global judgments about the level of the infant attachment, maternal and child caregiving, infant and child distress, empathy and perspective-taking were recorded on the Summary of Behavioral Ratings (see Appendix C). Mother, infant and child behaviors were recorded at 10-second intervals for Episodes 1 and 3 through 9. In Episode 2, when the perspective-taking games were administered to the child in another room, mother and infant behaviors were recorded in 30-second intervals.

Global scores ranged from 0 (no attachment or caregiving) to 4 (very high caregiving or attachment). Interrater reliability was high, as measured by the degree of correlation between the observers' ratings of



sibling attachment ( $r = .71$ ,  $p < .0001$ ) and child caregiving ( $r = .91$ ,  $p < .0001$ ). Whenever there was a discrepancy between the two observers, their ratings were averaged to determine the subject's scores.

Behaviors that were coded as sibling attachment included the infant crying, or following the sibling to the door when the child left in Episodes 2 or 6, following or staying close to the sibling (especially when mother left or the stranger entered), and after the mother's departure or on the stranger's entrance, a continuation of play (which was interpreted as use of the child as a secure base). An infant was considered to be attached if the global score was 2.5 or higher.

Children displayed caregiving to distressed infants by patting, holding, and hugging the infants, assuring the infants that mother would return soon, or trying to involve the infants in play. Children were classified as caregivers if they tried to relieve the infants' distress within 30 seconds and were given a global rating of 3.

#### Measures of Cognitive Perspective-taking

The Birthday Game and Syllogisms (presented in Appendix C) were used to assess ability to make inferences and conceptual perspective-taking considered

to be the cognitive basis of perspective-taking (Stewart & Marvin, 1984). In the Birthday game the child was asked to choose between two imaginary gifts for mother, one appropriate for a child, the other for an adult. Four adult appropriate choices were needed to pass. The Syllogism Game tested the child's ability to reason from a premise to a logical conclusion. Based on information about a hypothetical child, the child was asked which of two things the hypothetical child would prefer to do. The Syllogism Game was passed if three questions were answered correctly, with two justifications, and increased latency on the last question. The child's answers were recorded on the game forms (see Appendix C). Performance on these tasks have been found to correlate highly with other perspective-taking tasks (Stewart & Marvin, 1984).

Hide and Seek with Kermit and Ms. Piggy used a game board, a plastic brick wall, and small figures as game pieces to assess perceptual perspective-taking. The object of the game was to find a place for Kermit to hide from Ms. Piggy and/or Fonzie Bear (see Appendix C). Choosing at least four of six hiding places correctly determined passing. The hide and seek game was included because, unlike the other two games, no verbal ability

was needed. The three perspective-taking games were described by Stewart in a personal communication with the author (April 15, 1985). Children who passed all three cognitive perspective-taking games were classified as perspective-takers.

#### Measures of Affective Perspective-taking.

A fourth game played during Episode 2 measured affective perspective-taking. In Glad and Sad with Bert and Ernie, adapted from a game in Sesame Street magazine, children were asked to choose the correct affect in a series of pictures. The game consists of 12 cards, 4 with happy faces and 2 with sad faces for each for the characters, Bert and Ernie, and a board with 12 pictured situations (6 for each character) intended to elicit happy or sad feelings (in one "sad picture", Bert's toy truck was broken; in a "happy picture", Ernie was opening a present). The children were given one point for each of 12 pictures correctly identified as happy or sad, and one point for each emotion that was correctly matched to the situation. Many children spontaneously verbalized reasons for their selections ("Ernie is happy because it is his birthday; Bert is sad because his truck broke.").

Prior to Episode 1, a photograph album was used by

the researcher to establish rapport with the children and to gather further data on the older child's affective perspective-taking ability. The album contained 10 photographs of the researcher's two daughters, at various ages from 12 months to 7 years. The subject children were videotaped as they were shown the photographs and told a brief story (vignette) about each picture. These vignettes described actual events and children, rather than hypothetical ones. Stories and photographs were designed to display and elicit varied emotional responses (see Photo Album Task, Appendix C).

Originally, the intent was to code the child's facial expression (congruent/incongruent with the emotion conveyed by the photograph/story), but videotaping difficulties prevented a consistent view of each child throughout the entire album, making a more global evaluation necessary (responsive = 3 to non-responsive = 1).

### Results

The variables of infant attachment, child caregiving, empathy, and perspective-taking, and the relationship of age, gender, spacing, and dyad composition to those variables, were analyzed. The

statistical analyses of the data were performed using the Edu-Stat program (Young, 1987). The influence of maternal caregiving on child caregiving was also explored.

### Infant Attachment

The infant attachment scores ranged from 0.5 to 3.5 on a 0 to 4 (5-point) scale. The mean score was 2.21, with a standard deviation of 0.81. Twenty infants were rated as "highly attached", 10 as "somewhat attached"; 6 infants displayed little or no attachment behavior to their siblings.

Ten female infants (67%) and 10 male infants (47%) were rated highly attached to sibling. Seven (58%) male infants were attached to older brothers; 5 (62%) female infants were attached to older sisters; 3 (33%) male infants were attached to older sisters; 5 (71%) infant females were attached to older brothers. Older boys had more attached infant siblings (of either sex) than did girls, but this difference was not statistically significant.

Infants were more likely to be highly attached to much older siblings,  $t(34) = 2.4005, p < .02$ ); the mean age of siblings of infants exhibiting high attachment was 58 months, while the mean age of the siblings with

infants exhibiting low attachment was 49 months. The three infants with siblings older than six years were rated as attached, while none of the four infants with siblings under 40 months were highly attached. However, infant attachment showed only a nonsignificant relationship to age of older sibling ( $r = .29$ ,  $p < .09$ ).

#### Child Caregiving

Caregiving scores ranged from 0 to 3.5 on a 5-point scale. The mean caregiving score was 1.99, with a standard deviation of 1.15. Nine males (52%) and 8 females (47%) were rated as caregivers; 8 male infants (38%) and 9 female infants (60%) received caregiving. While females were more likely to be the recipients of caregiving, this difference was not significant.

Caregiving was found to correlated significantly with age ( $r = .3556$ ,  $p < .03$ ) and wide age spacing (more than 36 months) between the children ( $r = .4126$ ,  $p < .01$ ). Caregivers were on the average 42 months older than their younger siblings, while noncaregivers averaged only 33 months older than their infant siblings ( $t(34) = 2.3765$ ,  $p < .02$ ).

There was a nonsignificant negative trend between maternal caregiving to infant and child caregiving to infant.

### Cognitive Perspective-taking

Both total raw score (number of correct answers on the combined Birthday, Syllogism, and Hide and Seek games) and number of games passed were considered in determining perspective-taking ability. Total scores on the perspective-taking tasks correlated highly with perspective-taking ability defined as passing all three games,  $r = .94$   $p < .0001$ . The perspective-taking games -- Birthday, Syllogism, and Hide and Seek-- correlated significantly with each other,  $r = .67$ ,  $r = .66$ ,  $r = .67$ ,  $p < .0001$ , respectively. Most perspective-takers scored 14-17 points total on the three games, though one child's score of 12 passed; two children who scored 14 failed because they did not provide justifications for their answers.

Perspective-taking raw scores ranged from 1 to 17, with a mean of 11.7 and a standard deviation of 5. The 17 (8 making perfect scores) children that passed all three games were classified as perspective-takers. Of the 19 nonperspective-takers, six children passed none of the games, seven children passed one game, and six passed two games. More children (27) passed Hide and Seek, the task requiring the least verbal ability, than passed Syllogisms or the Birthday game (19 each).

Perspective-taking correlated positively with the child's age,  $r = .75$ ,  $p < .0001$ . The mean age of the 17 perspective-takers was 63 months, while the mean age of the 19 non-perspective-takers was 46 months.

Males were significantly more likely than females to pass the spacial perspective-taking Hide and Seek game,  $t(25) = 2.0878$ ,  $p < .05$ ), but there were no significant gender differences on perspective-taking as a whole. Ten of the 19 (52%) boys were perspective-takers; 7 of the 17 (41%) girls were perspective-takers. The apparent, nonsignificant, gender difference might be an artifact of age, since the girls as a group were younger than the boys,  $t = 2.03$ ,  $p < .05$ .

### Empathy

Observation of aggressive, helping, social, and affectionate behavior during the procedure was noted, but of these, only aggression was considered in the overall empathy score. Originally, empathy was to be assessed by Glad and Sad, the photo album (both measuring affective perspective-taking), aggression, and sharing. A total empathy score was obtained by combining scores from the Glad and Sad game, the toy and treat sharing scores of both raters, both album scores, and the aggression score. An averaged empathy score was



derived by averaging the global empathy scores of the two raters. The global rating was closely related to raw score totals,  $r = .90$ ,  $p < .0001$ . The scores of the raters on the individual and global empathy measures correlated significantly on all measures (Global:  $r = .83$ ,  $p < .0001$ ; Photo Album:  $r = .85$ ,  $p < .0001$ ; Toy Sharing:  $r = .54$ ,  $p < .002$ ; Treat Sharing:  $r = .93$ ,  $p < .0001$ ; Child Aggression to Infant:  $r = .92$ ,  $p < .0001$ ).

The universally high scores on Glad and Sad made the game useless for predicting either empathy or caregiving. Because the correlations with or without Glad and Sad were high, the Glad and Sad scores were eliminated from the empathy scores for the purposes of analysis.

Although videotaping difficulties made evaluation of the children's facial expressions during the Photo Album task unreliable, global ratings of responsiveness to the album were made and these were significantly correlated with the empathy scores,  $r = .6689$ ,  $p < .0001$ . The album was scored from 0 (no appropriate emotional responsiveness) to 4 (highly responsive). The scores ranged from 0 to 4, the mean score for the album task was 2.25, with a standard deviation of 0.95.

Kind and amount of aggression was considered in the

empathy rating, but aggression occurred too infrequently to have useful value as a measure. Aggression was scored from 3 (no aggression) to 0 (high aggression, hit or otherwise physically hurt the sibling). Non-aggression correlated with empathy,  $r = .4670$ ,  $p < .004$ , but two of the eleven children that were aggressive to younger siblings were also caregivers.

Boys tended to be more physically aggressive, while girls were verbally aggressive; 29% of older sisters and 32% of older brothers were aggressive to their infant siblings. Girls aggressed against younger brothers in 4 out of 5 acts of aggression (1 time in 9 sister/sister dyads; 4 times in 8 sister/ brother dyads), while boys aggressed sisters and brothers an equal number of times (3 out of 12 male/male dyads, 3 out of 7 male/ female dyads).

Both toy and treat sharing were rated on a 5-point scale from 0 (the child refused to share or took the toy or treat from the infant) to 4 (the child shared voluntarily). The total sharing score (both toy and treat sharing) as rated by both coders was highly related to overall empathy rating,  $r = .8457$ ,  $p < .0001$ . The mean sharing score of the more empathic children was 13.5, while the mean sharing score of the less

empathetic children was 5. Total sharing scores ranged from 0 to 16, with a mean of 9.5 and standard deviation of 5.7. The sharing of snacks and toys with younger siblings was the measure that most highly correlated with overall empathy ( $r = .97$ ,  $p < .001$ ) and child caregiving ( $r = .52$ ,  $p < .001$ ).

Empathy scores increased moderately with age,  $r = .5115$ ,  $p < .001$ . The mean age of those rated high in empathy was 59 months; those rated lower in empathy had a mean age of 49 months. Although older children tended to be more empathic than younger ones, many younger children were rated high in empathy. There were no significant gender differences in empathy.

#### Relation Between Empathy and Cognitive Perspective-taking

There was a significant correlation between empathy and perspective-taking,  $r = .5556$ ,  $p < .0004$ . Children with perspective-taking scores higher than 14 tended to have higher empathy scores (mean = 23) than non-perspective-takers (mean = 16). Eleven (47%) of the perspective-takers were rated high on empathy, and 6 perspective-takers were rated low on empathy; 7 (39%) nonperspective-takers had high empathy; 12 children rated low on both empathy and perspective-taking.

### Relation Between Caregiving and Perspective-taking

A significant correlation between caregiving and perspective-taking was not found. However, there were more perspective-taking caregivers (59%), than non-perspective-taking caregivers (37%); only 7 perspective-takers were not caregivers, while 12 (63%) of the non-perspective-takers were not caregivers.

### Relation Between Distress, Caregiving, and Attachment

Fourteen infants displayed little or no distress when the mother left the room in Episode 4; 22 infants displayed moderate to high distress. Only six infants were not actively distressed by being left alone. Eight infants were at least mildly distressed when left alone, and in nine cases, the level of infant distress was so high the episode was shortened or eliminated. In 13 cases, two or more episodes were eliminated or shortened because of infant and/or child distress. Every infant that received caregiving evidenced at least some distress, though not every distressed infant had a sibling caregiver.

There was a significant tendency for caregivers to have highly attached infant siblings,  $r = .69$ ,  $p < .0001$ . Of 17 caregivers, 15 (88%) had highly attached infants, and none of the caregivers had infants rated as having

no or low attachment. Only 5 of the 19 noncaregivers (26%) had highly attached infants. In two of the high attachment/low caregiving dyads, the infants displayed so little distress that no caregiving was needed.

#### Relation Between Empathy, Sharing, Caregiving, and Attachment

There was high positive correlation between empathy and caregiving,  $r = .7020$ ,  $p < .0001$ . Nearly every caregiver rated high in empathy (16/17, 94%) and all but two with high empathy (88%) were caregivers. The two children with high empathy and low caregiving had infants that exhibited little distress and therefore needed little caregiving; these were the high attachment/low caregiving infants referred to earlier. The mean raw empathy scores of the caregivers was 24, while that of the noncaregivers was 14,  $t(30) = 5.6872$ ,  $p < .0001$ . Infant sibling attachment correlated with the older child's empathy score,  $r = .51$ ,  $p < .002$ .

Sharing was positively correlated with caregiving,  $r = .52$ ,  $p < .001$ . Caregivers had mean sharing scores of 13 (SD = 3), while noncaregivers had mean scores of 6 (SD = 5),  $t(34) = 4.45$ ,  $p < .0001$ .

#### Discussion

The infants, as expected, displayed more attachment

behaviors to siblings who were effective caregivers than to siblings who provided little or no appropriate caregiving. As predicted, empathy was positively related to child caregiving. Empathy was also found to be positively related to child's age, cognitive perspective-taking ability, and infant sibling attachment.

In contrast to the findings of Stewart and Marvin (1984), but in agreement with those of Howe (1987), this study did not find a significant correlation between caregiving and perspective-taking. Perspective-taking and caregiving were assessed somewhat differently in the Howe (1987), Stewart and Marvin (1984), and current study, which may account for the discrepancies in results.

Stewart and Marvin (1984) found a significant relationship between age of child and perspective-taking to be significant. In this study, perspective-taking was also positively correlated with the child's age. Since the child's age is related to empathy, conceptual perspective-taking, and child caregiving, age could explain the correlation between empathy and perspective-taking.

Dunn and Kendrick (1981) found no association

between the age of the child and frequency of empathetic behavior. In this study, although older children tended to be more empathic than younger ones, many of the younger children were high in empathy. Age alone does not seem to account for empathy; sharing proved to be a better predictor of both overall empathy score and caregiving than age. Age spacing was positively related to attachment and caregiving, but the effect of increased age could not be separated from that of spacing alone, since spacing was highly correlated with the age of the child.

Howe (1987) found a strong association between infant distress and child caregiving,  $r = .49$ ,  $p < .05$ , concluding that infant distress, rather than perspective-taking, was correlated with child caregiving. Although in this study, every infant who received caregiving experienced distress, not every distressed infant received child caregiving. Howe's (1987) finding could also be interpreted as showing that only the distressed infants needed caregiving. The relationship between infant distress and child caregiving needs to be further explored.

Stewart, in a personal communication (February 23, 1987), suggested that the child's modeling of the mother

might be a factor in child caregiving. The level of maternal caregiving in this study was generally high. Mothers with lower caregiving ratings usually had infants who demonstrated little distress. Nine of the infants were so calmed by the entrance of their siblings in Episode 8, that little caregiving was needed when the mother entered in Episode 9. These data support the view that effective child caregivers reduce the need for maternal caregiving. A different measure would be needed to determine if modeling is a factor in child caregiving.

Empathy was measured by sharing, nonaggression, and affective perspective-taking. Other studies have found both positive and, more rarely, negative relationships between sharing and empathy (Underwood & Moore, 1982). Altruistic children have been found to score higher on affective perspective-taking than non-altruistic ones (Eisenberg-Berg & Lennon, 1980). In this study, sharing snacks and toys with younger siblings was the measure that most highly correlated to overall empathy and to child caregiving. In two cases, the treat sharing scores of caregivers were low, because the infants were too young to eat the small, bear shaped cookies, indicating caution rather than unwillingness to share.



Mixed sex dyads were the most likely to be aggressive, which concurred with Dunn and Kendrick's (1981) observation that by the time an infant sibling was 14 months, different sex older siblings became more negative. However, it must be remembered that the number of aggressive acts and the number of subjects in each dyad category in this study were too low to draw any confident conclusions about aggression.

Siblings can and do provide caregiving; infants do form attachments to their siblings. Empathy, rather than perspective-taking, appears to be the better predictor of both child caregiving and infant sibling attachment. Research is needed to determine why some children display more empathic behaviors, and share more willingly, and to discover whether infants that are attached to siblings in infancy maintain a close relationship in the preschool years and beyond.

## References

- Abramovitch, R., Pepler, D. J., & Corter, C. (1982).  
Patterns of sibling interaction among preschool  
aged children. In M. E. Lamb & B. Sutton-Smith  
(Eds.), Sibling relationships, their nature and  
significance across the lifespan (pp. 71-83).  
Hillsdale, N. J.: Erlbaum.
- Ainsworth, M. D. S., & Bell, S. M. (1970).  
Attachment, exploration, and separation: Illustrated  
by the behavior of one-year-olds in a strange  
situation. Child Development, 41, 49-67.
- Ainsworth, M. D. S., Blehar, M. C., Walters, E. &  
Wall, S. (1978). Patterns of attachment: A  
psychological study of the strange situation.  
Hillsdale, N. J.: Erlbaum.
- Baskett, L. M. & Johnson, S. M. (1982). The young  
child's interactions with parents versus siblings:  
A behavioral analysis. Child Development, 53,  
643-650.
- Borke, H. (1971). Interpersonal perceptions of young  
children: Egocentrism or empathy?. Developmental  
Psychology, 5(2), 263-269.
- Borke, H. (1972). Chandler and Greenspan's "ersatz  
egocentrism": A rejoinder. Developmental Psychology,

- 7(2), 107-109.
- Bowlby, J. (1969). Attachment and loss (v. 1). New York: Basic Books.
- Bowlby, J. (1979). The making and breaking of affectional bonds. London: Tavistock Publications.
- Bryant, B. K. (1982). Sibling relationships in middle childhood. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships, their nature and significance cross the lifespan, (pp. 97-116).
- Bryant, B. & Crockenberg, S. (1980). Correlates and discussion of prosocial behavior: A study of female siblings with their mothers. Child Development, 51, 529-544.
- Chandler, M. J. & Greenspan, S. (1972). Ersatz egocentrism: a reply to H. Borke. Developmental Psychology, 7(2), 104-106.
- Cicirelli, V. C. (1972). The effect of sibling relationships on concept learning of young children taught by child teachers. Child Development, 43, 282-287.
- Cicirelli, V. C. (1982, August). An attachment model of sibling helping behavior in old age. Paper presented at the annual convention of the American Psychological Association (90th,

- Washington, DC).
- Cicirelli, V. C. (1982). Sibling influence throughout the lifespan. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships their nature and significance across the lifespan (pp. 267-281). Hillsdale, N. J.: Erlbaum.
- Denham, S. A. (1986). Social cognition, prosocial behavior, and emotion in preschoolers: contextual validation. Child Development, 57, 194-201.
- Dunn, J. (1983). Sibling Relations in early childhood. Child Development, 54, 787-811.
- Dunn, J., & Kendrick, C. (1981). Social behavior of young siblings in the family context: Differences between same-sex and different-sex dyads. Child Development, 52, 1265-1273.
- Eisenberg-Berg, N., & Lennon, R. (1980). Altruism and the assessment of empathy in the preschool years. Child Development, 51, 552-557.
- Hoffman, M. L. (September 1, 1979). Development of empathy and altruism. Paper presented at the Annual Meeting of the American Psychological Association, New York, NY. (ERIC Document Reproduction Service No. ED 179 294)

- Hoffman, M. L. (1980). Conceptual, ethodological, and value issues in empathy research. Paper presented at the Biennial Meeting of the Society for Research in Child Development, San Francisco, CA. (ERIC Document Reproduction Service No. ED 176 850)
- Howe, Nina (April, 1987). Socialization, social cognitive factors and the sibling relationship. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Baltimore, MD. (ERIC Document Reproduction Service No. 284 674)
- Iannotti, R. J. (1985). Naturalistic and structured assessments of prosocial behavior in preschool children: the influence of empathy and perspective taking. Developmental Psychology, 21,46-55.
- Lamb, M.E. (1977). The relationships between mothers, fathers, infants, and siblings in the first two years of life. Paper presented at the meeting of the Society of Behavioral Development, Pavia, Italy.
- Lamb, M. E. (1978). Interactions between 18 month old and their preschool aged siblings. Child Development, 49, 51-59.

- Lamb, M.E. (1981). Fathers and child development: An integrative overview. In M. E. Lamb (Ed.), The role of the father (2nd ed.) (pp. 1-70). New York: John Wiley & Sons.
- Lewis, M. (1981). The father as a member of the child's social network. In M. E. Lamb (Ed.), The role of the father (2nd ed.) (pp. 259-294). New York: John Wiley & Sons.
- Marcus, R. F. & Roke, E. J. (1980, April). The specificity of empathic responses in young children. Paper presented at the Biennial Southeastern Conference on Human Development, Alexandria, VA. (ERIC Document Reproduction Service No. ED 188 739).
- Minette, A. M., Vandell, D. L., & Santrock, J. W. (1983). The effects of sibling status on sibling interaction: Influence of birth order, age spacing, sex of child, and sex of sibling. Child Development, 54, 1064-1072.
- Rosenberg, B. G. (1982). Lifespan personality stability in sibling status. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships, their nature and significance across the lifespan (pp. 167-215). Hillsdale, N. J.: Erlbaum.

- Samuels, H. R. (1980). The effect of an older sibling on infant locomotor exploration of a new environment. Child Development, 51, 607-609.
- Schlacter, F. F. (1982). Sibling deidentification and split parent identification: A family tetrad. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships, their nature and significance across the lifespan (pp. 123-148). Hillsdale, N. J.: Erlbaum.
- Stewart, R. B. (1983). Sibling attachment relationships: Child-infant interactions in the strange situation. Developmental Psychology, 19(2), 192-199.
- Stewart, R. B. & Marvin, R. S. (1984). Sibling relations: The role of conceptual perspective-taking in the ontogeny of sibling caregiving. Child Development, 55, 1322-1332.
- Underwood, Bill & Moore, B. (1982). Perspective-taking and altruism. Child Development, 91(1), 143-173.
- Ward, M., Vaughn, B. E., & Robb, M. D. (1988). Social-emotional adaptation and infant-mother attachment in siblings: role of the mother in cross-sibling consistency. Child Development, 59, 643-651.

Young, C. E. (1987). Edu-Stat: Statistical software  
for Education. University Center at Tulsa.



APPENDIX A  
LITERATURE REVIEW

Relationship of Empathy, Perspective-Taking Ability,  
and Caregiving in Young Children to  
Infant Sibling Attachment

The role of the sibling and of sibling attachment in a child's development, and the factors that might influence sibling attachment, such as child caregiving, cognitive perspective-taking, and empathy are explored in this review. The sibling relationship is considered first, including the effects of gender, age, and spacing on the sibling relationship. Next, attachment is considered. Child caregiving, then the influence on child caregiving of empathy and perspective-taking are reviewed next, with a final section describing the present study.

Sibling Relationship

Often the relationship of longest duration in an individual's life, the sibling relationship may be as important to a person's development as the parent-child bond (Bryant, 1980; Cicirelli, August, 1982; Dunn, 1983; Lamb, 1978). The existence, number, gender, and birth spacing of siblings have been shown to have lasting social and cognitive effects (Abramovitch, Pepler, & Corter, 1982; Bryant, 1982; Bryant & Crockenberg, 1980; Cicirelli, 1972; Minette, Vandell, & Santrock, 1983;

Rosenberg, 1982; Schlacter, 1982). Infants' play experiences with their older siblings predicted later infants' exchanges with an unfamiliar peer (Vandell & Wilson, 1987), while toddlers increased their locomotor exploration in the presence of their preschool-aged sibling (Samuels, 1980).

Siblings differ from friends, in that friends are chosen and can be discarded. Siblings are available as sources of social interaction, affection, and support, but the competition and conflicts that can happen in a sibling relationship would end many friendships. This striking mixture of closeness and conflict in sibling relationships may lead to distinctive learning experiences in sibling relationships (Furman & Buhrmester, 1985).

In the Dunn and Kendrick (1981) study, by the time the a infant sibling was 14 months, the children spent more time in positive interaction if they were the same sex, while different sex older siblings became more negative (1981). Sex differences in frequency of prosocial behavior towards infant siblings has been found (Abramovitch, et al., 1979; Lamb, 1978), but Lamb (1978) did not find any sex differences in infants' behavior toward their older siblings.

In the Furman and Buhrmester (1985) study, school age children reported a greater sense of reliable alliance with younger than older siblings. When age spacing was wide (greater than four years), children reported greater feelings of affection in sibling relationships than if the age spacing was narrow. Children received more help from older siblings, especially brothers, than from friends. Younger siblings, however, were more often perceived as companions; there was more companionship with same-sex than with opposite-sex siblings. Children reported greater intimacy with same-sex than opposite-sex siblings, but the difference in intimacy was only in dyads in which the age space was narrow. Conflict occurred most often in narrow spaced dyads, with less conflict with wide-spaced older siblings than with narrow-spaced older siblings or with younger siblings of either spacing. Older siblings, like parents, were frequent sources of instrumental aid; same-sex siblings, especially closely spaced ones, were frequent sources of companionship and intimacy (Furman & Buhrmester, 1985).

Infants when left with much older siblings often experienced little distress in the strange situation

(Stewart, 1983). Stewart speculated that these infants were so securely attached to the older siblings that distress relieving behavior was not needed (personal communication, April 15, 1985).

Siblings affect each others' cognitive and social development and in a way different from parents or friends. One aspect of the sibling relationship that needs to be further explored is sibling attachment.

#### Attachment

The formation of attachments, like the sibling relationship, has lasting social and cognitive effects on the development of an individual. Attachment can be inferred from a child's attempt to stay close to, communicate with or contact a parent or other attachment figure (Cicirelli, 1982) or from the use of the attachment figure as a secure base from which to explore (Ainsworth & Bell, 1970).

Studies of attachment generally refer to the mother-infant (Ainsworth & Bell, 1970; Bowlby, 1969, 1979) or the father-infant bond (Lamb, 1981; Lewis, 1981). Lamb (1978), distinguishing between affiliation and attachment, stated that infants are not attached to their preschool aged siblings; Baskett and Johnson (1982) stated that sibling attachment may be

qualitatively different from the parent bond, but other researchers find attachment theory applicable to the sibling relationship and instrumental in understanding the sibling relationship (Cicirelli, August, 1982; Dunn & Kendrick, 1981; Stewart, 1983; Stewart & Marvin, 1984).

Dunn (1983) defined siblings as displaying attachment behavior if one child provides a secure base for the other, is missed when absent, and is used as a source of comfort and security. When the infant is placed in a situation that prevents the use of mother or father as an attachment figure, infant sibling attachment can be observed (Stewart, 1983).

Samuels (1980) found that toddlers increased their locomotor exploration in an unfamiliar backyard in the presence of their preschool-aged sibling and infant distress was related to sibling absence. Stewart (1983) found that more than half of his infant subjects displayed attachment behavior toward siblings during a strange situation procedure.

Lamb (1977) claimed that the effect on the infant of attachment to the mother differed from the effect of attachment to the father. If infants also form an attachment to siblings, then sibling attachment may

affect the development of the infant, and in a different way from attachment to either parent.

Infants do demonstrate attachment behaviors to their siblings and the sibling relationship does affect cognitive and social development. One factor that appears to influence attachment is caregiving.

#### Child Caregiving

In most attachment theories, caregiving plays an important role in influencing children's social and emotional adaptation (Ward, Vaughn, & Robb, 1988). Stroufee (1985) states that the quality of attachment was strongly determined by quality of caregiving. In one study, more than half (52%) of the preschool subjects provided caregiving to distressed siblings in a strange situation (Stewart, 1983). Like infant sibling attachment, the importance of child caregiving in infant development has been largely ignored by researchers.

Weisner and Gallimore (1977) found sibling caregiving in various degrees prevalent in many cultures. They stated that though rarely considered in socialization research, child caregiving was potentially valuable in the analysis of sibling-sibling influence. In a society, the kind and amount of sibling caregiving depended on age of children, age spacing and gender of

children, family size, amount of time adults spent away from home, mother's workload, the availability of the child and other caregivers, and cultural expectations (Weisner & Gallimore, 1977). Based on attachment theory and ethnographic studies, Weisner and Gallimore (1977) hypothesized that infants cared for by siblings would have lessened attachment to mother, and that separation from mother would be less stressful to infant's with child caregivers. Several anthropological studies suggest that child caregiving can influence the personality, attitudes, and values of both the caregiver and the care receiver (Weisner & Gallimore, 1977).

Thus, child caregiving is seen to be a factor in the development of both infant and child and in the development of infant sibling attachment. But what are the factors that influence child caregiving? Why are some children more likely to be caregivers than others? Cognitive perspective-taking, the ability to understand another viewpoint, was one factor considered in child caregiving.

#### Cognitive Perspective-taking

In their 1984 study, Stewart and Marvin explored the role of perspective-taking ability in the ontogeny of child caregiving to infant siblings. They found that



children who were able to take perspective cognitively and who were capable of making nonegocentric inferences about another's viewpoint, were the most likely to display caregiving behaviors to their infant siblings. However, Howe (1987) found no association between perspective-taking ability and child caregiving, casting some doubt on the role of perspective-taking in child caregiving.

Perspective-taking ability requires the individual to understand another's thoughts and motives as well as feelings, but it does not require an emotional response as does empathy. Children may have used their perspective-taking skills to infer the needs of others when they responded to the needs of others without being asked. However, although perspective taking may be seen in specific prosocial acts, competency in perspective-taking did not necessarily increase rate of prosocial behavior (Iannotti, 1985).

Measures that assessed perceptual processes such as spatial perspective-taking, or that required a cognitive understanding of an unfamiliar adult or hypothetical peer were less likely to reflect the interdependence of the cognitive and social domains in young children than were measures that involved social inferences about

familiar peers (Iannotti, 1981). Some researchers have distinguished between affective perspective-taking, the ability to perceive and comprehend the affective states of others, and cognitive perspective-taking, which refers to the ability to understand another's cognitive status (Underwood & Moore, 1982).

In Stewart and Marvin's study (1984) not all caretakers were perspective-takers, while nearly a third of the perspective-takers did not comfort their distressed infant siblings. Affective and cognitive perspective-taking were significantly related, but affective-perspective-taking was more strongly related to prosocial behavior (Denham, 1986). Howe (1987) found a strong association between infant distress and child caregiving,  $r = .49$ ,  $p < .05$ , and concluded that infant distress, rather than cognitive perspective-taking, was associated with child caregiving.

If cognitive perspective-taking could not account for increased caregiving, then what would? Empathy has been associated with increased prosocial behaviors and caregiving behavior is prosocial. But what is empathy, how is it measured, and how does empathy influence sibling caregiving? Are cognitive perspective-taking and empathy related? These questions were considered

next.

#### Empathy and Affective Perspective-taking

Howe (1987) found a strong association between infant distress and child caregiving,  $r = .49$ ,  $p < .05$ , concluding that infant distress was associated with child caregiving. Empathic arousal leads to helping; most people of all ages try to help other people in distress, especially if no one else is available (Hoffman, 1979). Hoffman (1979) found that people were less likely to help when approval needs were aroused and more likely to help when approval needs were fulfilled. What appeared to be empathy in some studies, was a cognitive awareness of the "right answer" and a desire to please the researcher (Eisenberg-Berg & Lennon, 1980). Studies have found that spontaneous empathy correlated significantly with affective role-taking, while empathy received upon request (as well as donations given in the experimental situation) correlated significantly with cognitive and perceptual perspective-taking, which could be explained by the association of need for approval and nonspontaneous altruism (Strayer, 1980; Strayer & Christophe, 1978) .

Social or affective perspective-taking, consisting of recognizing another's affective reactions, has been

distinguished from empathy in some studies (Underwood & Moore, 1982). The ability to recognize another's emotional state might not be a prerequisite of all types of empathizing, but affective perspective-taking has been thought to be a component of many forms of empathy, especially more mature forms of empathizing (Hoffman, 1979; Marcus & Roke, 1980). Social and affective perspective-taking, the ability to predict, describe, or infer the reactions of another, were necessary but not sufficient conditions for empathy (Underwood & Moore, 1982).

Empathy is not only knowing the feelings of another, but also vicariously experiencing those feelings, a demonstration of shared affect (Underwood & Moore, 1982). Empathy has been defined as an awareness that others have feelings different from one's own, a continuously developing cognitive accomplishment (Borke, 1971, 1972), as sympathy and compassion for another that is not just emotional matching, or as a combination of emotional matching and sympathetic responding (Hoffman, 1979, 1980) and as affective responsiveness to another's emotional state, frequently as the result of cognitively identifying the other's state (Hoffman, 1979; Eisenberg & Lennon, 1983).

Borke (1972) stated that even very young children were able to understand another person's viewpoint. By using nonverbal tasks to assess awareness of the feelings of others, Borke (1972) found children as young as three years old has empathic reactions; she asserted that many tasks used to measure awareness of feelings measured the ability to communicate that awareness instead. Chandler and Greenspan (1972), while agreeing with Borke (1971) that very young children could anticipate the feelings of others, argued that the ability to take a perspective different from one's own did not occur until middle childhood.

Researchers have assessed empathy with other-report or self-report measures, physiological indices, observations of nonverbal indices of reactivity to another's distress, or assessments of reflexive crying-crying in reaction to another's crying (Eisenberg, & Lennon, 1983). Sharing, helping, comforting, and aggression, as well as affective perspective-taking have been considered in the assessment of empathy.

Studies of the relationship of empathy to sharing have had contradictory results. Strayer and Christophe (1978) found altruism, in the experimental situation correlated significantly with the perceptual, but not

the affective role-taking measure. Spontaneous sharing, but not requested sharing, was negatively related to empathy scores in Eisenberg-Berg and Lennon's (1980) study. They explained the negative association between altruism and empathy, by assuming that the measures assessed, not empathy, but desire for social approval; a high need for approval is negatively associated with spontaneous prosocial behavior (Eisenberg-Berg & Lennon, 1980; Hoffman, 1979).

Underwood and Moore (1982) distinguished between trait empathy, a generalized empathic tendency measured in most studies, and state empathy, a more specific empathy for the potential beneficiaries of altruistic action. In an unpublished study reported by Underwood and Moore (1982), Peraino and Sawin had children observe videotapes of three children and then gave the subjects the opportunity to take an altruistic action to relieve the videotaped child's distress. Underwood & Moore (1982) considered this technique a possibly more effective way of assessing children's empathy, that state empathy was more reliably related to altruism than trait empathy.

Studies of the relationship of empathy to aggression, like empathy and altruism, have had

contradictory results. Some studies found a negative correlation between empathy and aggression in grade school boys, while others found a positive correlation with empathy and aggression in preschool boys (Marcus, 1978). High aggression in preschool boys indicated high social activity and lack of maturity rather than hostility, while older aggressive boys were thought to have lesser ability to vicariously experience the pain of those experiencing the aggressive act. No correlation between empathy and aggression was found in girls (Marcus, 1978).

Dunn and Kendrick (1981) found no association between the age of the first child and either the frequency of empathetic or comforting behavior. All social behaviors which might well be expected to related closely to age of the first child were more closely linked to other aspects of the sibling relationship than to age or the gap between the siblings (Dunn & Kendrick, 1981). Eisenberg and Lennon (1983) in their review of the literature stated that few actual sex differences were found and that the sex differences found in empathy studies were dependent on the method used to assess empathy.

Empathy appears to be associated with spontaneous

prosocial behaviors, such as helping, comforting, and sharing. Empathy could well be the missing factor in increased child caregiving, but the relationship between empathy, child caregiving, and infant sibling attachment had not been explored. The relationship of empathy to aggression was not clear, and studies on the effects of age and gender on empathy have been contradictory and needed further study.

#### The Present Study

Based on this review of the literature, research was needed to discover if a relationship existed between empathy and caregiving. This study examined the relationship between empathy, perspective-taking ability, and the caregiving behaviors of young children to the attachment behaviors of their infant siblings. Empathy was assessed by sharing, nonaggression, and affective perspective-taking, factors associated with empathy in the literature. Cognitive perspective-taking ability was evaluated by performance on the Birthday, Syllogisms, and Hide and Seek games. A strange situation procedure was used to assess infant sibling attachment and child caregiving.

Empathic children were expected to more frequently and more effectively display caregiving behaviors to



younger siblings than less empathic children. Infants were expected to attach more securely to caregivers, than to non-caregivers. Cognitive perspective-taking was expected to be a less significant predictor of caregiving than empathy. Age, but not gender, was expected to be a factor in both caregiving and perspective-taking. Neither age (Dunn & Kendrick, 1981), nor gender (Eisenberg & Lennon, 1983) of the child was expected to be a significant factor in empathy.

## References

- Abramovitch, R., Pepler, D. J., & Corter, C. (1982).  
Patterns of sibling interaction among preschool  
aged children. In M. E. Lamb & B. Sutton-Smith  
(Eds.), Sibling relationships, their nature and  
significance across the lifespan (pp. 71-83).  
Hillsdale, N. J.: Erlbaum.
- Ainsworth, M. D. S., & Bell, S. M. (1970).  
Attachment, exploration, and Separation: Illustrated  
by the behavior of one-year-olds in a strange  
situation. Child Development, 41, 49-67.
- Baskett, L. M. & Johnson, S. M. (1982). The young  
child's interactions with parents versus siblings:  
A behavioral analysis. Child Development, 53,  
643-650.
- Borke, H. (1971). Interpersonal perceptions of young  
children: Egocentrism or empathy?. Developmental  
Psychology, 5(2), 263-269.
- Borke, H. (1972). Chandler and Greenspan's "ersatz  
egocentrism": A rejoinder. Developmental  
Psychology, 7(2), 107-109.
- Bowlby, J. (1969). Attachment and loss (v. 1).  
New York: Basic Books.

- Bowlby, J. (1979). The making and breaking of affectional bonds. London: Tavistock Publications.
- Bryant, B. K. (1982). Sibling relationships in middle childhood. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships, their nature and significance across the lifespan, (pp. 97-116).
- Bryant, B. & Crockenberg, S. (1980). Correlates and discussion of prosocial behavior: A study of female siblings with their mothers. Child Development, 51, 529-544.
- Chandler, M. J. & Greenspan, S. (1972). Ersatz egocentrism: a reply to H. Borke. Developmental Psychology, 7(2), 104-106.
- Cicirelli, V. C. (1972). The effect of sibling relationships on concept learning of young children taught by child teachers. Child Development, 43, 282-287.
- Cicirelli, V. C. (1982, August). An attachment model of sibling helping behavior in old age. Paper presented at the annual convention of the American Psychological Association (90th, Washington, DC).
- Cicirelli, V. C. (1982). Sibling influence throughout the lifespan. In M. E. Lamb & B.

- Sutton-Smith (Eds.), Sibling relationships, their nature and significance across the lifespan (pp. 267-281). Hillsdale, N. J.: Erlbaum.
- Denham, S. A. (1986). Social cognition, prosocial behavior, and emotion in preschoolers: contextual validation. Child Development, 57, 194-201.
- Dunn, J. (1983). Sibling Relations in early childhood. Child Development, 54, 787-811.
- Dunn, J., & Kendrick, C. (1981). Social behavior of young siblings in the family context: differences between same-sex and different-sex dyads. Child Development, 52, 1265-1273.
- Eisenberg, N., & Lennon, R. (1983). Sex differences in Empathy and Related Capacities. Psychological Bulletin, 94(1), 100-131.
- Eisenberg-Berg, N., & Lennon, R. (1980). Altruism and the assessment of empathy in the preschool years. Child Development, 51, 552-557.
- Furman, W. & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. Developmental Psychology, 21(6), 1016-1024.
- Hoffman, M. L. (September, 1979). Development of empathy and altruism. Paper presented at the

Annual Meeting of the American Psychological Association, New York, NY. (ERIC Document Reproduction Service No. ED 179 294)

Hoffman, M. L. (1980). Conceptual, ethodological, and value issues in empathy research. Paper presented at the Biennial Meeting of the Society for Research in Child Development, San Francisco, CA. (ERIC Document Reproduction Service No. ED 176 850)

Howe, Nina (April, 1987). Socialization, social cognitive factors and the sibling relationship. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Baltimore, MD. (ERIC Document Reproduction Service No. 284 674).

Iannotti, R. J. (1981, April). Prosocial behavior, perspective taking, and empathy in preschool children: an evaluation of naturalistic and structures settings. Parts of paper presented at the Biennial Meeting of the Society for Research in Child Development, Boston, MA. (ERIC Document Reproduction Service No. ED 206 385)

Iannotti, R. J. (1985). Naturalistic and structured assessments of prosocial behavior in preschool children: the influence of empathy and perspective

- taking. Developmental Psychology, 21, 46-55.
- Lamb, M.E. (1977). The relationships between mothers, fathers, infants, and siblings in the first two years of life. Paper presented at the meeting of the Society of Behavioral Development, Pavia, Italy.
- Lamb, M. E. (1978). Interactions between 18 month old and their preschool aged siblings. Child Development, 49, 51-59.
- Lamb, M.E. (1981). The development of father-infant relationships. In M. E. Lamb (Ed.), The role of the father (2nd ed.), (pp. 459-552). New York: John Wiley & Sons.
- Lewis, M. (1981). The father as a member of the child's social network. In M. E. Lamb (Ed.), The role of the father (2nd ed.), 259-294. New York: John Wiley & Sons.
- Marcus, R. F. & Roke, E. J. (1980, April). The specificity of empathic responses in young children. Paper presented at the Biennial Southeastern Conference on Human Development, Alexandria, VA. (ERIC Document Reproduction Service No. ED 188 739).
- Marcus, R. F., & others (1978, April). A reinvestigation of the relationship between

cooperation and empathy in young children. Paper presented at the Biennial Southeastern Conference on Human Development, Atlanta, GA. (ERIC Document Reproduction Service No. ED 154 935)

Minette, A. M., Vandell, D. L., & Santrock, J. W. (1983). The effects of sibling status on sibling interaction: Influence of birth order, age spacing, sex of child, and sex of sibling. Child Development, 54, 1064-1072.

Rosenberg, B. G. (1982). Lifespan personality stability in sibling status. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships, their nature and significance across the lifespan (pp. 167-215). Hillsdale, N. J.: Erlbaum.

Samuels, H. R. (1980). The effect of an older sibling on infant locomotor exploration of a new environment. Child Development, 51, 607-609.

Schlacter, F. F. (1982). Sibling deidentification and split parent identification: A family tetrad. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships, their nature and significance across the lifespan (pp. 123-148). Hillsdale, N. J.: Erlbaum.

- Stewart, R. B. ( 1983). Sibling attachment relationships: Child-infant interactions in the strange situation. Developmental Psychology, 19(2), 192-199.
- Stewart, R. B. & Marvin, R. S. (1984). Sibling relations: The role of conceptual perspective-taking in the ontogeny of sibling caregiving. Child Development, 55, 1322-1332.
- Strayer, Janet, (1980). A naturalistic study of empathic behaviors and their relationship to affective states and perspective-taking skills in preschool children. Child Development, 51, 815-822.
- Strayer, J., & Christophe, C. (1978, June). Empathy and egocentrism in preschoolers. Paper presented at the meeting of the Canadian Psychological Association, Ottawa, Ontario, Canada. (ERIC Document Reproduction Service No. ED 171 380)
- Underwood, Bill & Moore, B. (1982). Perspective-taking and altruism. Child Development, 91(1), 143-173.
- Vandell, D. L. & Wilson, K. S. (1987). Infants' Interactions with mother, sibling, and peer: Contrasts and relations between interaction systems. Child Development, 58, 176-186.



- Ward, M., Vaughn, B. E., & Robb, M. D. (1988). Social-emotional adaptation and infant-mother attachment in siblings: role of the mother in cross-sibling consistency. Child Development, 59, 643-651.
- Weisner, T. S. & Gallimore, R. (1977). My brother's keeper: child and sibling caretaking. Current Anthropology, 18(2), 169-180.

APPENDIX B  
COMMUNICATIONS WITH PARENTS AND SUBJECT RECRUITERS



Oklahoma State University

DEPARTMENT OF FAMILY RELATIONS  
AND CHILD DEVELOPMENT  
COLLEGE OF HOME ECONOMICS

STILLWATER, OKLAHOMA 74078-0337  
241 HOME ECONOMICS WEST  
(405) 624-5057

January 14, 1988

Nancy Banks  
3715 E. 55th St.  
Tulsa, OK 74135

Dear Mrs.

Thank you for your interest in my thesis research project. Briefly, the purpose of the study is to observe family relationships in an unfamiliar situation. The subjects for this study will be mobile infants, their older sibling, and their mother. The procedure will be videotaped, so behaviors can be coded later. All information will be kept confidential.

The research will take place in the Family and Child Sciences Center located behind Home Economics West on the OSU campus. Temporary parking permits and a map of the campus will be available.

Enclosed are a brief description of my study, the IRB approval (confirmation that the study has been approved by OSU and that there is no danger to subjects in this study), a Vita (indicating my credentials), and an example of the recruitment letter that I will send the mothers. What I would like from you is the name of the mother, her address including zip, a telephone number where she can be reached, and the age and gender of her children.

The infant/toddler needs to be walking or crawling, and between 10 months and 20 months by February/ March 1989, when the procedures will take place. The older sibling is usually a preschooler, but older children are ok. I would prefer intact, two child families, to reduce extraneous variables, but include any family with toddlers of the right age that you think might be interested in participating in my study.

Thank you for your time and for your assistance in my research project.

Sincerely,

*Nancy Banks*  
Nancy Banks



Celebrating the Past . . . Preparing for the Future

INSTITUTIONAL REVIEW BOARD  
FOR HUMAN SUBJECTS  
OKLAHOMA STATE UNIVERSITY

#HE-88-010

Proposal Title: Relationship of Empathy, Perspective-Taking  
Ability, and Caregiving in Young Children to Infant Sibling  
Attachment

Principle Investigator: Nancy Banks

Date: January 15, 1988

-----  
This application has been reviewed by the IRB and

Processed as: Exempt [ ] Expedite [X] Full Board Review [ ]

Renewal or Continuation [ ] Amendment [ ]

Approval Status: Approved [X] *mgw 3-1-88*

Disapproved [ ]

Conditional [X]

Deferred [ ]  
-----

Comments, Modifications/Conditions for Approval or Reason for Disapproval:

Consent of both parents is required by federal legislation.

Name of investigator and advisor needs to be on the consent form with telephone numbers for contact, not the Office of University Research.

Restrictions to Research Assistants are complicated. Can these be simplified? Also, who are the Research Assistants?

Please send me changes for the above to remove conditional approval.

Signature: *Margaret Weber* Date: *2-2-88*  
Chair of University Board

cc: John McCullers  
Elaine Jorgensen



## Oklahoma State University

DEPARTMENT OF FAMILY RELATIONS  
AND CHILD DEVELOPMENT  
COLLEGE OF HOME ECONOMICS

STILLWATER, OKLAHOMA 74078-0337  
241 HOME ECONOMICS WEST  
(405) 624-5057

30 January 1989

Dear Mrs.

I am presently studying family relationships for my thesis research project in Family Relations and Child Development at OSU. This project focuses on relationships between toddlers and their preschool aged sibling. Cheryl Chilton, Kindercare indicated that you may have children at the right ages for my study and that you might be interested in this topic. Therefore, I would like to invite you and your children to participate in this project.

If you agree, you and your children would be videotaped as you interact with each other at the Child Development Lab on the OSU campus. I would also want to videotape the children while you are absent from them for a brief period. At all times, your children would be monitored by one of us. In addition, your older child would be asked to play a few, short, enjoyable perspective-taking games with me.

I very much need your assistance and cooperation. The entire session should provide an interesting experience for both you and the children. The total time required would be less than an hour.

In a few days, I will call you to see if you are willing to participate in my study, to answer any questions you may have, and to arrange a convenient time to work with you and your children. In the meantime, feel free to contact me at my home in Tulsa at 918-747-2354 or you may contact my supervising professor, Dr. John McCullers, at 744-8360 in the FRCD department of OSU.

Thank you,

*Nancy Banks*

Nancy Banks



Celebrating the Past... Preparing for the Future

## TELEPHONE CONVERSATION WITH MOTHER (AFTER 1ST LETTER)

Hello, Mrs. \_\_\_\_\_ Phone: \_\_\_\_\_

This is Nancy Banks. I sent you the letter about the attachment/ family relations thesis project at OSU. This phone call is to follow up that letter. Is this a good time to talk? yes no when? \_\_\_\_\_

(Referral person) \_\_\_\_\_ said you might be interested in this topic of sibling relationships? I hope you will participate in my project and wonder if you have any questions about the project. yes, will participate no (no time) (other)

I need to confirm the ages and gender of your children (birthdate)

\_\_\_\_\_ You and your children will go into a room in the Child Development lab where I will have the procedure videotaped that it can be coded later. The procedure is a variation on the "Ainsworth Strange Situation Procedure" (a standardized procedure) and needs to be done in a controlled (or standardized) environment (not a home).

You will complete a Family Information Form which is mostly demographic data... things like your jobs, and so forth. This will be kept confidential.

Your older child will play some games with me in an adjoining room. These games measure perspective-taking ability. You can see the games when you come to the Lab. And I will be glad to discuss the general results with you after the procedure.

Your older child will be offered some toys to play with. These toys may include large legos, puzzles, a ball, books, stacking ring, colorforms. You may remove any of these toys if you don't want your child to play with them.

Your older child will be offered a small treat such as graham cracker bears, stickers, fun fruits. Would you prefer that your child not have any of these treats OR do you have other suggestions for a treat?  
the treats are ok (substitute: \_\_\_\_\_)

A letter will be mailed to you with all of the information we have discussed. Address/ zip:

When would be a convenient time for you and the children to come to the lab? time/ date: \_\_\_\_\_

Do you know how to get to the lab? map needed  
Parking arrangements: car tag #: SS #:

Thank you for your time!

## CONFIRMATION LETTER TO MOTHER

Date

Nancy Banks  
3715 E. 55th Street  
Tulsa, OK 74135

\*

\*

Stillwater OK 74074

Dear Mrs. \* ,

Thank you for your interest in my thesis research project. Briefly, the purpose of the study is to observe family relationships in an unfamiliar situation. The subjects for this study will be mobile infants aged 10 months to 2 years, their older sibling aged 3 to 6 years, and their mother. The procedure will be videotaped, so behaviors can be coded later. All information will be kept confidential.

You will be given a family information form to complete. Your older child will go into an adjoining room to participate in some game-like tasks with the researcher. The games and the Family Information Form will take 15 to 20 minutes to complete.

At one point in the procedure, the researcher will ask you to leave the children for a few minutes. You will be able to observe the children at all times through a one-way glass. Many young children become upset when mother leaves the room, but if you feel either child is becoming too distressed, this procedure will be ended, and you can reenter the room at once.

Later in the procedure, a "stranger" will enter the room with the children. This will be a female student, who will not threaten the children in any way. Again, if the children become upset, you may immediately rejoin them.

At one point in the procedure, your infant may be left alone for about a minute. If the infant becomes distressed, your older child will be asked to return to the room with the infant. If the infant continues to be distressed, you should enter the room. Even if the infant and child are not distressed, you will enter the room in a few minutes, anyway. After you and your children have been together in the room a few minutes, the researcher will return and your participation in the study will be complete.

Both parents should read and sign the enclosed consent form and you should bring the consent form with you to the laboratory. Further explanation and complete instructions will be provided at the laboratory.

If you have any questions, I may be contacted in Tulsa at 1-918-747-2354 or in Stillwater, leave a message with the FRCD office for Nancy Banks at 744-5061, or you may leave a message for me with Teresa Tully 377-3522 or 744-6891.

The research will take place in the Family and Child Sciences Center in room 103, the Conference room. You have been scheduled for \*. Thank you for your time and for your participation in my research project. I am looking forward to working with you and your children.

Sincerely,

Nancy Banks



OKLAHOMA STATE UNIVERSITY  
 CONSENT TO PARTICIPATE IN RESEARCH PROJECT

I, \_\_\_\_\_, agree to participate, and agree for my children, \_\_\_\_\_ and \_\_\_\_\_ to participate in the Master's thesis research project of Nancy Banks, which has been approved by the Department of Family Relations and Child Development, College of Home Economics.

I understand that this research will be carried out by Nancy Banks, graduate student, under the supervision of Dr. John McCullers. The purpose of this study is to explore some underlying factors in the formation of attachment between siblings. The specific aim is to examine the relationship between measures of emotional and cognitive development of young children and attachment between siblings.

I have been made aware of the research procedure, which is a variation of the Ainsworth strange situation procedure, and is explained in the "Instructions For Mother", available at the Child Development Lab. The procedure, which will be videotaped, will take about 45 minutes.

I recognize that the major benefit that I will receive is better knowledge of my children's relationship with each other, and there will no monetary or other reward, aside from a small treat for the children. I will be able to observe my children at all times. I understand that there are no expected risks to the children or to myself. The brief separations that the procedure entails are expected to cause no more distress to my children than the brief separations that occur in the course of daily life. If at any time, I judge the procedure to be stressful to either of my children, the procedure will be terminated immediately.

By signing this consent form, I/ I for my children acknowledge that our participation in this study is voluntary. I/ I for my children also acknowledge that I have not waived any of my legal rights or released this institution from liability for negligence. I may revoke my consent and withdraw myself and my children from this study at any time. Records and results of this study will protect my family's confidentiality by not identifying me or my children by name.

I have read this informed consent document. I/ I for my children understand it's contents and I/ I for my children freely consent to participate in this study under the conditions described in this document.

I/ I for my children understand that I will receive a copy of this signed consent form.

If I have any questions about my/ my children's rights as research subjects, I may consult with Nancy Banks at 918-747-2354, or Dr. John McCullers, FRCD, Oklahoma State University, 744-8360.

\_\_\_\_\_  
Signature of mother/participant

\_\_\_\_\_  
date

\_\_\_\_\_  
Signature of father

\_\_\_\_\_  
date

\_\_\_\_\_  
Signature of Principal Investigator

\_\_\_\_\_  
date

## INSTRUCTIONS FOR MOTHER

1. You will wait in this room with your two children, and I will leave the room for a short time. I will offer your older child some toys to play with while you wait.
2. When I return, I will ask your older child to come with me into next room to play some games, which take about 20 minutes to finish. While your older child is playing the games, please complete the Family Information Form. All information is kept confidential, so do not write your name on the form. When your older child completes the games, I will offer him/her a small treat. Then your child will rejoin you in this room and I will again leave for a few minutes.
3. When I return, you will be asked to come into the smaller room for a few minutes, where you can observe the children through the one-way glass.
4. After your children have been alone for a few minutes, a female student will enter the room with your children for a few minutes. (If either child becomes upset, you should rejoin them immediately.)
5. In a few minutes your older child will be asked to leave the room.
6. The student will leave the room. Your older child will reenter the room a short time later. [If your infant is upset, your older child will reenter the room immediately. If your older child does not reduce your infant's distress, you should enter the room immediately.]
7. After your children have been alone for a few minutes, you will rejoin them.

Note: The expressions "a few minutes" and "a short time" as used above refer to a period of less than five minutes.

PLEASE RETURN THIS INSTRUCTION SHEET TO THE RESEARCHER WHEN THE SESSION IS OVER.

APPENDIX C  
INSTRUMENTS

## SCRIPT PHOTO ALBUM TASK

## PHOTOGRAPH 1:

At the Fair: Happy 12 month old, with mother on a merry-go-round. RESEARCHER: "Have you ever been to a fair?"

## PHOTOGRAPH 2:

Birthday cake: Happy 12 month old in front of a cake with one candle. RESEARCHER: "Have you had a birthday? what about (sibling's name)?"

## PHOTOGRAPH 3:

Candle: 12 month old reaching for the candle on the cake, fearful adult reaching for child's hand. RESEARCHER: "She burned her hand."

## PHOTOGRAPH 4:

Bath scene: infant in small tub, crying. RESEARCHER: "Usually she liked taking a bath, but this time we were camping...does she look like she likes it? Do you like taking baths? What about (sibling's name)? Do you like to go camping?"

## PHOTOGRAPH 5:

Toddler with cat: sad as tell of cat's death. RESEARCHER: "This picture always makes me a little sad, because not too long after this, the cat died... do you have any cats at your house?"

## PHOTOGRAPH 6:

Toddler with newborn puppy: photographed child has a thoughtful expression, happy story. RESEARCHER: "These puppies are so little that their eyes are not even open...do you have a puppy?"

## PHOTOGRAPH 7:

On the swing: 6 year old pushes infant on the infant swing, both happy. RESEARCHER: "Does sibling like to swing? What do you play together? What do you like to do?"

## PHOTOGRAPH 8:

The birthday present: 7 year old with a Barbie RESEARCHER: "Emily really wanted a Barbie and finally for her birthday, her grandmother gave her one...and you know what? ...her sister took its head off! Does your sibling ever mess with or break your stuff?"

## PHOTOGRAPH 9:

On the bars: 2 year old at gymnastics class, happy, other child in background, fearful. RESEARCHER: "Laura likes bars...do you take any classes...what about sibling?...But Kimi did not like the bars, she was afraid of them...is sibling afraid of anything?...what about you?"

## PHOTOGRAPH 10:

Nightie: 2 year old in her security object, happy. RESEARCHER: "This is nightie...Laura calls it blue...she likes to take it places that she feels a little nervous or scared...does sibling have any thing s/he likes to take to bed ...what about you?"

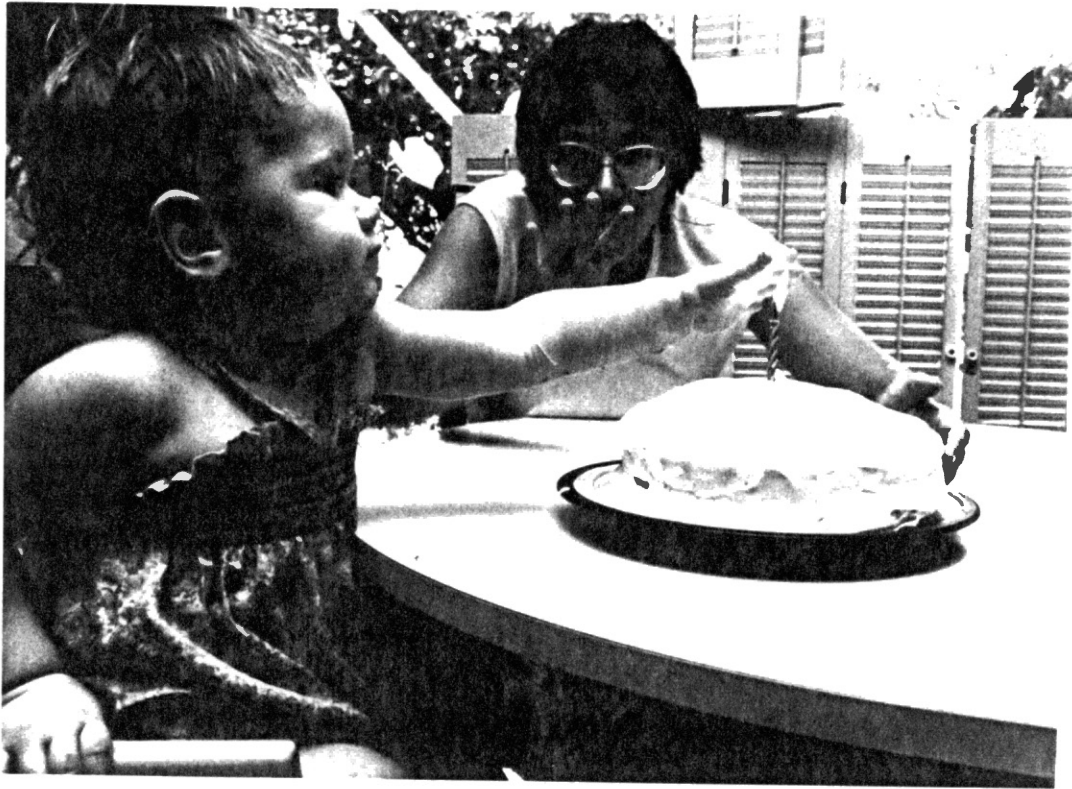
PHOTOCOPIES OF THE PHOTOGRAPHS IN THE PHOTO ALBUM TASK



PHOTOGRAPH 1: AT THE FAIR



PHOTOGRAPH 2: BIRTHDAY CAKE



PHOTOGRAPH 3: CANDLE

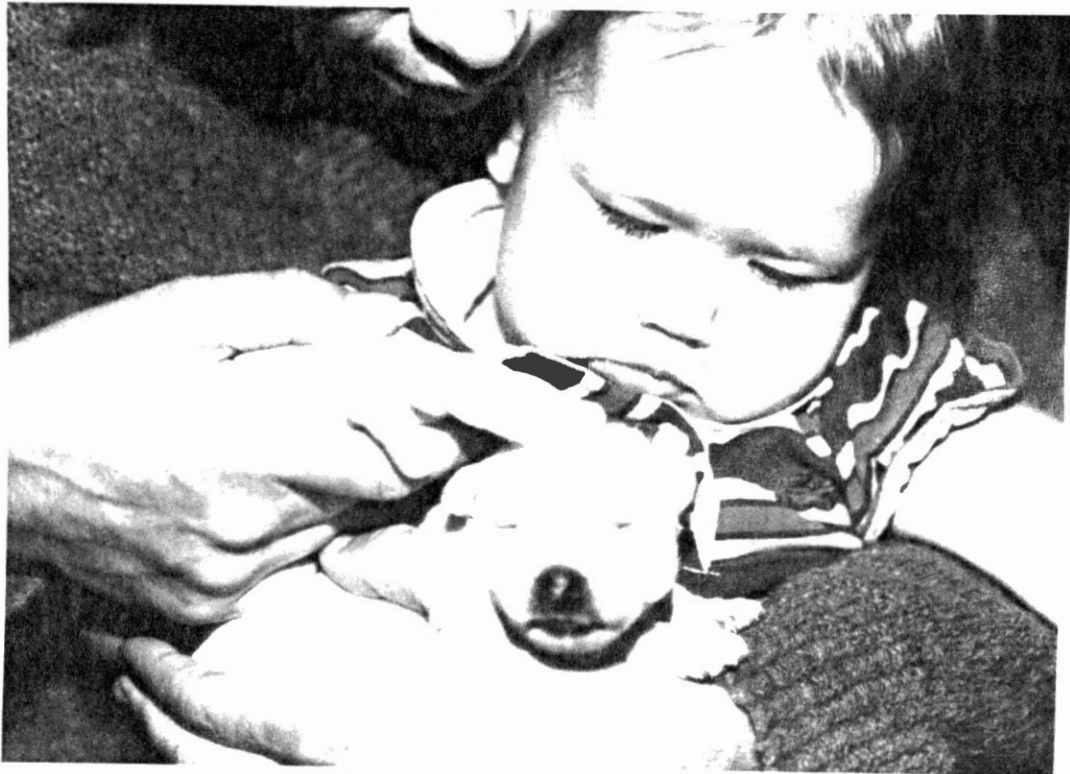


PHOTOGRAPH 4: BATH SCENE

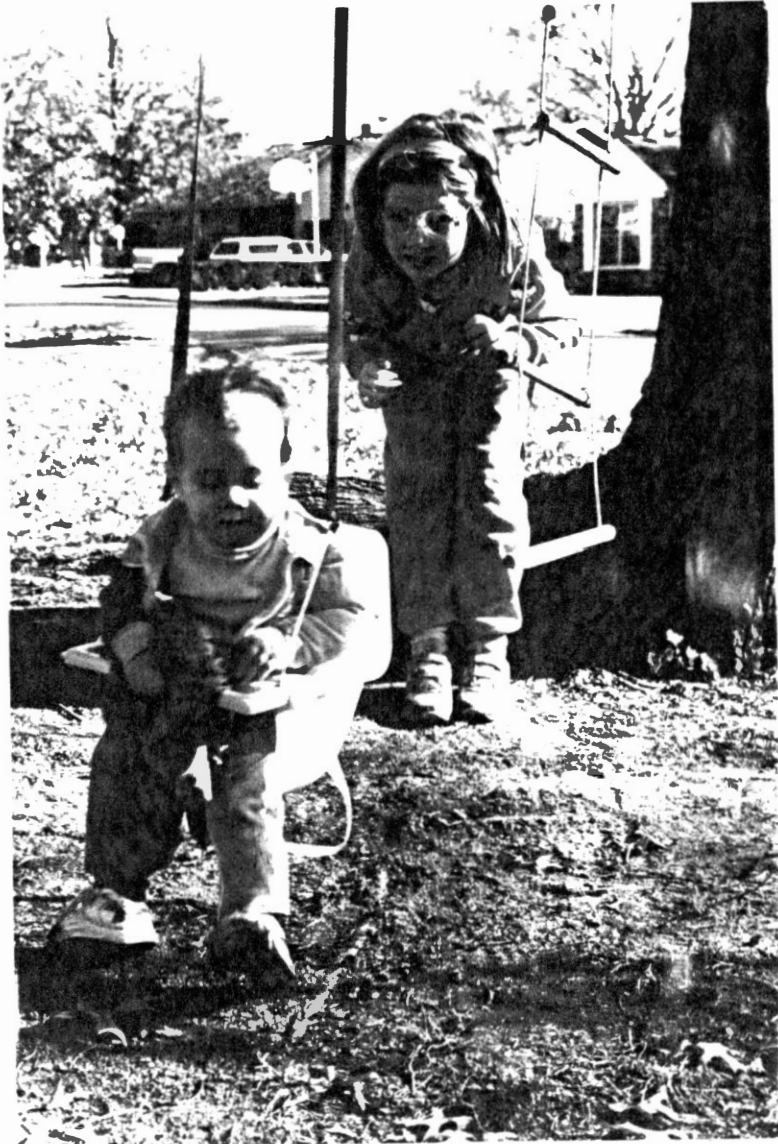




PHOTOGRAPH 5: TODDLER WITH CAT



PHOTOGRAPH 6: TODDLER WITH NEWBORN PUPPY



PHOTOGRAPH 7: ON THE SWING



PHOTOGRAPH 8: THE BIRTHDAY PRESENT



PHOTOGRAPH 9: ON THE BARS



PHOTOGRAPH 10: NIGHTIE

## GLAD AND SAD/ PHOTO ALBUM FORM

CHILD male female age in months \_\_\_\_\_  
 date \_\_\_\_\_ family # \_\_\_\_\_

GLAD AND SAD WITH BERT AND ERNIE SCORE \_\_\_\_\_  
 (identification of happy and sad feelings/ situations)

Look at Ernie's gameboard. Is Ernie happy or sad in each of these squares? What about Bert? Is he happy or sad in each of the squares on his game board. Choose a card, then look at Bert (or Ernie) to decide if he looks happy or sad. Put the card on the Bert's (or Ernie's) smiling face if he looks happy. Put him on the sad face on the board, if he looks sad.

number of correct identifications out of 12 \_\_\_\_\_

number of correct matches out of 12 \_\_\_\_\_

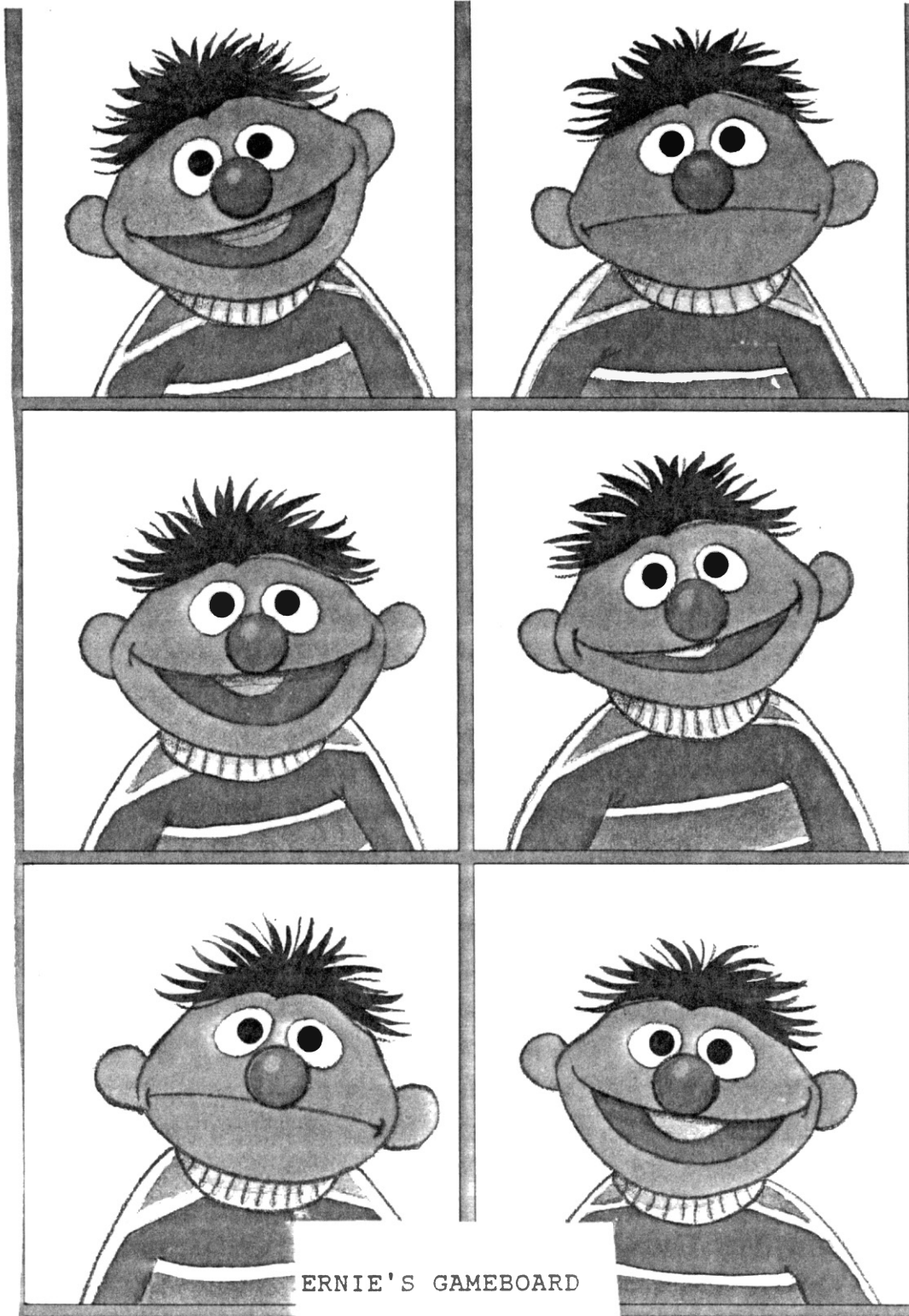
## PHOTO ALBUM

(corespondance of subjects facial expressions to emotions expressed in the photographs/anedotes)

Fair/ Riding Merry Go Round [Happy]: Child \_\_\_\_\_  
 Birthday cake [Happy]: Child \_\_\_\_\_  
 Reaching for candle [Sad/ Afraid]: Child \_\_\_\_\_  
 Bathing/Camping [Sad]: Child \_\_\_\_\_  
 Cat [Happy]: Child \_\_\_\_\_  
 Verbal= cat died: Child \_\_\_\_\_  
 Newborn puppy: Child \_\_\_\_\_  
 Child pushing infant in swing [Happy]: Child \_\_\_\_\_  
 Child with toy [Happy]: Child \_\_\_\_\_  
 Verbal=infant broke the toy [Sad/Angry]: Child \_\_\_\_\_  
 Toddler on the bar at gym class [Happy]: Child \_\_\_\_\_  
 Toddler in nightie [Happy]: Child \_\_\_\_\_

+ Facial expression matches the emotion in the anecdote/photo  
 - Facial expression opposite the emotion in the anecdote/photo  
 0 Facial expression neutral

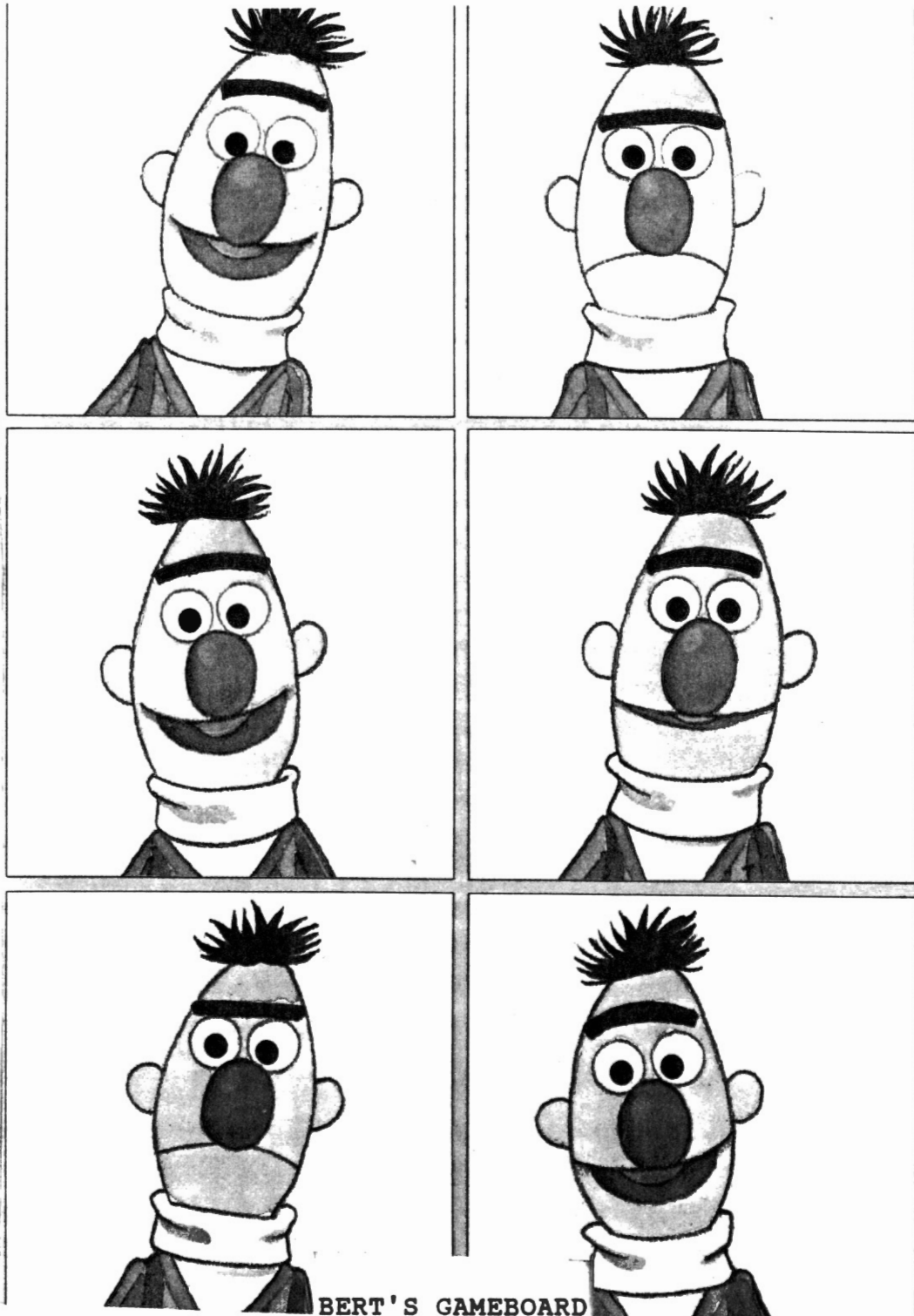
GLAD AND SAD GAME BOARD



ERNIE'S GAMEBOARD



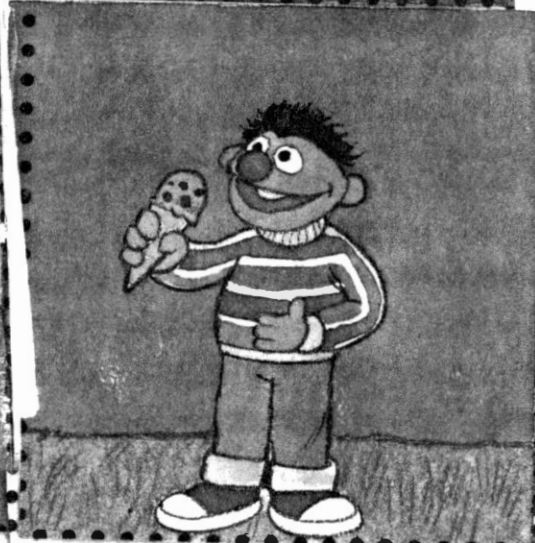
GLAD AND SAD GAME BOARD



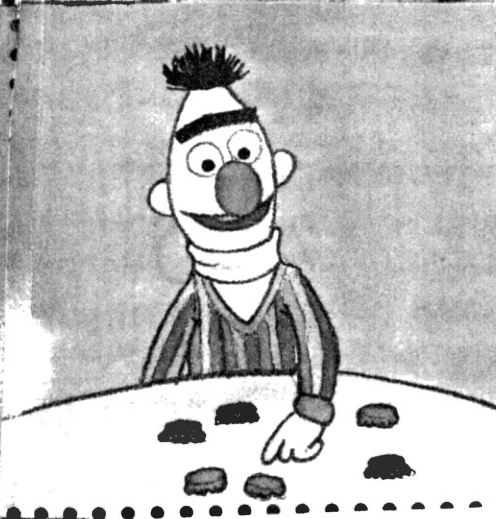
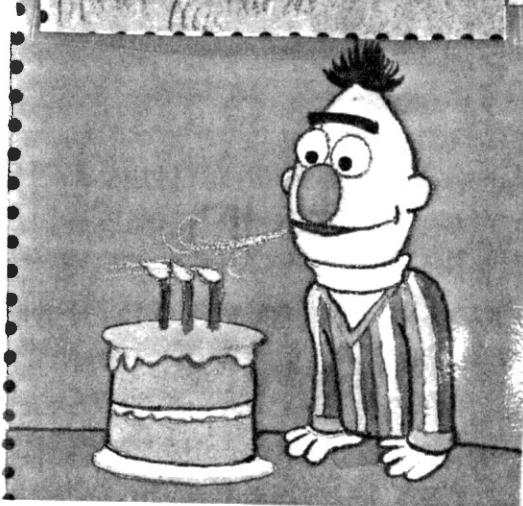
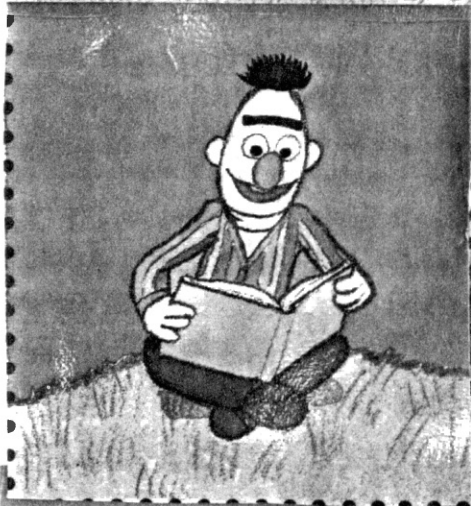
BERT'S GAMEBOARD



GLAD AND SAD GAME MATCHING CARDS



GLAD AND SAD GAME MATCHING CARDS



## BIRTHDAY AND SYLLOGISM GAME FORM

male female age in months \_\_\_\_\_ date \_\_\_\_\_

Family # \_\_\_\_\_ SCORE: \_\_\_\_\_

BIRTHDAY GAME (assessment of inference) pass: [ ]

"Let's pretend we are going shopping at the mall and we have lots of money, and we will spend it all buying lots of gifts for your mother."

WHICH GIFT WOULD YOUR MOTHER LIKE?.....WHY?

- A. A toy doll or a new dress? [a] [i]  
 B. A picture for the wall or a toy truck? [a] [i]  
 C. A coloring book or a necklace? [a] [i]  
 D. A teddy bear or a new coat? [a] [i]  
 E. New dishes or new crayons? [a] [i]  
 F. Swing set or sandbox? rationale

Circle the child's choice. Four correct to pass (antithetical to child's choice for self. [a] = appropriate).

SYLLOGISMS (assessment of inference)

pass: [ ]

"I need to know what some other children who might be coming over later would like to do."

- A. Jennifer doesn't like to get wet; would she CORRECT rather [play in a puddle] or [read a book]? JUSTIFIED WHY?:  
 B. Jason likes to stay inside the house; would CORRECT he rather [watch tv] or [go swimming]? JUSTIFIED Why?:  
 C. Megan likes loud noises; would she rather CORRECT [play on a drum] or [put together a puzzle]? JUSTIFIED Why?:  
 D. Matt doesn't like to get dirty; would he CORRECT rather [play in the mud] or [sing a song]? JUSTIFIED Why?:  
 E. Jordan is really hungry; would he rather JUSTIFIED [ride a bike] or [play with blocks]? WHY?: LATENCY

Check the child's answer. Write the reason in space provided. A justification is needed on at least 2 of the first four and the last one. 3 correct, two justifications, increased latency on #5 to pass.

HIDE AND SEEK GAME FORM SCORE: \_\_\_\_\_  
 male/ female age in months \_\_\_\_\_ date \_\_\_\_\_ family # \_\_\_\_\_  
 [Circle the number where the child hides Kermit.]

1. Place the wall between #10 and #4, level with the 5. Place Ms Piggy on #7. Give Kermit to the child. "Kermit wants to hide from Ms Piggy. Where can you put him so that Ms Piggy will not find him?"

1	2	3	position # 7 _____ (2, 3)
10	**	4	
9	*	5	
8	7	6	"ARE YOU SURE THIS IS A GOOD

Piggy HIDING PLACE?"

2. Take both figures off, giving Kermit to the child (or Ms Piggy hide from Kermit) on #10. "Where can you put Kermit so that Ms Piggy will not find him this time?"

1	2	3	position #10 _____ (3, 4, 5)
Piggy 10	**	4	
9	*	5	"ARE YOU SURE THIS IS A GOOD
8	7	6	HIDING PLACE?"

3. Repeat the game with Ms Piggy on #5. "Now where can Kermit hide?"

1	2	3	position # 5 _____ (1, 2, 10)
10	**	4	
9	*	5	Piggy "ARE YOU SURE THIS IS A
8	7	6	GOOD HIDING PLACE?" 4.

"Now we are going to play at a different place so that Fozzie Bear can play, too." Move the wall down about 1/2 way between 5 and 6. Place Ms Piggy at #6 and Fozzie Bear at #9. "Hide Kermit from both of them."

1	2	3	position # 6 & 9 _____ (2)
10		4	
Fozzie 9	* *	5	"ARE YOU SURE THIS IS A
8	7 *	6	Piggy GOOD HIDING PLACE?" 5.

Repeat with one at #1 and the other at #7.

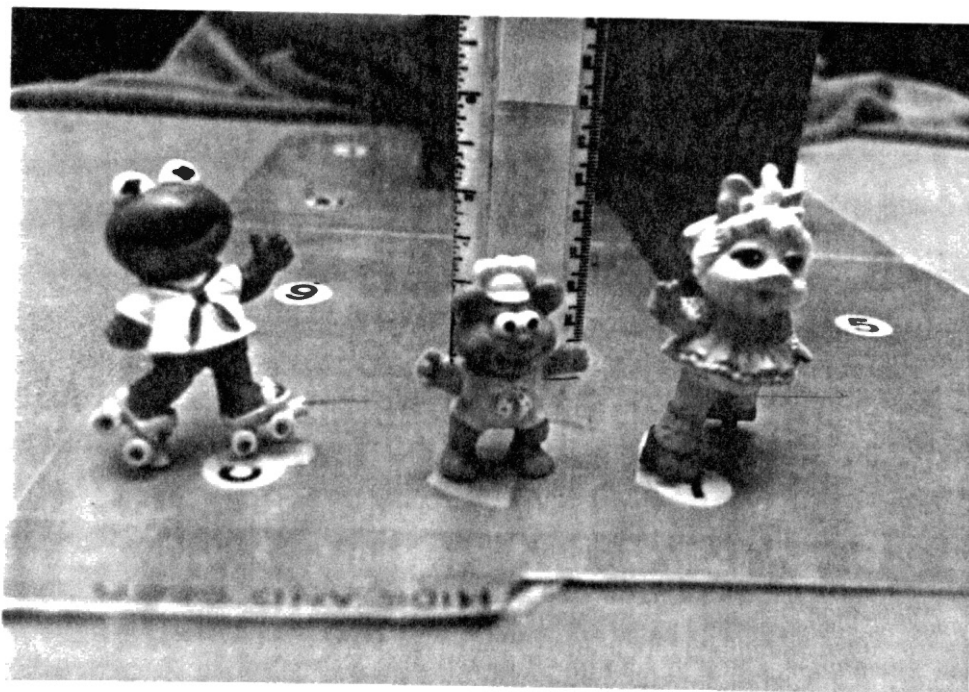
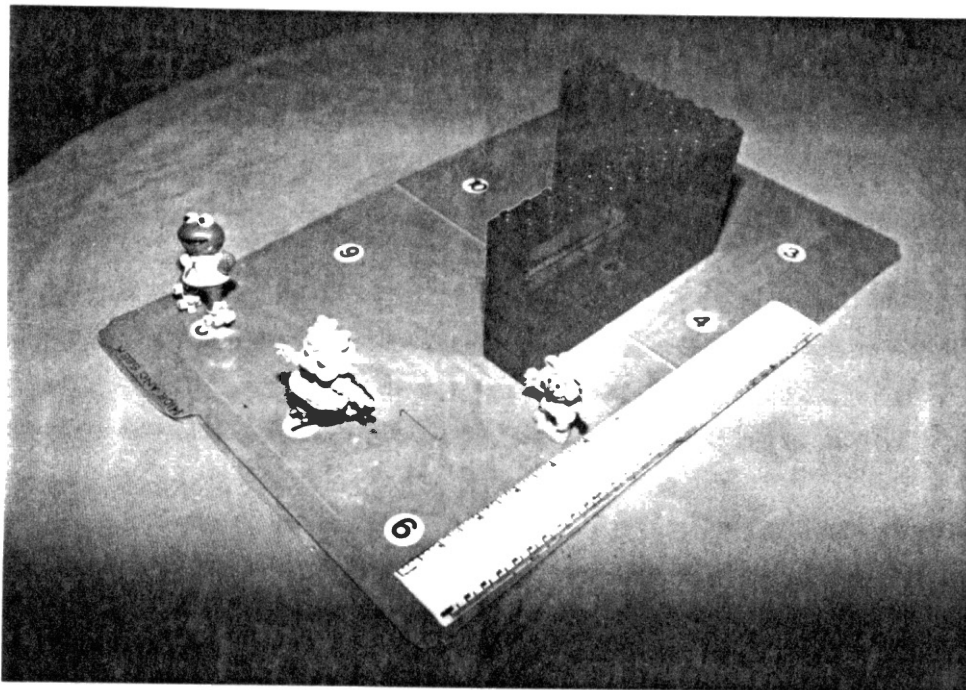
Piggy 1	2	3	position # 1 & 7 _____ (5)
10		4	
9	* *	5	"ARE YOU SURE THIS IS A GOOD
8	7 *	6	HIDING PLACE?"

Fozzie

6. Repeat with one at #8 and the other at # 5.

1	2	3	position # 8 & 5 _____ (2)
10		4	
9	* *	5	Fozzie "ARE YOU SURE THIS IS A
Piggy 8	7 *	6	Bear GOOD HIDING PLACE?"

PHOTOCOPY OF PHOTOGRAPHS OF THE HIDE AND SEEK GAME BOARD  
WITH KERMIT, MS PIGGY, AND FONZIE BEAR



Strange Situation Procedural Details  
Strange Situation Procedure Modified to Observe Infant  
 Sibling Attachment/ Infant Alone Variation

Episode	Time	Objective	Persons Present
	12 minutes	establish rapport and album task	mother, child, infant, researcher
1	3 minutes	Base Rate (1)	mother, child, infant
2	12 minutes	affective and cognitive perspective-taking tasks	mother, infant (room 1) interviewer, child (room 2)
3	3 minutes	Base Rate (2) assess sharing	mother, child, infant
4	3 minutes	assess caregiving & attachment	infant, child
5	3 minutes	assess caregiving & attachment	child, infant, stranger
6	3 minutes	assess attachment	infant, stranger
7	1 minutes	infant alone	infant
8	3 minutes	reunion with child, assess caregiving & attachment	child, infant
9	3 minutes	reunion with mother	mother, infant, child

### Strange Situation Procedural Details

The Researcher greeted the mother, child, and infant, received the signed consent form, gave the mother the Instructions to Mother and the Family Information Form, then talked about the album with the children. The mother had been instructed to act as if she were in a waiting room.

Episode 1: A box of toys was made available to the children (sharing task one). The researcher left the room for 3 minutes to establish the first base rate.

Episode 2: The Researcher returned to room 1 to ask the older child to play some games in the next room. If the child was reluctant to leave the mother, the games were played in the first room. If the child became restless or refused to perform a task, the researcher went on to the next task. The tasks took 10 to 15 minutes. On leaving, the child was given 5 small bear shaped graham crackers (the mother's permission had been given earlier for the children to receive a treat) in a yellow cup and was thanked for participating.

Episode 3: Second 3 minute base rate.

Episode 4: The mother was asked to leave the room, having been given no instructions as to what to say to the children. The mother and researcher observed the

children through the one way mirror. The child and infant were alone together for 3 minutes, unless the infant or child became very distressed (some distress on the mother's absence was expected and was an indication of attachment, BUT if the distress became excessive, then the mother rejoined the children, and the procedure moved to Episode 9).

Episode 5: A white, female undergraduate graduate student entered the room and stayed with the children for up to three minutes. (If either child was distressed, she left and the mother returned, and Episode 9 began.) The stranger was instructed to sit in the chair and to act in a neutral manner; she could respond to overtures by the children, but could not initiate any interactions.

Episode 6: The child was asked to come into the next room, leaving the infant with the stranger. (If the infant was unduly stressed, the child returned to the waiting room immediately. If the infant was unduly distressed even in the presence of the child, then the mother returned to the room, and the procedure moved to Episode 9.)

Episode 7: The stranger left the room, leaving the infant alone. No infant was alone for more than 60



seconds, most were alone for 20 seconds or less. (If the infant was distressed, which was most of the time, the child returned immediately. If the infant was unduly distressed even in the presence of the child, then the mother returned to room 1, and the procedure moved to Episode 9.)

Episode 8: The child returned to room 1. The child and infant were alone for three minutes. (If either child was unduly stressed, the mother rejoined them immediately.)

Episode 9: Mother rejoined the children in the room. The infant was thanked for participating and given 5 bear shaped graham crackers. The reunion episode lasted 3 minutes.

Explanation of Strange Situation Procedure (SSP)  
Behavioral Rating Form

Family #: Date of ssp: date of rating: Rater(s):

Family #: # on tape

Date of ssp: on tape, FFI

date of rating: date rating completed

Rater: your initials

EPISODE 1: Mother Infant Child

time in seconds: 10 20 30 40 50 1M 10 20 30 40 50 2M  
10 20 30 40 50 3M

EPISODE 2: Mother, Infant

time: 30 1m 30 2m 30 3m 30 4m 30 5m 30 6m 30 7m  
30 8m 30 9m 30 10m

EPISODE 7: Infant Alone

time in seconds: 10 20 30 40 50 1M

Episode = the episode number and the individuals present in the room.

Time in seconds: Episode 2 rated in 30 second increments, all other episodes for 10 second intervals. Episode 2 lasts approximately 12 minutes. Episode 7 lasts 1 minute or less. All other episodes last 3 minutes each. Not every session lasted for 9 episodes. Episodes were terminated if either child was distressed and the reunion episodes initiated.

STRANGE SITUATION PROCEDURE BEHAVIORAL RATINGS

Note behavior and make global decisions about the effect of the behavior. Some behaviors are included in more than one category.

Use the following symbols to indicate who or what is acting / receiving the above behaviors.

[M]=mother	[S]=stranger	[MC]=mother's chair
[C]=child	[W]=window	[T]=toy
[I]=infant	[d]=door	[O]=other (specify)

Attachment system: Behavior functions to increase and/or maintain proximity to or contact with an individual considered by the child to be stronger and/or wiser. Behaviors included in this system: crying, following after a departing person, calling a departing person, greeting a returning person, approaching, reaching for, and clinging to a person, kissing/ hugging a person.

Caregiving system: Behavior functions to provide material or emotional nurturance or support to another perceived as younger/weaker. Behaviors included in this system: approaching, hugging, kissing, caressing or holding another, offering verbal reassurances, redirecting another from distressful thoughts or events.

Sociable system: Behavior functions to initiate and/or maintain playful or friendly interactions with others. Behaviors included in this system: discussions of objects, vocalizing, exchanges of information concerning one another, sharing/ joint use of toys, laughing and smiling.

Fear/wariness system: Behavior functions to escape or avoid alarming stimuli or situations. (Compatible with attachment system; incompatible with sociable or exploratory systems.) Behaviors included in this system: gaze aversion, pouting, cry face, crying, looking with face downcast, freezing, fleeing, moving away from the person, leaning away from the person.

Exploratory system: Behavior function to gain information about, and playfully manipulate objects in the environment, playing with toys and other objects. Behaviors included in this system:

Solitary play: focal child plays alone and independently with toys different from sibling, mother or sibling not involved in play.

Parallel play: focal child plays independently but beside the sibling, observing sibling and using the same toys in a similar manner to the sibling.

Coordinated play: focal subject plays with another in a common, similar activity; organizational structure can be minimal or complex.

Imitation: focal subject observes the behavior of another, then repeats the behavior.

Negative Affiliation: verbal or physical behavior that signals discomfort, fussiness, fatigue, fretfulness, anger, hostility or frustration. Behaviors included in this system: fussing, whining, crying, yawning, rubbing eyes, lying down, closing eyes, complaining.

Physical aggression, includes behaviors such as: hitting, pushing, grabbing toys away, throwing toys, etc.

Verbal aggression, includes behaviors such as: yelling, insulting, screaming.

Approach: Behavior in which a person moves from beyond to within three feet of another or moves three feet closer to another.

Based on personal communication from Stewart, April 15, 1985.

Family #: \_\_\_\_\_ Date of ssp: \_\_\_\_\_ date of rating: \_\_\_\_\_  
 Rater(s): \_\_\_\_\_

STRANGE SITUATION PROCEDURE BEHAVIORAL RATINGS

EPISODE 1: Mother Infant Child	Mother					Infant					Child							
time in seconds:	10	20	30	40	50	1M	10	20	30	40	50	2M	10	20	30	40	50	3M
Attachment:																		
cry																		
follow																		
greet/call																		
approach																		
cling																		
kiss/ hug																		
proximity																		
Caregiving:																		
approach																		
hug/ kiss																		
hold																		
reassure																		
redirect																		
proximity																		
help																		
Sociable:																		
talk																		
vocalize																		
share																		
laugh/smile																		
approach																		
proximity																		
Fear/wariness:																		
gaze aversion																		
pout/cry face																		
cry																		
face downcast																		
freeze																		
lean away																		
flee																		
verbal anxiety																		
Exploratory:																		
solitary																		
parallel																		
coordinated																		
imitation																		
Negative:																		
fuss/whine																		
cry																		
yawn/rub eyes																		
lie down																		
complain																		
listless																		
agression																		
(verbal)																		
aggression																		
(physical)																		
Neutral:																		
answer forms																		
observe																		
time in seconds:	10	20	30	40	50	1M	10	20	30	40	50	2M	10	20	30	40	50	3M

SUMMARY OF BEHAVIORAL RATINGS Family # \_\_\_\_\_

CHILD: male female age in months \_\_\_\_\_

INFANT: male female age in months \_\_\_\_\_ Rater: \_\_\_\_\_

CHILD PERSPECTIVE-TAKING SCORE: \_\_\_\_\_

Birthday Game: \_\_\_\_\_ Syllogisms: \_\_\_\_\_ Hide & Seek: \_\_\_\_\_

CHILD EMPATHY SCORE: \_\_\_\_\_

Glad & Sad: \_\_\_\_\_ Album: \_\_\_\_\_

TOY SHARING SCORE \_\_\_\_\_

Child gave toy to infant spontaneously (4)  
 Child gave toy to infant at infant request/demand (3)  
 Child gave infant toy after adult request/ demand (2)  
 Mother takes toy from child/ gives to infant (1)  
 Child refused to give infant a toy (0)  
 Child took toy from infant (-1)

TREAT SHARING TASK SCORE \_\_\_\_\_

Child shared treat with infant voluntarily (4)  
 Child shared treat at infant's request/demand (3)  
 Child shared treat at adult's request/demand (2)  
 Mother takes treat from child/ gives to infant (1)  
 Child refused to share treat with infant (0)  
 Child takes infant's treat (-1)

INFANT TREAT SHARING SCORE \_\_\_\_\_

Distress

Infant's level of distress	Child's level of distress
Episode 1 (baseline): [ ]	[ ]
Episode 2 (child leaves): [ ]	[ ]
Episode 3 (child returns/baseline): [ ]	[ ]
Episode 4 (mother leaves): [ ]	[ ]
Episode 5 (stranger enters): [ ]	[ ]
Episode 6 (child leaves): [ ]	[ ]
Episode 7 (infant alone): [ ]	[ ]
Episode 8 (infant/child reunion): [ ]	[ ]
Episode 9 (reunion with mother): [ ]	[ ]

## SUMMARY OF BEHAVIORAL RATINGS (Continued) Family # \_\_\_\_\_

CHILD: male female age in months\_\_\_\_\_

INFANT: male female age in months\_\_\_\_\_ Rater:\_\_\_\_\_

CAREGIVING SCORES

MATERNAL CAREGIVING TO CHILD:\_\_\_\_\_ TO INFANT:\_\_\_\_\_

CHILD CAREGIVING TO INFANT: \_\_\_\_\_

Child provided no caregiving at all ( )

Child provided caregiving within 120 seconds ( )

Child provided caregiving within 90 seconds ( )

Child provided caregiving within 30 seconds ( )

Child reduces infant distress ( )

ATTACHMENT SCORES

INFANT ATTACHMENT TO SIBLING SCORE:\_\_\_\_\_

Infant cries/prottests when child leaves room ( )

Infant uses child as secure base ( )

Infant proximity to child ( )

INFANT ATTACHMENT TO MOTHER SCORE\_\_\_\_\_

CHILD ATTACHMENT TO MOTHER SCORE\_\_\_\_\_

SOCIABLE SCORES

INFANT/ MOTHER:\_\_\_\_\_

CHILD/ MOTHER:\_\_\_\_\_

INFANT/CHILD:\_\_\_\_\_

MOTHER/ INFANT:\_\_\_\_\_

MOTHER/CHILD:\_\_\_\_\_

CHILD/ INFANT:\_\_\_\_\_

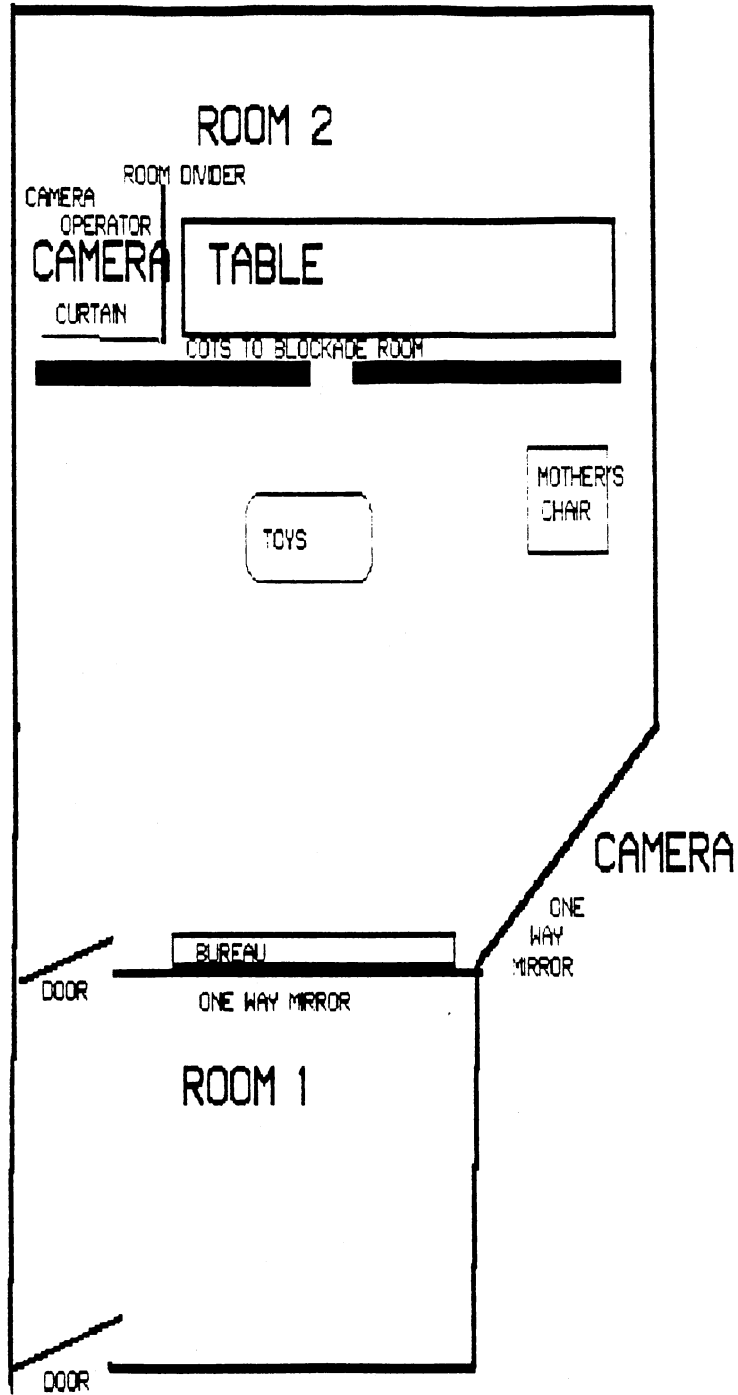
AGGRESSION SCORES

INFANT AGGRESSION TO CHILD:\_\_\_\_\_

CHILD AGGRESSION TO INFANT:\_\_\_\_\_

0=NO/NONE 1=VERY LITTLE/LOW 2=SOME 3=HIGH 4=VERY HIGH

# DIAGRAM OF THE RESEARCH ROOM





APPENDIX D

DATA

SUMMARY OF RESPONSES TO FAMILY INFORMATION FORM FROM THE  
36 SUBJECT MOTHERS (Number of respondents in each  
category is next to that letter, numeral, or space.)

Date: \_\_\_\_\_ FAMILY INFORMATION FORM Family #: \_\_\_\_\_

Please circle the one letter that best expresses your  
answer.

1. What is your age?
 

0 a. Under 20	5 d. 26-28	4 g. 35-37	1 j. over 43
0 b. 20-22	10 e. 29-31	3 h. 38-40	
3 c. 23-25	10 f. 32-34	0 i. 41-43	
  
2. What is your racial or ethnic background?
 

a. American Indian/ Native American
d. Hispanic/Latino
b. Asian or Pacific Islander
36 e. White, not of Hispanic/Latino origin
c. Black or Afro-American, not Hispanic
f. Other
  
3. Are you an U. S. citizen?
 

35 a. Yes, native born	1 b. No	c. Yes, naturalized
------------------------	---------	---------------------
  
4. What is the highest level of education that you have completed?
 

0 a. Eighth grade or less	10 e. Associate degree
0 b. Some high school	some college
3 c. High school graduate	11 f. College graduate
1 d. Vocational training	11 g. Postgraduate degree
  
5. What best describes your current employment status?
 

18 a. Employed or self-employed full-time for pay.
7 b. Employed or self-employed part-time for pay.
0 c. Unemployed, looking for work.
1 d. Enrolled in school/job training.
10 e. Homemaker
f. Other
  
6. If employed for pay, what is your occupation?
 

17 a. Professional, managerial or technical (includes teacher, doctor, researcher, librarian, manager, computer programmer, etc.)
7 b. Sales, clerical, or administrative support (includes retail sales, real estate, bank teller, secretary, etc.)
1 c. Service (includes private household worker, nurse's aide, child care worker, waitress, etc.)

- 0 d. Precision production, craft or repair (includes mechanic, trades, etc.)
- 0 e. Operator or laborer (includes machine operator, assembler, inspector, motor vehicle operator)
- 0 f. Farm worker
- 0 g. Other

7. How long have you and the children's father been married?

- 0 a. Less than three years    14 d. 7-8 years
- 1 b. 3-4 years                    9 e. 9-10 years
- 7 c. 5-6 years                    5 f. 11 + years
- 1 g. separated                    0 h. divorced

8. What is the age of the children's father?

- 0 a. Under 20    4 d. 26-28    7 g. 35-37    3 j. 43-45
- 0 b. 20-22        7 e. 29-31    4 h. 38-40    1 k. over 45
- 1 c. 23-25        8 f. 32-34    2 i. 41-43

9. What is the racial or ethnic background of the father?

- 1 a. American Indian/ Native American
- 0 d. Hispanic/Latino
- 1 b. Asian or Pacific Islander
- 33 e. White, not of Hispanic/ Latino origin
- 0 c. Black or Afro-American, not of Latino origin

10. Is the father an U. S. citizen?

- 35 a. Yes, native    b. No            1 c. Yes, naturalized

11. What is the highest level of education that the father has completed?

- 0 a. Eighth grade or less            5 e. Some college
- 0 b. Some high school                14 f. College graduate
- 1 c. High school graduate            15 g. Postgraduate
- 1 d. Vocational training              credits or degree

12. What best describes the father's current employment status?

- 33 a. Employed or self-employed full-time for pay.
- 1 b. Employed or self-employed part-time for pay.
- 0 c. Unemployed, looking for work.
- 1 d. Enrolled in school/job training.
- 0 e. Homemaker
- 1 f. Other: student works part-time

13. If employed for pay, what is the father's occupation?
- 24 a. Professional, managerial or technical (includes teacher, doctor, researcher, librarian, manager, computer programmer, etc.)
- 2 b. Sales, clerical, or administrative support (includes retail sales, real estate, bank teller, secretary, etc.)
- 0 c. Service (includes private household worker, nurse's aide, childcare worker, waiter, etc.)
- 5 d. Precision production, craft or repair (includes mechanic, trades, etc.)
- 0 e. Operator or laborer (includes machine operator, assembler, inspector, motor vehicle operator, etc.)
- 0 f. Farm worker
- 4 g. Other: firefighter, marine, 2 no answer
14. Which group number best describes your total household income for the past year before taxes and deductions.
- |   |                    |    |                     |
|---|--------------------|----|---------------------|
| 0 | a. Under \$5,000   | 10 | e. \$35,000-44,999  |
| 2 | b. \$5,000-14,999  | 5  | f. \$45,000-54,999  |
| 3 | c. \$15,000-24,999 | 5  | g. \$55,000-64,999  |
| 7 | d. \$25,000-34,999 | 4  | h. \$65,000 or more |
15. Please list the children that live with you by gender and birthdate. (For example, boy 10/29/85. Circle the two that are with you today). Do not use names, please.
16. List any of your children's siblings, step-siblings, or half-siblings that do not live with you, by relationship and age. For example, step-sister, 12.) Do not use names, please.

Check (x) all answers that apply to your children.

17. What kinds of formal or informal experiences does each child have with other children?

OLDER CHILD

[22] Sunday school/ Temple or Saturday school  
 [3]nursery school/]Mother's Day Out [2]public school  
 [ ]neighborhood friends, same age [ ]neighborhood friends, older [ ]neighborhood friends, younger [ ]classes (music, swim, tumbling, etc.) [ ]Playgroup  
 [1]other daycare/sitter

## YOUNGER CHILD

[18] Sunday school/ Temple or Saturday school  
 [23]nursery school/ ]Mother's Day Out [ ]neighborhood  
 friends, same age [ ]neighborhood friends, older  
 [ ]neighborhood friends, younger[ ]classes (music, swim,  
 tumbling, etc.) [1]Playgroup [1]other daycare

18. Has your OLDER child here today been separated  
 from YOU for more than 24 hours (include business  
 trips and vacations)?

Number of separations of more than 1 day

(1)..(2)..(3)..(4)...(5)....(6)....(7)

never 1-5 6-10 11-15 16-20 21-25 26 or more

2 17 9 4 3 0 1

19. Has your YOUNGER child here today been separated  
 from YOU for more than 24 hours (include business  
 trips and vacations)?

Number of separations of more than 1 day

(1)..(2)..(3)..(4)...(5)....(6)....(7)

never 1-5 6-10 11-15 16-20 21-25 26 or more

10 22 2 1 5 0 0

20. Has your OLDER child been separated from FATHER  
 for more than 24 hours (include business trips  
 and vacations)?

Number of separations of more than 24 hours

(1)..(2)..(3)..(4)...(5)....(6)....(7)

never 1-5 6-10 11-15 16-20 21-25 26 or more

4 7 7 6 4 2 5 (1 out of state)

21. Has your YOUNGER child been separated from FATHER  
 for more than 24 hours (include business trips  
 and vacations)?

Number of separations of more than 24 hours

(1)..(2)..(3)..(4)...(5)....(6)....(7)

never 1-5 6-10 11-15 16-20 21-25 26 or more

5 13 9 3 1 1 3 (1 out of state)

22. Have the children been separated from each other  
 for more than 24 hours?

Number of separations of more than 24 hours

(1)..(2)..(3)..(4)...(5)....(6)....(7)

never 1-5 6-10 11-15 16-20 21-25 26 or more

14 19 1 2 0 0 0

23. When your OLDER child was a baby, who took care of him/her mostly then? Circle the number of hours each of the following individuals took care of your older child in an average week, when s/he was LESS THAN 3 MONTHS old.

FATHER hours weekly

(1)..(2)..(3)..(4)...(5)....(6)....(7)  
 0 1-5 6-15 16-25 26-35 36-45 more than 45  
 1 14 7 8 2 1 3

MOTHER hours weekly

(1)..(2)..(3)..(4)...(5)....(6)....(7)  
 0 1-5 6-15 16-25 26-35 36-45 more than 45  
 0 0 1 0 3 2 30

RELATIVE (please specify: 6 grandmothers, 1 sister)

(1)..(2)..(3)..(4)...(5)....(6)....(7)  
 0 1-5 6-15 16-25 26-35 36-45 more than 45  
 29 5 2 0 0 0 0

DAY CARE/ SITTER hours weekly

(1)..(2)..(3)..(4)...(5)....(6)....(7)  
 0 1-5 6-15 16-25 26-35 36-45 more than 45  
 22 4 1 1 2 5 1

24. When your YOUNGER child was an infant, who took care of him/her mostly then? Circle the number of hours each of the following individuals took care of your younger child in an average week, when s/he was LESS THAN 3 MONTHS old.

FATHER hours weekly

(1)..(2)..(3)..(4)...(5)....(6)....(7)  
 0 1-5 6-15 16-25 26-35 36-45 more than 45  
 0 15 10 9 1 0 1

MOTHER hours weekly

(1)..(2)..(3)..(4)...(5)....(6)....(7)  
 0 1-5 6-15 16-25 26-35 36-45 more than 45  
 0 0 1 0 1 3 31

RELATIVE (please specify: grandmother, aunt)

(1)..(2)..(3)..(4)...(5)....(6)....(7)  
 0 1-5 6-15 16-25 26-35 36-45 more than 45  
 29 7 0 0 0 0 0

DAY CARE/ SITTER hours weekly

(1)..(2)..(3)..(4)...(5)....(6)....(7)  
 0 1-5 6-15 16-25 26-35 36-45 more than 45  
 1 8 8 2 2 13 1

25. Now that the children are older, who takes care of them mostly? Circle the number of hours each of the following individuals takes care of your OLDER child in an average week now.

## FATHER hours weekly

(1)	(2)	(3)	(4)	(5)	(6)	(7)
0	1-5	6-15	16-25	26-35	36-45	more than 45
3	6	15	7	3	1	1

## MOTHER hours weekly

(1)	(2)	(3)	(4)	(5)	(6)	(7)
0	1-5	6-15	16-25	26-35	36-45	more than 45
0	0	2	2	3	4	25

## RELATIVE

(1)	(2)	(3)	(4)	(5)	(6)	(7)
0	1-5	6-15	16-25	26-35	36-45	more than 45
29	7					

## DAY CARE/ SITTER hours weekly

(1)	(2)	(3)	(4)	(5)	(6)	(7)
0	1-5	6-15	16-25	26-35	36-45	more than 45
1	8	8	2	2	13	1

26. Circle the number of hours each of the following individuals takes care of your YOUNGER child in an average week, now that s/he is older.

## FATHER hours weekly

(1)	(2)	(3)	(4)	(5)	(6)	(7)
0	1-5	6-15	16-25	26-35	36-45	more than 45
3	8	14	7	2	1	1

## MOTHER hours weekly

(1)	(2)	(3)	(4)	(5)	(6)	(7)
0	1-5	6-15	16-25	26-35	36-45	more than 45
0	0	1	3	3	4	25

## RELATIVE

(1)	(2)	(3)	(4)	(5)	(6)	(7)
0	1-5	6-15	16-25	26-35	36-45	more than 45
28	6	1				

## DAY CARE/ SITTER hours weekly

(1)	(2)	(3)	(4)	(5)	(6)	(7)
0	1-5	6-15	16-25	26-35	36-45	more than 45
5	9	4	1	1	15	1

27. How does your OLDER child usually react to separations from MOTHER?

(1)	(1.5)	(2)	(3)	(4)	(5)	(6)	(7)
18	2	7	1	8	0	0	0
no anxiety		a little	cries for	sometimes	fairly upset	upset	very
doesn't		upset,	a short	upset	cries alot	upset	upset
cry or		clings to	time,				
ask for		mother	but okay				
mother		no crying	afterward				

28. At the present time, how does your YOUNGER child usually react to separations from MOTHER?

(1) 5	(2) 6	(2.5)3	(3) 11
no anxiety	a little		cries for
doesn't	upset,		a short
cry or	clings to		time,
ask for	mother		but okay
mother	no crying		afterward
(4) 7	(5) 2	(6) 2	(7) 0
sometimes	fairly	upset	very
is upset	upset,		upset
sometimes	cries for		
is okay	a long time		

29. At the present time, how does your OLDER child usually react to separations from FATHER?

(1) 22	(1.5)1	(2) 5	(3) 1
no anxiety	a little		cries for
doesn't	upset,		a short
cry or	clings to		time,
ask for	father		but okay
father	no crying		afterward
(4) 7	(5) 0	(6) 0	(7) 0
sometimes	fairly	upset	very
is upset	upset,		upset
sometimes	cries for		
is okay	a long time		

30. At the present time, how does your YOUNGER child usually react to separations from FATHER?

(1) 16	(2) 8	(3) 5	
no anxiety	a little		cries for
doesn't	upset,		a short
cry or	clings to		time,
ask for	father		but okay
father	no crying		afterward
(4) 5	(5) 1	(6) 0	(7) 0
sometimes	fairly	upset	very
is upset	upset,		upset
sometimes	cries for		
is okay	a long time		

31. How does your YOUNGER child usually react to separations from OLDER SIBLING (the one here today)?

(1) 18	(2) 10	(3) 3
no anxiety	a little	cries for
	upset,	a short time



(4) 3	(5) 0	(6) 2	(7) 0
sometimes	fairly	upset	very
is upset	upset,		upset
sometimes	cries for		
is okay	a long time		

32. How does your OLDER child usually react to separations from YOUNGER SIBLING?

(1) 27	(2) 6	(3) 0	
no anxiety	a little	cries for	
doesn't	upset,	a short	
cry or	clings to	time,	
ask for	father	but okay	
father	no crying	afterward	
(4) 3	(5) 0	(6) 0	(7) 0
sometimes	fairly	upset	very
is upset	upset,		upset
sometimes	cries for		
is okay	a long time		

33. What kinds of things did YOU do with your YOUNGER child when s/he was a baby? Please circle any letters that are applicable?

36 a. bathe baby	36 b. dress baby
36 c. nurse/ give bottle	36 d. feed solid foods
36 e. change diapers	36 f. take to doctor
36 g. 'play'	35 h. get up at night 34
i. rock, comfort, sing	5 j. take classes

34. What kinds of things did FATHER do with your YOUNGER child when s/he was a baby? Please circle any letters that are applicable?

18 a. bathe baby	26 b. dress baby
27 c. nurse/ give bottle	26 d. feed solid foods
30 e. change diapers	13 f. take to doctor
36 g. 'play'	17 h. get up at night 31
i. rock, comfort, sing	2 j. take classes

35. In what ways did your OLDER child help to take care of the YOUNGER child when s/he was a baby? Circle all the letters that have applicable answers.

25 a. bathe/ take bath with baby	6 b. help dress baby	18
c. give bottle to baby	19 d. change diapers	11 e.
feed solid foods	34 f. entertain baby	

36. All babies cry at times. Some parents feel that if you pick up a baby every time it cries, you will spoil it. Others think you should never let a baby cry for long. Circle the number that best expresses the way you feel about handling crying.

(1) 17	(2) 9	(2.5) 1	(3) 7	(4) .5
babies need to be held, I rarely let baby cry more than a few minutes	seldom let baby cry for long	occasionally let baby cry for a long time	sometimes let baby cry for long time	
(5) 0	(6).5		(7) 0	
frequently let baby cry long time	usually let cry if baby is fed & dry		picking baby up spoils it, if baby ok, let baby cry	

37. What about the father? Circle the number that best expresses the way he feels about handling crying.

(1) 7	(2) 18	(2.5) 1	(3) 6	(4) 1
babies need to be held, I rarely let baby cry	seldom let baby cry for long	occasionally let baby cry for a long time	sometimes let baby cry for long time	
(5) 0	(6) 3		(7) 0	
frequently let baby cry long time	usually let cry if baby is fed & dry		picking baby up spoils it, if baby ok, let baby cry	
	baby ok			

38. How does your OLDER child react when the YOUNGER child cries?

(1) 8	(2) 13	(3) 2	
usually comforts pats, acts concerned	frequently comforts	often comforts	
(4) 10	(5) 2	(6) 1	(7) 0
sometimes comforts sometimes ignores	rarely comforts sometimes laughs or ignores	often ignores or acts angry	usually ignores leaves room or is angry

39. How does your YOUNGER child react when the OLDER child cries?

(1) 10	(2) 3	(3) 3	
usually	frequently	often	
comforts	comforts	comforts	
pats,			
acts			
concerned			
(4) 13	(5) 4	(6) 1	(7) 1
sometimes	rarely	often	usually
comforts	comforts	ignores or	ignores
sometimes	sometimes	laughs or	leaves
ignores	laughs or	acts	room or
	ignores	angry	is angry

40. How much attention does your YOUNGER child seem to want from MOTHER? Does s/he follow you around and cry when you leave the room or is s/he content to play alone most of the time? (Circle the number that best describes your child's behavior.)

(1) 0	(2) 7	(3) 3	(4) 19
always follows	usually	often	sometimes cries
& cries if I	follows	cries/	when I leave, but
leave wants	&/or cries	follows	plays alone
constant attn.			sometimes
(5) 3	(6) 4	(7) 0	
seldom	usually	never cries	
follows	does	or follows me	
& cries	not cry	content to be	
if I	or	alone most of	
leave	follow	the time	

41. How much attention does your YOUNGER child seem to want from FATHER? (Circle the number that best describes your child's behavior.)

(1) 1	(2) 3	(3) 2	(4) 18
always follows	usually	often	sometimes cries
& cries if I	follows	cries/	when I leave, but
leave wants	&/or cries	follows	plays alone if I
constant attn.			sometimes
(5) 7	(6) 4	(7) 0	
seldom	usually	never cries	
follows	does	or follows me	
& cries	not cry	content to be	
if I	or	alone most of	
leave	follow	the time	

42. What about your OLDER child? How much attention does your older child seem to want from MOTHER? (Circle the number that best describes your child's behavior.)

- |   |                                 |   |   |
|---|---------------------------------|---|---|
| (1) 1   | (2) 4                           | (3) 9   | (4) 21  |
| always follows & wants constant attention       | usually wants attention         | often wants attention   | sometime wants attention, but sometimes content to be alone |
| (5) 1   | (6) 0                           | (7) 0   |   |
| seldom wants attention frequently content alone | usually does not want attention | never seems to want my attention content to be alone most of time |   |

43. How much attention does your OLDER child seem to want from FATHER? (Circle the number that best describes your child's behavior.)

- |   |                                 |   |   |
|---|---------------------------------|---|---|
| (1) 3   | (2) 4                           | (3) 10  | (4) 18  |
| always follows & wants constant attention       | usually wants attention         | often wants attention   | sometime wants attention, but sometimes content to be alone |
| (5) 0   | (6) 1                           | (7) 0   |   |
| seldom wants attention frequently content alone | usually does not want attention | never seems to want my attention content to be alone most of time |   |

44. How does your OLDER child react if you are busy with the younger child when s/he wants your attention? (Circle the number that best describes your child's behavior.)

- |  |                                      |                                     |                                     |
|--|--------------------------------------|-------------------------------------|-------------------------------------|
| (1) 2                                  | (2) 5                                | (3) 21                              |                                     |
| always waits patiently                 | usually patient rarely upset         | often patient sometimes angry       |                                     |
| (4) 4                                  | (5) 2                                | (6) 2                               | (7) 0                               |
| sometimes patient but gets angry often | usually angry at waiting not patient | rarely patient, usually upset/angry | never patient gets angry at waiting |

45. How does your YOUNGER child react if you are busy with the older child when s/he wants your attention?

(1) 0	(2) 5	(3) 8	
always	usually	often patient	
waits	patient	sometimes	
patiently	rarely upset	angry	
(4) 7	(5) 10	(6) 6	(7) 0
sometimes	usually	rarely	never
patient	angry at	patient,	patient
but gets	waiting	usually	gets angry
angry often	not patient	upset/angry	at waiting

46. How does the YOUNGER child usually react when you go out of the house and leave him/her with someone else?

(1) 0	(2) 1	(3) 8	(4) 12
always	usually	most of	often
cries	cries	time	cries
sometimes		cries,	but seldom
for hours		not long	for long
(5) 7	(6) 8	(7) 0	
sometimes	rarely	never	
cries	cries	cries	

47. How does the older child usually react when left with some one else?

(1) 0	(2) 0	(3) 0	(4) 1
always	usually	most of	often
cries	cries	time	cries
sometimes		cries,	but seldom
for hours		not long	for long
(5) 4	(6) 17	(7) 14	
sometimes	rarely	never	
cries	cries	cries	

48. How does the younger child react when the older child leaves the house?

(1) 1	(2) 0	(3) 5	(4) 7
always	usually	most of	often
cries or	cries	time cries	cries
asks for		tries to	but seldom
sibling		follow	for long
(5) 6	(6) 13	(7) 4	
seldom cries	rarely	never	
asks about	cries	cries	
looks for sib			

49. How does the older child react to separation from the younger child?

(1) 1	(2) 0	(3) 0	(4) 0
always	usually	most of	often
cries or	cries	time cries	cries
asks for		tries to	but seldom
sibling		follow	for long
(5) 9	(6) 3	(7) 23	
seldom cries	rarely	never	
or asks about	cries	cries	
or looks for			
sibling			

50. Some people feel that rivalry between siblings is natural, while others feel that siblings should be friends. Circle the number that expresses the way you feel about sibling relationships.

(1) 0	(2) 2	(3) 20	(4) 12
I feel	siblings	siblings	I feel that
strongly	should be	should be	siblings
siblings	friends	loving	should be
should	most of	but some	friends,
be loving	the time	rivalry	but expect
all the time		is normal	rivalry
(5) 1	(6) 0	(7) 1	
siblings	siblings	I feel	
often	usually	rivalry	
have more	feel more	is natural	
negative	rivalry	& don't	
than positive	than	expect them	
feelings	friendship	to be friends	

51. How well do your children get along together?

(1) 2	(2) 6	(3) 11	(4) 17
very	close,	close,	close, but
close,	rarely	have few	often have
dislike	fight	fights	conflicts,
being	usually	play	often play
separated,	play	together	together,
always play	together,	often	share
(5) 0	(6) 0	(7) 0	
fairly	not very	hostile	
close	close,	rarely	
but only	fights	play	
rarely	common,	together	
share or	somewhat	without	
play happily	hostile	conflict or share	

52. How much time do the children spend together?

(1) 23	(2) 11	(3) 2	(4) 0
many	a few	a few	less than
hours	hours	hours	2 hours,
daily	daily	most days	every day
(5) 0	(6) 0	(7) 0	
less than	a few	a few	
2 hours,	minutes	minutes	
most days	every day	most days	

53. Most children find it difficult to share toys some of the time. What does your OLDER child do if the YOUNGER one takes something of his/hers?

(1) 0	(2) 3	(3) 5	(4) 10
lets	lets	tries to	requests
sibling	sibling	get sibling	adult
keep toy	keep toy	"to share"	help or
most of	frequently		cries
time			
(5) 14	(6) 2	(7) 0	
sometimes	often	takes	
lets sib	takes it	it back	
keep toy	back,	most of	
but usually	often	time	
takes it	hits	usually	
back	sibling	hits sibling	

54. What does the YOUNGER child do if the OLDER one takes something of his/hers?

(1) 1	(2) 4	(3) 1	(4) 17
lets	lets	tries to	requests
sibling	sibling	get sibling	adult
keep toy	keep toy	"to share"	help or
most of	frequently		cries
time			
(5) 5	(6) 6	(7) 2	
sometimes	often	takes	
lets sib	takes it	it back	
keep toy	back,	most of	
but usually	often	time	
takes it	hits	usually	
back	sibling	hits sibling	

Check (x) all answers that apply to your children.

55. In what ways do the children express affection for each other?

The OLDER child: [32]pats [35]kisses [36]hugs  
[28]shares toys/ food without being asked [1]praise

The YOUNGER child: [25]pats [23]kisses [25]hugs  
[20]shares toys/ food without being asked

56. In what ways do the children express anger with each other?

The OLDER child: [19]hits [24]pushes [2]bites  
[5]ignores [29]yells [5]calls other one names  
[22]tattles [21]cries [3]squeeze arm, screams

The YOUNGER child: [19]hits [16]pushes [12]bites  
[1]ignores [15]yells [0]calls other one names  
[4]tattles [33]cries [ ]other scratch, sticks out tongue

57. What kinds of things do they usually get angry about?

The OLDER child: [15]other sibling's aggression  
[33]other sibling takes toys, etc.  
[15]parent giving other sibling attention  
[1]parent kissing/hugging other sibling  
[ ]other messing with dolls

The YOUNGER child:[12]other sibling's aggression  
[30]other sibling takes toys, etc.  
[18]parent giving other sibling attention  
[12]parent kissing/hugging other sibling

58. What does your OLDER child do if the younger one gets hurt?

[33]pat/ console [6]get ice/ bandaide [7]cry  
[33]get adult help [1]laugh [3]ignore or leave room

59. What does the YOUNGER one do if the older child gets hurt?

[18]pat/ console [1]get ice/ bandaide [1]cry  
[10]get adult help [0]laugh [0]ignore or leave room  
[ ]looks worried, stares

60. What would your OLDER child do if the younger one was crying and neither you or your husband was in the room?

[2]pat/ console [27]get adult help [0]laugh [3]ignore or leave room [3]cry [ ]other:distract, pick up, sing



Data from Banks' Sibling Attachment Study

SUBJECT NO.	7	9	13	14	15
MOTHER'S AGE	33	30	30	33	30
MOTHER'S RACE	e	e	e	e	e
US CITIZEN	a	a	a	a	a
MOTHER'S EDUCATION	e	f	f	g	g
EMPLOYMENT STATUS	f	b	e	e	a
	unpd/husbd				
MOTHER'S JOB	b	b			a
YEARS MARRIED	f	e	e	c	d
FATHER'S AGE	33	30	33	36	30
FATHER'S RACE	e	e	e	a,e	e
US CITIZEN	a	a	a	a	a
FATHER'S EDUCATION	g	f	g	f	g
EMPLOYMENT STATUS	a	a	a	a	a
FATHER'S JOB	a	a	a	a	a
INCOME	h	e	e	f	e
OLDER CHILD BD	08/27/84	12/13/83	04/17/85	12/03/84	07/23/86
OLDER CHILD MONTHS	53	61	47	50	30
OLDER CHILD GENDER	female	female	male	female	female
YOUNGER CHILD BD	03/17/87	12/02/87	04/26/87	08/12/87	11/06/87
YOUNGER CHILD MONTHS	22	14	22	18	14
YOUNGER CHILD GENDER	female	male	male	female	male
SPACING	31	47	25	32	16
THIRD CHILD BD	07/09/81				
THIRD CHILD MONTHS	91				
THIRD CHILD GENDER	male				
OTHER CHILDREN					
OLDER CHILD/OTHER KIDS	a de g	ab de g	ab def	b def h	b
YOUNGER CHILD/OTHER KIDS	a d	ab	abcd	bcd g	b
OLDER SEPARATION/MOM	3	3	2	4	5
YOUNGER SEPARATION/MOM	2	2	1	2	3
OLDER SEPARATION/DAD	3	7	5	4	3
YOUNGER SEPARATION/DAD	3	4	4	2	3
SEPARATIONS/EACH OTHER	2	2	1	2	2
OLDER CHILD/CAREGIVERS					
DAD	3	2	5	4	3

Data from Banks' Sibling Attachment Study

SUBJECT NO.	7	9	13	14	15
MOM	7	7	7	7	5
RELATIVE	2	1	1	3	1
DAY CARE/SITTER	1	2	1	1	5
YOUNGER CHILD/CAREGIVERS					
DAD	3	2	4	4	3
MOM	7	7	7	7	6
RELATIVE	1	1	1	4	1
DAY CARE/SITTER	1	1	2	1	4
OLDER CHILD/ CAREGIVERS NOW					
DAD	3	2	4	4	3
MOM	7	7	7	7	6
RELATIVE	1	1	2	2	1
DAYCARE/SITTER/SCHOOL	3	4	3	3	5
YOUNGER CHILD/ CAREGIVERS NOW					
DAD	3	2	4	4	2
MOM	7	7	7	7	6
RELATIVE	1	1	2	3	5
DAYCARE/SITTER/SCHOOL	1	3	3	2	5
OLDER CHILD/SEPARATION MOM	1	2	1	4	1
YOUNGER CHILD/SEPARATION MOM	3	3	2	4	2
OLDER CHILD/SEPARATION DAD	1	1	2	4	1
YOUNGER CHILD/SEPARATION DAD	2	1	1	4	1
YOUNGER CHILD/SEPARATION SIB	2	1	2	4	1
OLDER CHILD/SEPARATION SIB	1	2	2	4	1
MOM INVOLVE YOUNGER/BABY	abcdefghi	abcdefghi	abcdefghi	abcdefghij	abcdefghij
DAD INVOLVE YOUNGER/BABY	bcde g i	bc e gh	a cd g i	bcdefghi	abcdefghij
SIB INVOLVE YOUNGER/BABY	a c f	a f	a	abc ef	f
MOM ATTITUDE CRYING	1	3	1	1	3
DAD ATTITUDE CRYING	3	4	1	1	3
OLDER ATTITUDE YOUNGER CRIES	1	2	4	1	2
YOUNGER ATTITUDE OLDER CRIES	2	1	3	1	4
YOUNGER ATTENTION/MOM	6	4	5	3	4
YOUNGER ATTENTION/DAD	6	5	5	4	6
OLDER ATTENTION/MOM	4	4	4	3	4
OLDER ATTENTION/DAD	4	4	4	3	4
OLDER/ MOM BUSY	1	3	3	3	3
YOUNGER/ MOM BUSY	3	5	5	4	4
YOUNGER/ REACT TO ABSENCE	4	4	5	4	5
OLDER/ REACT TO ABSENCE	7	6	7	5	6
YOUNGER/ REACT SIB ABSENCE	7	4	6	4	6

Data from Banks' Sibling Attachment Study

SUBJECT NO.	7	9	13	14	15
OLDER/ REACT SIB ABSENCE	7	6	7	5	7
RIVALRY ATTITUDE	3	3	3	3	3
KIDS GET ALONG (1+, 7-)	4	3	4	2	4
KIDS TIME TOGETHER	1	2	1	1	2
OLDER/SHARE (1+,7-)	5	5	5	5	5
YOUNGER /SHARE	4	4	5	5	4
older AFFECTION younger	abcd	abc	bcd	abcd	bcd
younger AFFECTION older	ab	a	bcd	abcd	b d
OLDER/ANGER	ab e h	b e g	ab e h	e g	b gh
YOUNGER/ANGER	gh	e h	a c e h	b hi	h
OLDER/ WHY ANGRY	b	b e mess dolls	abc	abc	bc
YOUNGER/ WHY ANGRY	b	bc	abc	c	b d
OLDER REACT YOUNGER HURT	abc	abc	a c	a c	a c g gets toy
YOUNGER REACT OLDER HURT	a c	a f	a	a	g stares
OLDER REACT IF YOUNGER CRIES	a	a	b	ab	ab
OLDER RELATES KIDS (1+,7-)	2	1	4	1	2
YOUNGER RELATE KIDS	4	1	4	2	3
YOUNGER IMITATES OLDER	4	6	6	6	5
OLDER IMITATE YOUNGER	4	3	3	6	2
PREPARATION FOR BABY	ab	ab	a d	abcd	e discussed
second chance	no	prepare # baby needs	no	no	so young nothing
COMMENTS	no	no	most of play is lrg motor, loud		mom ill 2 m before & 1 after no resent
Birthday Game 4 correct/6 passto p	6	5	1	4	0
Sylogisms 3 correct/5 pass	2	5	1	0	1
Hide and Seek 4 correct/6 pass	5	5	2	1	1
p-t raw score total (0 - 17)	13	15	4	5	2
PERSPECTIVE-TAKING SCORE #pass	2	3	1	1	0
perspective-taker?	no	yes	no	no	no

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>7</b>	<b>9</b>	<b>13</b>	<b>14</b>	<b>15</b>
Glad and Sad correct/12	12	12	12	12	12
glad and sad matches	12	12	11	12	10
k or j toy sharing	-1	4	0	4	-1
Toy Sharing	2	4	0	4	-1
k or j treat sharing	2	4	0	2	1
Treat Sharing	2	3	0	4	1
k/j photo album	3	3	3	2	1
photo album	3	3	3	3	1
k/j infant aggression to child	0	0	-3	0	0
infant AGGRESSION to child	-1	0	-2	0	0
k/j child aggression to infant	-1	0	-3	0	-1
child aggression to infant	-1	0	-2	0	-1
empathy raw score total (0-48)	33	45	24	43	22
empathy raw score w/o g & s	9	21	1	19	0
k or j empathy score	2	3	2	2	0
nancy empathy score	2	3	1	3	1
adjusted empathy score	2	3	1	3	0
empathy?	some	yes	no	yes	no
k/j maternal caregive child	not needed	not needed	not needed	2	2
Maternal CAREGIVING TO Child	0	2	3	3	2
AVERAGE OF ABOVE	0.0	1.0	1.5	2.5	2.0
k or j mom caregive infant	3	not needed	3	3	3
Maternal CAREGIVING to Infant	3	2	3	3	3
AVERAGE OF ABOVE	3.0	1.0	3.0	3.0	3.0
k or j child caregive infant	3	1	1	3	0
Child CAREGIVING to Infant	3	2	1	3	0
AVERAGE OF ABOVE	3.0	1.5	1.0	3.0	0.0
provided care w/in 30 sec	yes	?	no	yes	no
infant level of distress	100222221	00000000	20020000	010203xx2	010111100
infant level of distress (n)	000022221	000001010	211100100	010212xx0	000110000
infant distress rating	some	none/low	some	some/high	low
child level of distress	000020000	000100x00	000000000	000000xx0	000110000
child level of distress (n)	000010000	000200000	000000000	000000xx0	010110000
child distressed?	s/low	r/order	none	none	low
c/i caregiving needed?	yes	not needed	yes	yes	?
k/j infant sib attachment	3	2	2	3	1
INFANT SIBLING ATTACHMENT	3	3	2	3	1
AVERAGE OF ABOVE	3.0	2.5	2.0	3.0	1.0
infant attached to child?	yes	yes	some	yes	no
k/j infant mom attachment	3	2	3	3	2
INFANT MOTHER ATTACHMENT	3	2	3	3	2
AVERAGE OF ABOVE	3.0	2.0	3.0	3.0	2.0

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>7</b>	<b>9</b>	<b>13</b>	<b>14</b>	<b>15</b>
<i>k/j child mom attachment</i>	2	2	2	2	2
<b>CHILD MOTHER ATTACHMENT</b>	2	2	2	2	2
<b>AVERAGE OF ABOVE</b>	2.0	2.0	2.0	2.0	2.0
<i>k/j infant sociable mom</i>	3	2	3	3	2
<b>Infant SOCIABLE Mother Score</b>	3	3	3	3	3
<i>k/j mom sociable infant</i>	3	2	3	3	3
<b>Mother SOCIABLE Infant Score</b>	3	3	3	3	3
<i>k/j child sociable mom</i>	3	3	3	3	3
<b>Child SOCIABLE Mother Score</b>	3	3	3	3	2
<i>k/j mom sociable child</i>	3	3	3	3	3
<b>Mother SOCIABLE Child Score</b>	3	3	3	3	3
<i>k/j infant sociable child</i>	2	2	2	2	1
<b>Infant SOCIABLE Child Score</b>	3	2	2	3	0
<i>k/j child sociable infant</i>	2	2	3	2	1
<b>Child SOCIABLE Infant Score</b>	3	2	2	3	0
<i>k/j infant sociable S</i>	0	0	2	0	0
<b>Infant sociable stranger</b>	0	0	2	0	1
<i>k/j child sociable S</i>	0	0	2	0	0
<b>Child sociable Stranger</b>	0	0	2	0	0
<b>THIRD/KID EXPERIENCE</b>	acdeg				
<b>THIRD SEPARATE MOM</b>	3				
<b>THIRD SEPARATION DAD</b>	3				
<b>Third separation sib 1</b>	2				
<b>THIRD SEPARATION SIB 2</b>	2				
<b>THIRD CAREGIVE DAD</b>	2				
<b>THIRD CAREGIVE MOM</b>	7				
<b>THIRD CAREGIVE RELATIVE</b>	2				
<b>THIRD CAREGIVE DAY CARE</b>	1				
<b>THIRD CAREGIVE NOW DAD</b>	3				
<b>THIRD MOM</b>	7				
<b>THIRD RELATIVE</b>	1				
<b>THIRD DAY CARE/school</b>	6				
<b>THIRD REACT MOM SEPARATION</b>	1				
<b>THIRD REACT DAD SEPARATION</b>	1				
<b>THIRD REACT SIB 1 SEPARTIONS</b>	1				
<b>THIRD REACT SIB 2 SEPARATIONS</b>	1				
<b>MOM DO THIRD CHILD BABY</b>	abcdefghi				
<b>DAD DO THIRD CHILD BABY</b>	bcdegi				
<b>Third do Sib 1</b>	cf				
<b>THIRD DO SIB 2</b>	acf				
<b>THIRD SO SIB 2 CRIES</b>	1				

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>7</b>	<b>9</b>	<b>13</b>	<b>14</b>	<b>15</b>
THIRD DO SIB 1 CRIES	4				
YOUNGER DO THIRD CRIES	1				
OLDER DO THIRD CRIES	3				
THIRD ATTENTION MOM	7				
THIRD ATTENTION DAD	7				
THIRD MOM BUSY SIB2	1				
THIRD MOM BUSY SIB1	1				
THIRD REACT ABSENCE	7				
THIRD REACT SIB1 ABSENCE	7				
THIRD REACT SIB2 ABSENCE	7				
THIRD RELATE TO SIB1	3				
THIRD RELATE TO SIB 2	3				
TIME SIB1 AND THIRD	2				
TIME SIB 2 AND THIRD	3				
THIRD SHARE SIB2	3				
THIRD SHARE SIB 1	5				
Third affection SIB 1	bcd				
THIRD AFFECTION SIB 2	abcd				
SIB 1 AFFECTION THIRD	bcd				
SIB 2 AFFECTION THIRD	bc				
THIRD ANGER SIB1	abefg				
THIRD ANGER SIB 2	eg				
Sib 1 anger Third	abegh				
Sib 2 ANGER Third	aegh				
THIRD WHY ANGRY	ab				
THIRD REACT SIB2 HURT	acg				
THIRD REACT SIB1 HURT	e				
THIRD DO SIB2 CRIES	af				
THIRD DO SIB1 CRIED	f				
THIRD RELATE OTHER KIDS	1				
Sib 2 imitate Third	4				
Sib 1 imitate Third	4				
THIRD IMITATE SIB2	4				

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>7</b>	<b>9</b>	<b>13</b>	<b>14</b>	<b>15</b>
THIRD IMITATE SIB1	2				
THIRD PREPARED BIRTH 1	a e				
THIRD PREPARED BIRTH 2	b				

Data from Banks' Sibling Attachment Study

SUBJECT NO.	16	17	18	22	24
MOTHER'S AGE	33	36	39	36	27
MOTHER'S RACE	e	e	e	e	e
US CITIZEN	a	a	a	a	a
MOTHER'S EDUCATION	g	g	g	g	d
EMPLOYMENT STATUS	a	a	a	a	a
MOTHER'S JOB	a	a	a	a	b
YEARS MARRIED	c	e	f	f	d
FATHER'S AGE	36	39	42	42	27
FATHER'S RACE	e	e	e	e	e
US CITIZEN	a	a	a	a	a
FATHER'S EDUCATION	e	f	g	g	d
EMPLOYMENT STATUS	e	a	a	b	a
FATHER'S JOB	g	a	a	g	d
	<i>firefightr</i>			<i>remodling</i>	
INCOME	g	e	h	e	d
OLDER CHILD BD	09/15/83	08/09/83	11/05/83	01/30/85	11/24/82
OLDER CHILD MONTHS	65	65	64	49	72
OLDER CHILD GENDER	male	male	female	male	male
YOUNGER CHILD BD	11/07/87	10/06/87	04/05/87	12/21/87	12/02/87
YOUNGER CHILD MONTHS	15	15	22	14	14
YOUNGER CHILD GENDER	male	female	female	male	male
SPACING	50	50	42	35	60
THIRD CHILD BD	03/19/83				
	<i>temporary</i>				
THIRD CHILD MONTHS	58				
THIRD CHILD GENDER	<i>niece</i>				
OTHER CHILDREN	<i>half-sis</i>				
	10/24/78				
	<i>half-sis</i>				
	10/17/80				
OLDER CHILD/OTHER KIDS	ab e	i	b	ab de	bcde
		<i>day care</i>			
YOUNGER CHILD/OTHER KIDS	ab	b h	b	a h	h
		<i>family d c</i>		<i>sitter</i>	<i>sitter</i>
OLDER SEPARATION/MOM	3	2	3	2	2
YOUNGER SEPARATION/MOM	1	2	2	1	2
OLDER SEPARATION/DAD	7	2	7	1	1
YOUNGER SEPARATION/DAD	7	2	7	1	1
SEPARATIONS/EACH OTHER	2	1	2	1	2
OLDER CHILD/CAREGIVERS					
DAD	7	5	4	7	4



Data from Banks' Sibling Attachment Study

SUBJECT NO.	16	17	18	22	24
MOM	7	7	7	7	7
RELATIVE	1	1	1	1	1
DAY CARE/SITTER	1	3	1	6	6
YOUNGER CHILD/CAREGIVERS					
DAD	2	4	4	7	5
MOM	7	7	7	7	7
RELATIVE	1	1	1	1	1
DAY CARE/SITTER	5	6	1	6	4
OLDER CHILD/ CAREGIVERS NOW					
DAD	4	5	3	7	5
MOM	5	5	3	7	7
RELATIVE	1	1	1	1	1
DAYCARE/SITTER/SCHOOL	4	6	7	6	6
YOUNGER CHILD/ CAREGIVERS NOW					
DAD	3	4	3	7	5
MOM	5	5	4	7	7
RELATIVE	1	1	1	1	1
DAYCARE/SITTER/SCHOOL	4	6	7	6	6
OLDER CHILD/SEPARATION MOM	1	4	1	1	4
YOUNGER CHILD/SEPARATION MOM	2	1	1	3	3
OLDER CHILD/SEPARATION DAD	1	4	1	1	1
YOUNGER CHILD/SEPARATION DAD	1	1	1	2	2
YOUNGER CHILD/SEPARATION SIB	1	1	1	2	2
OLDER CHILD/SEPARATION SIB	1	1	1	2	4
MOM INVOLVE YOUNGER/BABY	abcdefghi	abcdefghi	abcdefg i	abcdefghi	abcdefghi
DAD INVOLVE YOUNGER/BABY	e g i	abcde g i	abcdefg i	abcdefg i	bcde ghi
SIB INVOLVE YOUNGER/BABY	ab d f	a c f	abcdef	f	b f
MOM ATTITUDE CRYING	1	1	1	1	3
DAD ATTITUDE CRYING	3	2	1	1	2
OLDER ATTITUDE YOUNGER CRIES	2	1	2	2	4
YOUNGER ATTITUDE OLDER CRIES	5	1	2	1	4
YOUNGER ATTENTION/MOM	4	4	5	2	4
YOUNGER ATTENTION/DAD	4	4	3	2	5
OLDER ATTENTION/MOM	2	2	4	4	2
OLDER ATTENTION/DAD	2	2	4	4	2
OLDER/ MOM BUSY	6	3	1	3	4
YOUNGER/ MOM BUSY	4	3	2	5	6
YOUNGER/ REACT TO ABSENCE	5	6	5	3	6
OLDER/ REACT TO ABSENCE	7	6	7	7	6
YOUNGER/ REACT SIB ABSENCE	6	6	6	4	3

Data from Banks' Sibling Attachment Study

SUBJECT NO.	16	17	18	22	24
OLDER/ REACT SIB ABSENCE	7	7	7	7	5
RIVALRY ATTITUDE	3	3	3	7	3
KIDS GET ALONG (1+, 7-)	4	4	1	4	2
KIDS TIME TOGETHER	1	2	2	2	2
OLDER/SHARE (1+,7-)	5	5	2	5	2
YOUNGER /SHARE	4	2	5	4	2
older AFFECTION younger	abcd	abcd	abcd	abcd	abcd
younger AFFECTION older	c	abcd	abcd	abcd	a c
OLDER/ANGER	ab ef h	b e	g	b e g	f
YOUNGER/ANGER	ab h	h	bc h	b gh	h
OLDER/ WHY ANGRY	bc	bc	a	bc	bc
YOUNGER/ WHY ANGRY	abcd	bc	b	bcd	bc
OLDER REACT YOUNGER HURT	a c f	a c	a c	a c	a c
YOUNGER REACT OLDER HURT	?	e	a f	a	a f
OLDER REACT IF YOUNGER CRIES	ab	ab	ab	a	ab
OLDER RELATES KIDS (1+,7-)	3	4	2	1	1
YOUNGER RELATE KIDS	2	1	3	5	1
YOUNGER IMITATES OLDER	5	5	6	6	4
OLDER IMITATE YOUNGER	6	5	4	4	4
PREPARATION FOR BABY	a c e	ab de	abcde	ab d	abcd
second chance	discussed no	cared for newborn nothing	discussed no, child wanted sib	discussed space 6 no more	no
COMMENTS		positive concerned	surprised amount of loving bt sisters	get along better than expected	
Birthday Game 4 correct/6 pass	6	6	6	0	6
Syllogisms 3 correct/5 pass	5	5	5	0	5
Hide and Seek 4 correct/6 pass	5	6	6	3	6
p-t raw score total (0 - 17)	16	17	17	3	17
PERSPECTIVE-TAKING SCORE #pass	3	4	4	0	4
perspective-taker?	yes	yes	yes	no	yes

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>22</b>	<b>24</b>
Glad and Sad correct/12	12	12	12	no talk	12
glad and sad matches	12	12	12	12	12
k or j toy sharing	0	n/a	nr	nr	4
Toy Sharing	4	4	4	4	4
k or j treat sharing	4	4	nr	nr	4
Treat Sharing	4	4	4	0	4
k/j photo album	4	2	nr	nr	2
photo album	3	2	3	1	3
k/j infant aggression to child	0	0	nr	nr	0
infant AGGRESSION to child	0	0	0	0	0
k/j child aggression to infant	0	0	nr	nr	0
child aggression to infant	0	0	0	0	0
empathy raw score total (0-48)	43	40	35	17	45
empathy raw score w/o g & s	19	16	*	*	21
k or j empathy score	3	3	nr	nr	3
nancy empathy score	3	3	3	2	3
adjusted empathy score	3	3	3	2	3
empathy?	yes	yes	yes	some	yes
k/j maternal caregive child	not needed	4	nr	nr	not needed
Maternal CAREGIVING TO Child	0	4	2	3	0
AVERAGE OF ABOVE	0.0	4.0	1.0	1.5	0.0
k or j mom caregive infant	not needed	3	nr	nr	not needed
Maternal CAREGIVING to Infant	2	4	3	3	2
AVERAGE OF ABOVE	1.0	3.5	1.5	1.5	1.0
k or j child caregive infant	3	3	nr	nr	3
Child CAREGIVING to Infant	3	3	3	2	3
AVERAGE OF ABOVE	3.0	3.0	1.5	1.0	3.0
provided care w/in 30 sec	yes	yes	yes	delayed	yes
infant level of distress	000000200	0104xxxx2	nr	nr	000100x20
infant level of distress (n)	000200200	0004xxxx4	020111110	000323330	000211320
infant distress rating	some	high	some	high	some/high
child level of distress	000000000	0104xxxx3	nr	nr	000000000
child level of distress (n)	000000000	1104xxxx4	000110000	020022000	000000000
child distressed?	none	high	low	some	none
c/i caregiving needed?	yes	yes	yes	yes	yes
k/j infant sib attachment	2	2	nr	nr	2
INFANT SIBLING ATTACHMENT	3	3	3	2	3
AVERAGE OF ABOVE	2.5	2.5	1.5	1.0	2.5
infant attached to child?	yes	yes	yes	some	yes
k/j infant mom attachment	2	4	nr	nr	3
INFANT MOTHER ATTACHMENT	3	4	3	3	2
AVERAGE OF ABOVE	2.5	4.0	1.5	1.5	2.5

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>22</b>	<b>24</b>
<i>k/j</i> child mom attachment	2	3 <i>nr</i>		<i>nr</i>	2
CHILD MOTHER ATTACHMENT	2	4	2	3	1
AVERAGE OF ABOVE	2.0	3.5	1.0	1.5	1.5
<i>k/j</i> infant sociable mom	3	3 <i>nr</i>		<i>nr</i>	2
Infant SOCIABLE Mother Score	3	2	3	3	3
<i>k/j</i> mom sociable infant	3	3 <i>nr</i>		<i>nr</i>	2
Mother SOCIABLE Infant Score	3	2	3	3	3
<i>k/j</i> child sociable mom	3	3 <i>nr</i>		<i>nr</i>	2
Child SOCIABLE Mother Score	3	2	3	3	2
<i>k/j</i> mom sociable child	3	3 <i>nr</i>		<i>nr</i>	2
Mother SOCIABLE Child Score	3	2	3	3	2
<i>k/j</i> infant sociable child	2	2 <i>nr</i>		<i>nr</i>	2
Infant SOCIABLE Child Score	2	2	3	1	1
<i>k/j</i> child sociable infant	2	2 <i>nr</i>		<i>nr</i>	3
Child SOCIABLE Infant Score	3	2	3	1	3
<i>k/j</i> infant sociable S	1	no s	<i>nr</i>	<i>nr</i>	0
Infant sociable stranger	1	no S	0	0	0
<i>k/j</i> child sociable S	0	no s	<i>nr</i>	<i>nr</i>	0
Child sociable Stranger	0	no S	2	0	0
THIRD/KID EXPERIENCE					
THIRD SEPARATE MOM					
THIRD SEPARATION DAD					
Third separation sib 1					
THIRD SEPARATION SIB 2					
THIRD CAREGIVE DAD					
THIRD CAREGIVE MOM					
THIRD CAREGIVE RELATIVE					
THIRD CAREGIVE DAY CARE					
THIRD CAREGIVE NOW DAD					
THIRD MOM					
THIRD RELATIVE					
THIRD DAY CARE/school					
THIRD REACT MOM SEPARATION					
THIRD REACT DAD SEPARATION					
THIRD REACT SIB 1 SEPARTIONS					
THIRD REACT SIB 2 SEPARATIONS					
MOM DO THIRD CHILD BABY					
DAD DO THIRD CHILD BABY					
Third do Sib 1					
THIRD DO SIB 2					
THIRD SO SIB 2 CRIES					

Data from Banks' Sibling Attachment Study

SUBJECT NO.	25	26	28	32	33
MOTHER'S AGE	33	33	30	24	39
MOTHER'S RACE	e	e	e	e	e
US CITIZEN	a	a	a	a	a
MOTHER'S EDUCATION	f	f	f	c	g
EMPLOYMENT STATUS	a	a	a	a	a
MOTHER'S JOB	a	b	a	b	a
YEARS MARRIED	d	d	d	c	c
FATHER'S AGE	36	39	30	24	36
FATHER'S RACE	e	e	e	e	e
US CITIZEN	a	a	a	a	a
FATHER'S EDUCATION	f	f	c	f	g
EMPLOYMENT STATUS	a	a	a	d	a
FATHER'S JOB	b	a	d		a
INCOME	g	g	d	b	g
OLDER CHILD BD	10/05/85		03/18/85	10/23/84	01/15/85
OLDER CHILD MONTHS	40	47	47	51	49
OLDER CHILD GENDER	female	female	female	female	female
YOUNGER CHILD BD	12/08/87		03/25/88	10/31/87	12/10/87
YOUNGER CHILD MONTHS	14	18	11	15	14
YOUNGER CHILD GENDER	male	male	female	female	female
SPACING	26	29	36	36	35
THIRD CHILD BD					
THIRD CHILD MONTHS					
THIRD CHILD GENDER					
OTHER CHILDREN		half-sis 13 years			
OLDER CHILD/OTHER KIDS	ab e g	b defg i cousins	b g	ab	b de g
YOUNGER CHILD/OTHER KIDS	ab	bcd h cousins	b	ab	b d
OLDER SEPARATION/MOM	2	3	3	3	2
YOUNGER SEPARATION/MOM	2	2	2	1	2
OLDER SEPARATION/DAD	2	4	3	1	6
YOUNGER SEPARATION/DAD	1	3	2	2	3
SEPARATIONS/EACH OTHER	2	2	1	2	1
OLDER CHILD/CAREGIVERS					
DAD	4	2	3	4	1

Data from Banks' Sibling Attachment Study

SUBJECT NO.	25	26	28	32	33
MOM	5	6	7	7	7
RELATIVE	1	1	1	2	1
DAY CARE/SITTER	6	6	1	1	6
YOUNGER CHILD/CAREGIVERS					
DAD	4	2	3	3	2
MOM	5	6	7	7	7
RELATIVE	1	1	1	1	1
DAY CARE/SITTER	6	6	1	1	6
OLDER CHILD/ CAREGIVERS NOW					
DAD	4	2	3	6	3
MOM	6	6	7	5	7
RELATIVE	1	1	1	1	1
DAYCARE/SITTER/SCHOOL	6	6	6	6	6
YOUNGER CHILD/ CAREGIVERS NOW					
DAD	4	2	3	6	3
MOM	6	6	7	5	7
RELATIVE	1	1	1	1	1
DAYCARE/SITTER/SCHOOL	6	6	6	6	6
OLDER CHILD/SEPARATION MOM	2	4	1	1	1
YOUNGER CHILD/SEPARATION MOM	2	3	4	4	2,3
OLDER CHILD/SEPARATION DAD	1	4	1	1	1
YOUNGER CHILD/SEPARATION DAD	1	4	1	2	2
YOUNGER CHILD/SEPARATION SIB	1	4	1	2	1
OLDER CHILD/SEPARATION SIB	1	1	1	2	1
MOM INVOLVE YOUNGER/BABY	abcdefg hij	abcdefg hi	abcdefg hi	abcdefg hi	abcdefg hij
DAD INVOLVE YOUNGER/BABY	bcde g i	a cde ghi	abcde g i	ab defg i	ab defg i
SIB INVOLVE YOUNGER/BABY	a cd f	a cd f	a c ef	a d f	a cdef
MOM ATTITUDE CRYING	1	4,6	1	1	2
DAD ATTITUDE CRYING	1	6	2	2	2
OLDER ATTITUDE YOUNGER CRIES	4	4	2	4	3
YOUNGER ATTITUDE OLDER CRIES	3	4	too young	4	4
YOUNGER ATTENTION/MOM	5	3	2	2	4
YOUNGER ATTENTION/DAD	5	4	4	4	4
OLDER ATTENTION/MOM	4	4	4	3	5
OLDER ATTENTION/DAD	3	3	4	3	6
OLDER/ MOM BUSY	2	3	3	4	3
YOUNGER/ MOM BUSY	4	3	6	6	4
YOUNGER/ REACT TO ABSENCE	4	4	5	3	3
OLDER/ REACT TO ABSENCE	5	4	6	6	6
YOUNGER/ REACT SIB ABSENCE	7	3	7	6	4

Data from Banks' Sibling Attachment Study

SUBJECT NO.	25	26	28	32	33
					want to go
OLDER/ REACT SIB ABSENCE	7	5	7	1	6
RIVALRY ATTITUDE	4	4	4	3	3
KIDS GET ALONG (1+, 7-)	3	3	3	3	3
KIDS TIME TOGETHER	2	3	2	2	1
OLDER/SHARE (1+,7-)	5	4	5	4	5
YOUNGER /SHARE	2	6	4	4	4
older AFFECTION younger	abc	abcd	abcd	bcd	abcde
					praise
younger AFFECTION older	bc	cd	a	ab	bcd
OLDER/ANGER	e g	ab e gh	e gh	e gh	abcde gh
YOUNGER/ANGER	e h	abc e h	h	ab h	abc h
OLDER/ WHY ANGRY	b	ab	c	ab	b
YOUNGER/ WHY ANGRY	b	b	c	cd	bcd
OLDER REACT YOUNGER HURT	a c	a c	a c	abc	a c f
YOUNGER REACT OLDER HURT	a	a f	too young	looks concerned	a f
OLDER REACT IF YOUNGER CRIES	b d	a e	ab	ab	ab e
OLDER RELATES KIDS (1+,7-)	3	2	3	2	1
YOUNGER RELATE KIDS	2	3	1	5	2
YOUNGER IMITATES OLDER	5	5	4	3	4
OLDER IMITATE YOUNGER	5	4	4	4	4
PREPARATION FOR BABY	abcde	abc	a	ab e	a c e
	felt baby	no	excited	discussed	discussed
second chance	move, name		about baby	very	no
	rivalry	normal	but dif	prepared	all well
COMMENTS	not bt sib	relnship	adjustmt	older kind	
	but for my	ll play	now loving	baby is	
	attn	enjoy each	to sister	bully!	
		other			
Birthday Game 4 correct/6 passto p	1	6	2	5	3
Sylogisms 3 correct/5 pass	3	1	3	2	2
Hide and Seek 4 correct/6 pass	0	5	6	2	4
p-t raw score total (0 - 17)	4	12	11	9	9
PERSPECTIVE-TAKING SCORE #pass	0	2	1	1	1
perspective-taker?	no	no	no	no	no

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>25</b>	<b>26</b>	<b>28</b>	<b>32</b>	<b>33</b>
Glad and Sad correct/12	12	11	12	11	12
glad and sad matches	12	12	12	12	12
k or j toy sharing	0	0	4	-1	0
Toy Sharing	4	0	4	4	4
k or j treat sharing	0	0	i not eat	2	4
Treat Sharing	0	0	0	2	4
k/j photo album	1	2	2	2	2
photo album	1	none shown	3	2	2
k/j infant aggression to child	0	0	0	0	0
infant AGGRESSION to child	0	-1	0	0	0
k/j child aggression to infant	0	0	0	0	0
child aggression to infant	-1	-1	0	0	0
empathy raw score total (0-48)	29	24	37	34	40
empathy raw score w/o g & s	5	1	*	11	16
k or j empathy score	1	1	3	2	2
nancy empathy score	1	1	3	2	3
adjusted empathy score	1	1	3	2	3
empathy?	no	no	yes	some	yes
k/j maternal caregive child	1	3	1	not needed	not needed
Maternal CAREGIVING TO Child	2	3	1	0	3
AVERAGE OF ABOVE	1.5	3.0	1.0	0.0	1.5
k or j mom caregive infant	0	3	3	3	4
Maternal CAREGIVING to Infant	2	3	3	4	3
AVERAGE OF ABOVE	1.0	3.0	3.0	3.5	3.5
k or j child caregive infant	1	1	3	2	3
Child CAREGIVING to Infant	2	2	3	2	3
AVERAGE OF ABOVE	1.5	1.5	3.0	2.0	3.0
provided care w/in 30 sec	delayed	delayed	yes	delayed	yes
infant level of distress	000001000	111432x32	000000200	00043xxx2	121311431
infant level of distress (n)	002111100	221422x11	000000300	00043xxx3	121212331
infant distress rating	low/bears	high	alone/high	high	high
child level of distress	100000000	000100x21	000000000	00020xxx0	000300000
child level of distress (n)	110111000	110210x31	000000000	00000xxx0	000210000
child distressed?	low	some/high	none	some/none	some
c/i caregiving needed?	?	yes	yes	yes	yes
k/j infant sib attachment	2	1	2	0	3
INFANT SIBLING ATTACHMENT	2	1	3	1	3
AVERAGE OF ABOVE	2.0	1.0	2.5	0.5	3.0
infant attached to child?	some	no	yes	no	yes
k/j infant mom attachment	2	4	2	4	3
INFANT MOTHER ATTACHMENT	3	3	3	4	3
AVERAGE OF ABOVE	2.5	3.5	2.5	4.0	3.0



Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>25</b>	<b>26</b>	<b>28</b>	<b>32</b>	<b>33</b>
<i>k/j child mom attachment</i>	2	3	1	2	2
<b>CHILD MOTHER ATTACHMENT</b>	2	2	1	1	2
<b>AVERAGE OF ABOVE</b>	2.0	2.5	1.0	1.5	2.0
<i>k/j infant sociable mom</i>	1	3	1	2	2
<b>Infant SOCIABLE Mother Score</b>	2	2	2	3	3
<i>k/j mom sociable infant</i>	1	3	2	2	3
<b>Mother SOCIABLE Infant Score</b>	2	2	3	3	3
<i>k/j child sociable mom</i>	3	3	3	3	2
<b>Child SOCIABLE Mother Score</b>	2	3	3	3	3
<i>k/j mom sociable child</i>	3	3	2	3	2
<b>Mother SOCIABLE Child Score</b>	2	3	3	3	2
<i>k/j infant sociable child</i>	2	1	1	1	1
<b>Infant SOCIABLE Child Score</b>	2	1	1	2	2
<i>k/j child sociable infant</i>	2	1	1	2	2
<b>Child SOCIABLE Infant Score</b>	2	1	2	2	3
<i>k/j infant sociable S</i>	0	0	0	0	nr
<b>Infant sociable stranger</b>	0	0	0	0	0
<i>k/j child sociable S</i>	0	3	0	3	nr
<b>Child sociable Stranger</b>	0	2	0	2	2
<b>THIRD/KID EXPERIENCE</b>					
<b>THIRD SEPARATE MOM</b>					
<b>THIRD SEPARATION DAD</b>					
<b>Third separation sib 1</b>					
<b>THIRD SEPARATION SIB 2</b>					
<b>THIRD CAREGIVE DAD</b>					
<b>THIRD CAREGIVE MOM</b>					
<b>THIRD CAREGIVE RELATIVE</b>					
<b>THIRD CAREGIVE DAY CARE</b>					
<b>THIRD CAREGIVE NOW DAD</b>					
<b>THIRD MOM</b>					
<b>THIRD RELATIVE</b>					
<b>THIRD DAY CARE/school</b>					
<b>THIRD REACT MOM SEPARATION</b>					
<b>THIRD REACT DAD SEPARATION</b>					
<b>THIRD REACT SIB 1 SEAPARTIONS</b>					
<b>THIRD REACT SIB 2 SEPARATIONS</b>					
<b>MOM DO THIRD CHILD BABY</b>					
<b>DAD DO THIRD CHILD BABY</b>					
<b>Third do Sib 1</b>					
<b>THIRD DO SIB 2</b>					
<b>THIRD SO SIB 2 CRIES</b>					

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>34</b>	<b>37</b>	<b>38</b>	<b>40</b>	<b>42</b>
<b>MOTHER'S AGE</b>	24	27	27	30	30
<b>MOTHER'S RACE</b>	e	e	e	e	e
<b>US CITIZEN</b>	a	a	a	a	a
<b>MOTHER'S EDUCATION</b>	e	e	f	e	f
<b>EMPLOYMENT STATUS</b>	b	a	b	a	e
<b>MOTHER'S JOB</b>	a	a	a	b	
<b>YEARS MARRIED</b>	c	d	d	e	d
<b>FATHER'S AGE</b>	27	33	30	33	36
<b>FATHER'S RACE</b>	e	e	e	b	e
<b>US CITIZEN</b>	a	a	a	c	a
<b>FATHER'S EDUCATION</b>	f	g	f	f	g
<b>EMPLOYMENT STATUS</b>	a	a	a	a	a
<b>FATHER'S JOB</b>	b	a	d	a	a
<b>INCOME</b>	c	d	f	e	g
<b>OLDER CHILD BD</b>	11/15/85	09/15/83	07/13/85	06/17/86	05/30/84
<b>OLDER CHILD MONTHS</b>	42	64	43	31	56
<b>OLDER CHILD GENDER</b>	male	male	male	female	female
<b>YOUNGER CHILD BD</b>	03/11/88	02/19/87	08/28/87	09/29/87	04/08/87
<b>YOUNGER CHILD MONTHS</b>	14	23	17	16	22
<b>YOUNGER CHILD GENDER</b>	female	female	male	male	male
<b>SPACING</b>	28	41	26	15	34
<b>THIRD CHILD BD</b>			02/20/83		
			71		
<b>THIRD CHILD MONTHS</b>			female		
<b>THIRD CHILD GENDER</b>			28		
<b>OTHER CHILDREN</b>					
<b>OLDER CHILD/OTHER KIDS</b>	a ef	b	a d	ab	ab d
<b>YOUNGER CHILD/OTHER KIDS</b>	a d	b	a d	ab	ab
<b>OLDER SEPARATION/MOM</b>	1	4	2	2	4
<b>YOUNGER SEPARATION/MOM</b>	1	4	2	2	2
<b>OLDER SEPARATION/DAD</b>	5	4	4	2	4
<b>YOUNGER SEPARATION/DAD</b>	3	4	3	2	2
<b>SEPARATIONS/EACH OTHER</b>	1	4	1	1	2
<b>OLDER CHILD/CAREGIVERS</b>					
<b>DAD</b>	2	2	3	2	4

Data from Banks' Sibling Attachment Study

SUBJECT NO.	34	37	38	40	42
MOM	7	7	7	7	7
RELATIVE	2	1	1	1	2
DAY CARE/SITTER	1	1	1	1	2
YOUNGER CHILD/CAREGIVERS					
DAD	2	2	3	2	4
MOM	7	7	7	7	7
RELATIVE	2	1	1	1	2
DAY CARE/SITTER	1	6	1	1	2
OLDER CHILD/ CAREGIVERS NOW					
DAD	3	3	3	1	4
MOM	7	6	7	7	7
RELATIVE	2	1	1	1	1
DAYCARE/SITTER/SCHOOL	2	6	1	6	3
YOUNGER CHILD/ CAREGIVERS NOW					
DAD	2	3	3	1	4
MOM	7	6	7	7	7
RELATIVE	2	1	1	1	1
DAYCARE/SITTER/SCHOOL	2	6	1	6	3
OLDER CHILD/SEPARATION MOM	2	1	2	3	1
YOUNGER CHILD/SEPARATION MOM	6	2	3	4	1
OLDER CHILD/SEPARATION DAD	4	1	1	2	1
YOUNGER CHILD/SEPARATION DAD	4	1	3	1	1
YOUNGER CHILD/SEPARATION SIB	3	1	2	1	1
OLDER CHILD/SEPARATION SIB	1	1	1	1	1
MOM INVOLVE YOUNGER/BABY	abcde fghi	abcde fghi	abcde fghi	abcde fghi	abcde fghi
DAD INVOLVE YOUNGER/BABY	ab de gi	c gi	abcde fgi	bcde fg	abcde ghi
SIB INVOLVE YOUNGER/BABY	d f	a cd f	a c f	cd f	a f
MOM ATTITUDE CRYING	1	6	2	1	2
DAD ATTITUDE CRYING	2	2	3	3	2
OLDER ATTITUDE YOUNGER CRIES	4	5	3	4	1
YOUNGER ATTITUDE OLDER CRIES	4	1	6	5	4
YOUNGER ATTENTION/MOM	2	4	4	4	6
YOUNGER ATTENTION/DAD	4	5	3	6	4
OLDER ATTENTION/MOM	4	4	3	3	3
OLDER ATTENTION/DAD	3	4	4	4	3
OLDER/ MOM BUSY	4	6	3	5	3
YOUNGER/ MOM BUSY	6	5	4	5	3
YOUNGER/ REACT TO ABSENCE	3	5	3	4	6
OLDER/ REACT TO ABSENCE	6	6	6	5	7
YOUNGER/ REACT SIB ABSENCE	6	5	4	5	3

Data from Banks' Sibling Attachment Study

SUBJECT NO.	34	37	38	40	42
OLDER/ REACT SIB ABSENCE	7	7	5	7	5
RIVALRY ATTITUDE	3	2	3	3	4
KIDS GET ALONG (1+, 7-)	3	4	4	3	3
KIDS TIME TOGETHER	1	1	1	1	1
OLDER/SHARE (1+,7-)	4	6	5	5	4
YOUNGER /SHARE	2	4	6	4	6
older AFFECTION younger	abcd	abc	abcd	abc	abcd
younger AFFECTION older	abcd	abcd	ab	d	cd
OLDER/ANGER	ab de gh	ab e	ab ef h	e gh	a e gh
YOUNGER/ANGER	ab e h	b i tongue out	a c h	b h	a d h
OLDER/ WHY ANGRY	abc	bc	b	b d	abc
YOUNGER/ WHY ANGRY	abc	ab	abc	c d	bc
OLDER REACT YOUNGER HURT	a c ef	cd laugh	a c f	a	a c e
YOUNGER REACT OLDER HURT	ef	a c	a	e	c e
OLDER REACT IF YOUNGER CRIES	ab	b d	a	b e	ab
OLDER RELATES KIDS (1+,7-)	1	4	5	6	1
YOUNGER RELATE KIDS	4	3	3	1	4
YOUNGER IMITATES OLDER	5	6	5	6	6
OLDER IMITATE YOUNGER	4	2	2	5	2
PREPARATION FOR BABY	a cd	ab e discussed	ab d	a d	a c e discussed
second chance	nothing	explained	more age	same	involved
COMMENTS	b consoles	more that	spacing	play well	same
	s when sad	it could	more help	get along	
	s follows	be girl	w/older	well for	
	b whn m ab	he wanted	kids	their ages	
		a brother	good reltn		
Birthday Game 4 correct/6 passto p	1	6	4	0	4
Sylogisms 3 correct/5 pass	2	2	5	0	5
Hide and Seek 4 correct/6 pass	6	6	5	1	6
p-t raw score total (0 - 17)	9	14	14	1	15
PERSPECTIVE-TAKING SCORE #pass	1	2	3	0	3
perspective-taker?	no	no	yes	no	yes

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>34</b>	<b>37</b>	<b>38</b>	<b>40</b>	<b>42</b>
Glad and Sad correct/12	11	12	11	0	*11
glad and sad matches	12	12	12	8	12
k or j toy sharing	0	3	4	0	0
Toy Sharing	0	3	4	0	0
k or j treat sharing	4	4	4	0	0
Treat Sharing	4	4	*dont like	2	0
k/j photo album	2	3	2	0	1
photo album	1	3	2	0	1
k/j infant aggression to child	0	0	0	0	0
infant AGGRESSION to child	0	0	0	0	0
k/j child aggression to infant	0	-1	-2	-1	0
child aggression to infant	0	-1	-2	-1	0
empathy raw score total (0-48)	34	42	35	8	14
empathy raw score w/o g & s	11	18	12	1	2
k or j empathy score	1	3	2	0	0
nancy empathy score	2	3	2	0	1
adjusted empathy score	2	3	2	0	1
empathy?	some	yes	some	no	no
k/j maternal caregive child	2	1	not needed	2	1
Maternal CAREGIVING TO Child	3	1	1	3	1
AVERAGE OF ABOVE	2.5	1.0	0.5	2.5	1.0
k or j mom caregive infant	4	2	3	3	3
Maternal CAREGIVING to Infant	3	2	3	3	3
AVERAGE OF ABOVE	3.5	2.0	3.0	3.0	3.0
k or j child caregive infant	1	1	1	2	1
Child CAREGIVING to Infant	0	2	1	2	0
AVERAGE OF ABOVE	0.5	1.5	1.0	2.0	0.5
provided care w/in 30 sec	no	?no	no	delayed	no
infant level of distress	21043xxx2	002111110	0001003x0	00044xxx4	021121230
infant level of distress (n)	00043xxx3	000111100	000110330	00033xxx3	010122030
infant distress rating	high	low/some	high	high	high
child level of distress	00011xxx0	000111110	0000000x0	043322xxx2	000020x00
child level of distress (n)	00011xxx0	000111001	000000000	03021xxx2	000120000
child distressed?	low	low	none	high	low/some
c/i caregiving needed?	yes	?not need	yes	yes	yes
k/j infant sib attachment	3	2	2	2	0
INFANT SIBLING ATTACHMENT	2	2	2	1	1
AVERAGE OF ABOVE	2.5	2.0	2.0	1.5	0.5
infant attached to child?	yes?	some	some	some?	no
k/j infant mom attachment	4	3	3	4	3
INFANT MOTHER ATTACHMENT	3	3	3	3	3
AVERAGE OF ABOVE	3.5	3.0	3.0	3.5	3.0

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>34</b>	<b>37</b>	<b>38</b>	<b>40</b>	<b>42</b>
<i>kj</i> child mom attachment	1	3	2	4	2
CHILD MOTHER ATTACHMENT	2	2	2	3	2
AVERAGE OF ABOVE	1.5	2.5	2.0	3.5	2.0
<i>kj</i> infant sociable mom	2	3	3	3	2
Infant SOCIABLE Mother Score	2	3	3	3	2
<i>kj</i> mom sociable infant	2	3	3	3	2
Mother SOCIABLE Infant Score	2	3	3	3	3
<i>kj</i> child sociable mom	3	2	3	3	3
Child SOCIABLE Mother Score	2	2	3	3	3
<i>kj</i> mom sociable child	3	2	3	3	3
Mother SOCIABLE Child Score	2	2	3	3	3
<i>kj</i> infant sociable child	2	1	2	2	1
Infant SOCIABLE Child Score	1	1	2	1	1
<i>kj</i> child sociable infant	1	1	2	2	2
Child SOCIABLE Infant Score	1	1	1	1	1
<i>kj</i> infant sociable S	0	0	nr	0	0
Infant sociable stranger	0	0	2	0	0
<i>kj</i> child sociable S	0	0	nr	0	0
Child sociable Stranger	0	0	0	0	0
THIRD/KID EXPERIENCE			abc efg		
THIRD SEPARATE MOM			4		
THIRD SEPARATION DAD			6		
Third separation sib 1			2		
THIRD SEPARATION SIB 2			2		
THIRD CAREGIVE DAD			3		
THIRD CAREGIVE MOM			7		
THIRD CAREGIVE RELATIVE			1		
THIRD CAREGIVE DAY CARE			1		
THIRD CAREGIVE NOW DAD			3		
THIRD MOM			7		
THIRD RELATIVE			1		
THIRD DAY CARE/school			1		
THIRD REACT MOM SEPARATION			2		
THIRD REACT DAD SEPARATION			1		
THIRD REACT SIB 1 SEPARTIONS			2		
THIRD REACT SIB 2 SEPARATIONS			2		
MOM DO THIRD CHILD BABY			abcdefghi		
DAD DO THIRD CHILD BABY			abcdefg		
Third do Sib 1			a cd f		
THIRD DO SIB 2			abcdef		
THIRD SO SIB 2 CRIES			1		

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>34</b>	<b>37</b>	<b>38</b>	<b>40</b>	<b>42</b>
THIRD DO SIB 1 CRIES			4		
YOUNGER DO THIRD CRIES			5		
OLDER DO THIRD CRIES			3		
THIRD ATTENTION MOM			5		
THIRD ATTENTION DAD			7		
THIRD MOM BUSY SIB2			2		
THIRD MOM BUSY SIB1			3		
THIRD REACT ABSENCE			6		
THIRD REACT SIB1 ABSENCE			6		
THIRD REACT SIB2 ABSENCE			5		
THIRD RELATE TO SIB1			4		
THIRD RELATE TO SIB 2			2		
TIME SIB1 AND THIRD			1		
TIME SIB 2 AND THIRD			1		
THIRD SHARE SIB2			3		
THIRD SHARE SIB 1			4		
<i>Third affection SIB 1</i>			<i>a d</i>		
THIRD AFFECTION SIB 2			<i>abcd</i>		
SIB 1 AFFECTION THIRD			<i>a d</i>		
SIB 2 AFFECTION THIRD			<i>abcd</i>		
THIRD ANGER SIB1			<i>ab efg</i>		
THIRD ANGER SIB 2			<i>e g</i>		
<i>Sib 1 anger Third</i>			<i>ab e h</i>		
<i>Sib 2 ANGER Third</i>			<i>c e h</i>		
THIRD WHY ANGRY			<i>a</i>		
THIRD REACT SIB2 HURT			<i>a c</i>		
THIRD REACT SIB1 HURT			<i>a c</i>		
THIRD DO SIB2 CRIES			<i>ab</i>		
THIRD DO SIB1 CRIED			<i>a</i>		
THIRD RELATE OTHER KIDS			3		
<i>Sib 2 imitate Third</i>			5		
<i>Sib 1 imitate Third</i>			4		
THIRD IMITATE SIB2			2		

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>34</b>	<b>37</b>	<b>38</b>	<b>40</b>	<b>42</b>
<b>THIRD IMITATE SIB1</b>			1		
<b>THIRD PREPARED BIRTH 1</b>			ab d		
<b>THIRD PREPARED BIRTH 2</b>			ab d		



Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>
<b>MOTHER'S AGE</b>	30	33	30	36	30
<b>MOTHER'S RACE</b>	e	e	e	e	e
<b>US CITIZEN</b>	a	a	a	a	a
<b>MOTHER'S EDUCATION</b>	f	e	g	f	e
<b>EMPLOYMENT STATUS</b>	a	b	a	a	b
<b>MOTHER'S JOB</b>	a	a	a	a	a
<b>YEARS MARRIED</b>	e	d	e	e	c
<b>FATHER'S AGE</b>	30	33	30	39	33
<b>FATHER'S RACE</b>	e	a	e	e	e
<b>US CITIZEN</b>	a	a	a	a	a
<b>FATHER'S EDUCATION</b>	g	e	f	g	g
<b>EMPLOYMENT STATUS</b>	a	a	a	b,d	a
<b>FATHER'S JOB</b>	a	a	a	d	a
<b>INCOME</b>	e	e	f	c	h
<b>OLDER CHILD BD</b>	11/03/84	04/02/86	10/24/81	06/17/83	06/07/85
<b>OLDER CHILD MONTHS</b>	52	35	89	68	44
<b>OLDER CHILD GENDER</b>	female	male	male	male	female
<b>YOUNGER CHILD BD</b>	06/10/87	11/16/87	09/11/87	06/03/87	04/14/87
<b>YOUNGER CHILD MONTHS</b>	20	16	19	20	22
<b>YOUNGER CHILD GENDER</b>	female	female	female	male	male
<b>SPACING</b>	32	19	70	48	22
<b>THIRD CHILD BD</b>	04/07/81				
	94				
<b>THIRD CHILD MONTHS</b>	female				
<b>THIRD CHILD GENDER</b>	42				
<b>OTHER CHILDREN</b>					
<b>OLDER CHILD/OTHER KIDS</b>	ab	ab	a cdefg i child care	bcde g	b efg
<b>YOUNGER CHILD/OTHER KIDS</b>	ab	a	i child/sit	b	b
<b>OLDER SEPARATION/MOM</b>	3	2	4	2	2
<b>YOUNGER SEPARATION/MOM</b>	3	2	1	2	2
<b>OLDER SEPARATION/DAD</b>	6	2	na	2	2
<b>YOUNGER SEPARATION/DAD</b>	6	2	1	2	2
<b>SEPARATIONS/EACH OTHER</b>	2	2	2	1	1
<b>OLDER CHILD/CAREGIVERS</b>					
<b>DAD</b>	2	2	3	2	2

Data from Banks' Sibling Attachment Study

SUBJECT NO.	43	44	45	46	47
MOM	7	7	3	6	7
RELATIVE	1	1	1	1	1
DAY CARE/SITTER	4	2	7	1	1
YOUNGER CHILD/CAREGIVERS					
DAD	3	2	3	2	2
MOM	7	7	3	6	7
RELATIVE	1	1	1	1	1
DAY CARE/SITTER	4	2	6	1	1
OLDER CHILD/ CAREGIVERS NOW					
DAD	2	1	3	5	3
MOM	7	7	3	4	7
RELATIVE	1	1	1	2	1
DAYCARE/SITTER/SCHOOL	6	6	5	1	3
YOUNGER CHILD/ CAREGIVERS NOW			1st grade	k/school	
DAD	2	1	3	5	3
MOM	7	7	3	4	7
RELATIVE	1	1	1	2	1
DAYCARE/SITTER/SCHOOL	6	6	6	1	2
				nursery	
OLDER CHILD/SEPARATION MOM	4	4	1.5	1	4
YOUNGER CHILD/SEPARATION MOM	3	6	2.5	4	3
OLDER CHILD/SEPARATION DAD	3	2	1.5	1	2
YOUNGER CHILD/SEPARATION DAD	3	1	3	4	2
YOUNGER CHILD/SEPARATION SIB	3	1	2	2	6
OLDER CHILD/SEPARATION SIB	2	2	1	1	4
MOM INVOLVE YOUNGER/BABY	abcdefghi	abcdefghi	abcdefghi	abcdefghi	abcdefghi
DAD INVOLVE YOUNGER/BABY	bc efghi	g	abcde ghi	ab defghi	cde g
SIB INVOLVE YOUNGER/BABY	abcdef	f	c f	a ef	d
MOM ATTITUDE CRYING	3	3	2.5	1	2
DAD ATTITUDE CRYING	2	6	2.5	2	2
OLDER ATTITUDE YOUNGER CRIES	1	2	1	2	2
YOUNGER ATTITUDE OLDER CRIES	1	2	1	4	5
YOUNGER ATTENTION/MOM	2	4	4	3	4
YOUNGER ATTENTION/DAD	2	5	4	4	2
OLDER ATTENTION/MOM	4	2	4	4	1
OLDER ATTENTION/DAD	4	3	4	4	1
OLDER/ MOM BUSY	3	3	2	3	3
YOUNGER/ MOM BUSY	3	3	3	5	5
YOUNGER/ REACT TO ABSENCE	4	5	4	4	6
OLDER/ REACT TO ABSENCE	7	5	7	6	6
YOUNGER/ REACT SIB ABSENCE	4	5	3	5	3

Data from Banks' Sibling Attachment Study

SUBJECT NO.	43	44	45	46	47
OLDER/ REACT SIB ABSENCE	7	5	7	5	5
RIVALRY ATTITUDE	3	4	3	4	3
KIDS GET ALONG (1+, 7-)	3	4	2	4	1
KIDS TIME TOGETHER	1	1	2	1	1
OLDER/SHARE (1+,7-)	3	4	3	6	5
YOUNGER /SHARE	5	6	3	4	6
older AFFECTION younger	abcd	abcd	abcd	abcd	abcd
younger AFFECTION older	abcd	abcd	abc	abc	d
OLDER/ANGER	ab e g	ab e h	i	ab ef	b e gh
YOUNGER/ANGER	ab e g	ab e h	tell mom h	a c e h	abcd h
OLDER/ WHY ANGRY	b	ab	b e mess w/toy	bc	abc
YOUNGER/ WHY ANGRY	b	ab	take toy b	ab	ab
OLDER REACT YOUNGER HURT	abc f	c f	a c f picks up	abc	a c
YOUNGER REACT OLDER HURT	a c	c f	f	a c	e
OLDER REACT IF YOUNGER CRIES	b	b	ab f pick up	a distract	ab
OLDER RELATES KIDS (1+,7-)	4	1	2.5	4	3
YOUNGER RELATE KIDS	4	2	4.5	2	4
YOUNGER IMITATES OLDER	5	4	7	4	7
OLDER IMITATE YOUNGER	6	4	2	5	4
PREPARATION FOR BABY	abc	a c	abc e discuss, involved	a discussed borrow a	abc special
second chance	none	none	none	baby for	closeness
COMMENTS			c very protective never any jealousy	interactn	some conflicts for age play well
Birthday Game 4 correct/6 passto p	6	2	6	6	2
Sylogisms 3 correct/5 pass	4	1	5	5	0
Hide and Seek 4 correct/6 pass	5	3	6	6	2
p-t raw score total (0 - 17)	15	6	17	17	4
PERSPECTIVE-TAKING SCORE #pass	3	0	4	4	0
perspective-taker?	yes	no	yes	yes	no

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>
Glad and Sad correct/12	11	0	12	12	12
glad and sad matches	12	8	12	12	12
k or j toy sharing	4	4	4	4	nr
Toy Sharing	4	1	4	4	0
k or j treat sharing	0	0	4	2	nr
Treat Sharing	0	0	4	4	4
k/j photo album	3	0	4	3	nr
photo album	3	1	4	4	3
k/j infant aggression to child	-2	-1	0	0	nr
infant AGGRESSION to child	-2	-1	0	0	-1
k/j child aggression to infant	0	0	-2	0	nr
child aggression to infant	0	0	-1	0	0
empathy raw score total (0-48)	37	14	45	45	31
empathy raw score w/o g & s	14	6	21	21	*
k or j empathy score	3	0	3	3	nr
nancy empathy score	2	1	3	4	3
adjusted empathy score	2	1	3	3	3
empathy?	some	no	yes	yes	yes
k/j maternal caregive child	not needed	1	not needed	not needed	nr
Maternal CAREGIVING TO Child	1	1	1	1	1
AVERAGE OF ABOVE	0.5	1.0	0.5	0.5	0.5
k or j mom caregive infant	2	2	not needed	1	nr
Maternal CAREGIVING to Infant	2	2	3	1	2
AVERAGE OF ABOVE	2.0	2.0	1.5	1.0	1.0
k or j child caregive infant	0	0	3	3	nr
Child CAREGIVING to Infant	1	0	3	3	3
AVERAGE OF ABOVE	0.5	0.0	3.0	3.0	1.5
provided care w/in 30 sec	no	no	yes	yes	yes
infant level of distress	010202310	000200000	000200100	110112310	nr
infant level of distress (n)	010202330	000200100	000312200	110011300	030333x30
infant distress rating	some/high	low/some	some/high	high/low	high
child level of distress	000000000	000010000	000000000	000000000	nr
child level of distress (n)	000000000	010000100	000000000	000000000	000111x10
child distressed?	none	low	none	none	low
c/i caregiving needed?	yes?	yes	yes	yes	yes
k/j infant sib attachment	2	2	3	3	nr
INFANT SIBLING ATTACHMENT	2	1	3	3	3
AVERAGE OF ABOVE	2.0	1.5	3.0	3.0	1.5
infant attached to child?	some	some?	yes	yes	yes
k/j infant mom attachment	3	2	2	3	nr
INFANT MOTHER ATTACHMENT	3	2	3	3	3
AVERAGE OF ABOVE	3.0	2.0	2.5	3.0	1.5

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>
<i>k/j child mom attachment</i>	1	1	1	1	nr
<b>CHILD MOTHER ATTACHMENT</b>	1	2	0	1	1
<b>AVERAGE OF ABOVE</b>	1.0	1.5	0.5	1.0	0.5
<i>k/j infant sociable mom</i>	3	2	3	3	nr
<b>Infant SOCIABLE Mother Score</b>	2	3	3	3	1
<i>k/j mom sociable infant</i>	2	2	3	3	nr
<b>Mother SOCIABLE Infant Score</b>	2	3	3	3	1
<i>k/j child sociable mom</i>	2	2	2	3	nr
<b>Child SOCIABLE Mother Score</b>	2	3	1	3	2
<i>k/j mom sociable child</i>	2	2	2	3	nr
<b>Mother SOCIABLE Child Score</b>	2	3	1	3	1
<i>k/j infant sociable child</i>	3	2	2	3	nr
<b>Infant SOCIABLE Child Score</b>	3	2	3	3	1
<i>k/j child sociable infant</i>	3	1	3	2	nr
<b>Child SOCIABLE Infant Score</b>	3	1	3	3	1
<i>k/j infant sociable S</i>	2	nr	0	0	nr
<i>Infant sociable stranger</i>	1	2	0	0	0
<i>k/j child sociable S</i>	2	nr	0	0	nr
<i>Child sociable Stranger</i>	1	0	0	0	0
<b>THIRD/KID EXPERIENCE</b>	abcdefg				
<b>THIRD SEPARATE MOM</b>	7				
<b>THIRD SEPARATION DAD</b>	7				
<i>Third separation sib 1</i>	6				
<b>THIRD SEPARATION SIB 2</b>	5				
<b>THIRD CAREGIVE DAD</b>	3				
<b>THIRD CAREGIVE MOM</b>	7				
<b>THIRD CAREGIVE RELATIVE</b>	1				
<b>THIRD CAREGIVE DAY CARE</b>	1				
<b>THIRD CAREGIVE NOW DAD</b>	6				
<b>THIRD MOM</b>	7				
<b>THIRD RELATIVE</b>	1				
<b>THIRD DAY CARE/school</b>	6				
<b>THIRD REACT MOM SEPARATION</b>	1				
<b>THIRD REACT DAD SEPARATION</b>	1				
<b>THIRD REACT SIB 1 SEPARTIONS</b>	2				
<b>THIRD REACT SIB 2 SEPARATIONS</b>	2				
<b>MOM DO THIRD CHILD BABY</b>	abcdefghij				
<b>DAD DO THIRD CHILD BABY</b>	abc e g i				
<i>Third do Sib 1</i>	abcd f				
<b>THIRD DO SIB 2</b>	abcdef				
<b>THIRD SO SIB 2 CRIES</b>	1				

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>
THIRD DO SIB 1 CRIES	3				
YOUNGER DO THIRD CRIES	3				
OLDER DO THIRD CRIES	4				
THIRD ATTENTION MOM	7				
THIRD ATTENTION DAD	6				
THIRD MOM BUSY SIB2	2				
THIRD MOM BUSY SIB1	3				
THIRD REACT ABSENCE	7				
THIRD REACT SIB1 ABSENCE	6				
THIRD REACT SIB2 ABSENCE	6				
THIRD RELATE TO SIB1	4				
THIRD RELATE TO SIB 2	2				
TIME SIB1 AND THIRD	2				
TIME SIB 2 AND THIRD	2				
THIRD SHARE SIB2	3				
THIRD SHARE SIB 1	4				
<i>Third affection SIB 1</i>	abcd				
THIRD AFFECTION SIB 2	abcd				
SIB 1 AFFECTION THIRD	abcd				
SIB 2 AFFECTION THIRD	abcd				
THIRD ANGER SIB1	ab defgh				
THIRD ANGER SIB 2	ab defgh				
<i>Sib 1 anger Third</i>	ab defgh				
<i>Sib 2 ANGER Third</i>	ab defgh				
THIRD WHY ANGRY	ab				
THIRD REACT SIB2 HURT	abc				
THIRD REACT SIB1 HURT	abc				
THIRD DO SIB2 CRIES	ab				
THIRD DO SIB1 CRIED	abc				
THIRD RELATE OTHER KIDS	2				
<i>Sib 2 imitate Third</i>	6				
<i>Sib 1 imitate Third</i>	5				
THIRD IMITATE SIB2	1				

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>
<b>THIRD IMITATE SIB1</b>	2				
<b>THIRD PREPARED BIRTH 1</b>	abc				
<b>THIRD PREPARED BIRTH 2</b>	abc				

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>52</b>	<b>54</b>	<b>56</b>	<b>57</b>	<b>59</b>
<b>MOTHER'S AGE</b>	24	33	36	43	39
<b>MOTHER'S RACE</b>	e	e	e	e	e
<b>US CITIZEN</b>	a	a	a	a	a
<b>MOTHER'S EDUCATION</b>	c	f	g	g	g
<b>EMPLOYMENT STATUS</b>	a	e,f unpd/husbd	e	e	e
<b>MOTHER'S JOB</b>	c	b			
<b>YEARS MARRIED</b>	d	f	f	e	b
<b>FATHER'S AGE</b>	27	36	39	39	45
<b>FATHER'S RACE</b>	e	e	e	e	e
<b>US CITIZEN</b>	a	a	a	a	a
<b>FATHER'S EDUCATION</b>	f	f	g	g	g
<b>EMPLOYMENT STATUS</b>	a	a	a	a	a
<b>FATHER'S JOB</b>	e	a	a	a	a
<b>INCOME</b>	d	h	e	d	c
<b>OLDER CHILD BD</b>	07/05/84	07/08/84	03/05/84	04/13/84	05/9/85
<b>OLDER CHILD MONTHS</b>	55	55	59	58	45
<b>OLDER CHILD GENDER</b>	male	female	female	female	male
<b>YOUNGER CHILD BD</b>	10/01/87	05/25/87	05/04/87	10/08/87	11/06/87
<b>YOUNGER CHILD MONTHS</b>	217	22	21	16	15
<b>YOUNGER CHILD GENDER</b>	male	male	female	male	male
<b>SPACING</b>	38	33	38	42	30
<b>THIRD CHILD BD</b>				02/03/81	
<b>THIRD CHILD MONTHS</b>				97	
<b>THIRD CHILD GENDER</b>				female	
<b>OTHER CHILDREN</b>				39	
<b>OLDER CHILD/OTHER KIDS</b>	ab d fg	ab d fg sunen gen	ab defgh	b de g	ab d h
<b>YOUNGER CHILD/OTHER KIDS</b>	cd	a d	b	d g playgroup	ab d g mdo
<b>OLDER SEPARATION/MOM</b>	2	3	2	2	2
<b>YOUNGER SEPARATION/MOM</b>	1	2	2	1	2
<b>OLDER SEPARATION/DAD</b>	4	3	3	3	5
<b>YOUNGER SEPARATION/DAD</b>	2	3	3	3	
<b>SEPARATIONS/EACH OTHER</b>	2	4	1	2	1
<b>OLDER CHILD/CAREGIVERS</b>					
<b>DAD</b>	3	2	2	6	7



Data from Banks' Sibling Attachment Study

SUBJECT NO.	52	54	56	57	59
MOM	7	7	7	7	7
RELATIVE	1	1	1	1	1
DAY CARE/SITTER	1	1	2	1	1
YOUNGER CHILD/CAREGIVERS					
DAD	4	2	3	3	4
MOM	7	7	7	7	7
RELATIVE	1	1	1	1	1
DAY CARE/SITTER	1	1	2	1	1
OLDER CHILD/ CAREGIVERS NOW					
DAD	4	3	3	3	3
MOM	7	7	7	7	7
RELATIVE	1	1	1	1	1
DAYCARE/SITTER/SCHOOL	1	2	3	1	1
YOUNGER CHILD/ CAREGIVERS NOW	preschool	preschool	preschool	preschool	preschool
DAD	4	3	3	3	3
MOM	7	7	7	7	7
RELATIVE	1	1	1	1	1
DAYCARE/SITTER/SCHOOL	1	2	3	1	1
OLDER CHILD/SEPARATION MOM	4	1	1	2	1,2
YOUNGER CHILD/SEPARATION MOM	5	1	4	3	2,3
OLDER CHILD/SEPARATION DAD	1	1	1	1	1
YOUNGER CHILD/SEPARATION DAD	3	2	1	1	3
YOUNGER CHILD/SEPARATION SIB	1	1	1	1	3
OLDER CHILD/SEPARATION SIB	1	1	1	1	1
MOM INVOLVE YOUNGER/BABY	abcdefghi	abcdefghi	abcdefghi	abcdefghi	abcdefghij
DAD INVOLVE YOUNGER/BABY	abcde ghi	b d ghi	bc e g i	ab de g	abcde ghij
SIB INVOLVE YOUNGER/BABY	a cdef	a def	a d f	a d f	abcdef
MOM ATTITUDE CRYING	3	1	1	2	2
DAD ATTITUDE CRYING	6	2	2	2	1
OLDER ATTITUDE YOUNGER CRIES	6	2	4	2	2
YOUNGER ATTITUDE OLDER CRIES	4	4	4	3	4
YOUNGER ATTENTION/MOM	4	6	4	4	4
YOUNGER ATTENTION/DAD	4	4	4	6	4
OLDER ATTENTION/MOM	3	4	3	4	4
OLDER ATTENTION/DAD	4	4	3	4	3
OLDER/ MOM BUSY	5	2	4	3	3
YOUNGER/ MOM BUSY	4	2	6	5	2
YOUNGER/ REACT TO ABSENCE	3	6	6	4	4
OLDER/ REACT TO ABSENCE	6	7	7	7	6
YOUNGER/ REACT SIB ABSENCE	6	6	5	6	6

Data from Banks' Sibling Attachment Study

SUBJECT NO.	52	54	56	57	59
OLDER/ REACT SIB ABSENCE	7	7	7	7	7
RIVALRY ATTITUDE	4	3	5	4	3
KIDS GET ALONG (1+, 7-)	4	2	4	4	4
KIDS TIME TOGETHER	1	1	1	1	1
OLDER/SHARE (1+,7-)	4	3,5	4	4	3,4,5
YOUNGER /SHARE	4	5	6	4	4
older AFFECTION younger	abcd	abcd	abcd	abc	abc
younger AFFECTION older	abcd	a cd	cd	b d	a c
OLDER/ANGER	ab e gh	e gh	ab de ghi screams	ab e gh	ab e hi squeez arm
YOUNGER/ANGER	bc e h	a h w/o touchg	abc e hi scratch	a c e	c h
OLDER/ WHY ANGRY	bc	b	abc	ab	abc
YOUNGER/ WHY ANGRY	ab	b	b d	abc	ab
OLDER REACT YOUNGER HURT	a c	a c	a c	a	a c sings
YOUNGER REACT OLDER HURT	cde	a e	a c	g look cncrn	f
OLDER REACT IF YOUNGER CRIES	a	a	ab d	ab	ab sing
OLDER RELATES KIDS (1+,7-)	5	1	1	2	2.5
YOUNGER RELATE KIDS	3	1	4	7	3.5
YOUNGER IMITATES OLDER	6	7	6	5	4
OLDER IMITATE YOUNGER	4	6	4	3	5
PREPARATION FOR BABY	abc	ab e discussed	abcde discussed	a e discussed	abcd
second chance	nothing	did fine enjoy & enhance each other life, love & care e o	same	no no tv, kids may play together more	
COMMENTS					
Birthday Game 4 correct/6 passto p	4	6	6	5	3
Syllogisms 3 correct/5 pass	2	5	3	5	3
Hide and Seek 4 correct/6 pass	6	6	6	6	6
p-t raw score total (0 - 17)	12	17	15	16	12
PERSPECTIVE-TAKING SCORE #pass	2	4	3	3	2
perspective-taker?	no	yes	yes	yes	no

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>52</b>	<b>54</b>	<b>56</b>	<b>57</b>	<b>59</b>
Glad and Sad correct/12	12	12	12	11	12
glad and sad matches	11	12	12	12	10
k or j toy sharing	0	1	3	4	nr
Toy Sharing	2	3	4	4	4
k or j treat sharing	2	0	2	4	nr
Treat Sharing	2	1	3	4	4
k/j photo album	1	2	3	3	nr
photo album	1	2	3	3	3
k/j infant aggression to child	0	-1	0	-1	nr
infant AGGRESSION to child	0	0	0	0	0
k/j child aggression to infant	0	0	0	0	nr
child aggression to infant	0	0	0	0	0
empathy raw score total (0-48)	31	33	42	45	33
empathy raw score w/o g & s	8	9	18	22	*
k or j empathy score	1	1	3	3	nr
nancy empathy score	1	2	3	3	3
adjusted empathy score	1	2	3	3	3
empathy?	no	some	yes	yes	yes
k/j maternal caregive child	0	0	2	3	nr
Maternal CAREGIVING TO Child	1	1	1	2	2
AVERAGE OF ABOVE	0.5	0.5	1.5	2.5	1.0
k or j mom caregive infant	2	2	2	3	nr
Maternal CAREGIVING to Infant	3	3	2	3	3
AVERAGE OF ABOVE	2.5	2.5	2.0	3.0	1.5
k or j child caregive infant	0	0	3	3	nr
Child CAREGIVING to Infant	0	1	3	3	3
AVERAGE OF ABOVE	0.0	0.5	3.0	3.0	1.5
provided care w/in 30 sec	no	no	yes	yes	yes
infant level of distress	0104:xxx02	000010100	000221000	01133:xxx1	nr
infant level of distress (n)	0004:xxx0	000110000	000100010	01033:xxx0	030313x00
infant distress rating	high	low	low/some	high	high
child level of distress	0000:xxx0	000020000	000000000	00012:xxx0	nr
child level of distress (n)	0000:xxx0	000010000	000000000	00001:xxx0	000010x00
child distressed?	none	low	none	low/some	low
c/i caregiving needed?	yes	?	yes	yes	yes
k/j infant sib attachment	1	3	2	2	nr
INFANT SIBLING ATTACHMENT	1	2	2	2	3
AVERAGE OF ABOVE	1.0	2.5	2.0	2.0	1.5
infant attached to child?	no	yes	some	some	yes
k/j infant mom attachment	4	1	2	4	nr
INFANT MOTHER ATTACHMENT	3	2	2	3	3
AVERAGE OF ABOVE	3.5	1.5	2.0	3.5	1.5

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>52</b>	<b>54</b>	<b>56</b>	<b>57</b>	<b>59</b>
<i>k/j child mom attachment</i>	1	1	0	2 <i>nr</i>	
<b>CHILD MOTHER ATTACHMENT</b>	1	2	1	2	2
<b>AVERAGE OF ABOVE</b>	1.0	1.5	0.5	2.0	1.0
<i>k/j infant sociable mom</i>	2	2	2	3 <i>nr</i>	
<b>Infant SOCIABLE Mother Score</b>	3	3	3	3	3
<i>k/j mom sociable infant</i>	1	2	2	3 <i>nr</i>	
<b>Mother SOCIABLE Infant Score</b>	2	3	3	3	3
<i>k/j child sociable mom</i>	2	2	2	3 <i>nr</i>	
<b>Child SOCIABLE Mother Score</b>	2	3	3	3	3
<i>k/j mom sociable child</i>	2	1	2	3 <i>nr</i>	
<b>Mother SOCIABLE Child Score</b>	2	3	3	3	3
<i>k/j infant sociable child</i>	0	2	2	2 <i>nr</i>	
<b>Infant SOCIABLE Child Score</b>	0	2	3	2	3
<i>k/j child sociable infant</i>	0	1	2	3 <i>nr</i>	
<b>Child SOCIABLE Infant Score</b>	0	2	3	3	3
<i>k/j infant sociable S</i>	<i>no s</i>	<i>nr</i>	<i>nr</i>	<i>nr</i>	<i>nr</i>
<i>Infant sociable stranger</i>	<i>no s</i>	1	2	0	1
<i>k/j child sociable S</i>	<i>no s</i>	<i>nr</i>	<i>nr</i>	<i>nr</i>	<i>nr</i>
<i>Child sociable Stranger</i>	<i>no s</i>	1	0	0	3
<b>THIRD/KID EXPERIENCE</b>				<b>cdef</b>	
<b>THIRD SEPARATE MOM</b>				2	
<b>THIRD SEPARATION DAD</b>				3	
<b>Third separation sib 1</b>				3	
<b>THIRD SEPARATION SIB 2</b>				2	
<b>THIRD CAREGIVE DAD</b>				3	
<b>THIRD CAREGIVE MOM</b>				7	
<b>THIRD CAREGIVE RELATIVE</b>				1	
<b>THIRD CAREGIVE DAY CARE</b>				1	
<b>THIRD CAREGIVE NOW DAD</b>				2	
<b>THIRD MOM</b>				7	
<b>THIRD RELATIVE</b>				1	
<b>THIRD DAY CARE/school</b>				5school	
<b>THIRD REACT MOM SEPARATION</b>				1	
<b>THIRD REACT DAD SEPARATION</b>				1	
<b>THIRD REACT SIB 1 SEPARTIONS</b>				1	
<b>THIRD REACT SIB 2 SEPARATIONS</b>				1	
<b>MOM DO THIRD CHILD BABY</b>				abcdefghij	
<b>DAD DO THIRD CHILD BABY</b>				abcdefghij	
<b>Third do Sib 1</b>				f	
<b>THIRD DO SIB 2</b>				b def	
<b>THIRD SO SIB 2 CRIES</b>				1	

Data from Banks' Sibling Attachment Study

SUBJECT NO.	52	54	56	57	59
THIRD DO SIB 1 CRIES				5	
				if sib mke	
YOUNGER DO THIRD CRIES				1	
OLDER DO THIRD CRIES				7	
THIRD ATTENTION MOM				7	
THIRD ATTENTION DAD				7	
THIRD MOM BUSY SIB2				4	
THIRD MOM BUSY SIB1				4	
THIRD REACT ABSENCE				7	
THIRD REACT SIB1 ABSENCE				6	
THIRD REACT SIB2 ABSENCE				7	
THIRD RELATE TO SIB1				4	
THIRD RELATE TO SIB 2				2	
TIME SIB1 AND THIRD				2	
TIME SIB 2 AND THIRD				2	
THIRD SHARE SIB2				2	
THIRD SHARE SIB 1				5	
<i>Third affection SIB 1</i>				a cd	
THIRD AFFECTION SIB 2				abc	
SIB 1 AFFECTION THIRD				abc	
				wt sm bed	
SIB 2 AFFECTION THIRD				abc	
THIRD ANGER SIB1				a efg	
THIRD ANGER SIB 2				e	
<i>Sib 1 anger Third</i>				efgh	
<i>Sib 2 ANGER Third</i>				e h	
THIRD WHY ANGRY				b e	
				not 'mind'	
THIRD REACT SIB2 HURT				a c	
THIRD REACT SIB1 HURT				ab	
				consoles	
				to keep #3	
				out of tbl	
THIRD DO SIB2 CRIES				ab	
THIRD DO SIB1 CRIED				a	
THIRD RELATE OTHER KIDS				4	
<i>Sib 2 imitate Third</i>				3	
<i>Sib 1 imitate Third</i>				4	
THIRD IMITATE SIB2				2	

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>52</b>	<b>54</b>	<b>56</b>	<b>57</b>	<b>59</b>
THIRD IMITATE SIB1				2	
THIRD PREPARED BIRTH 1				to tease	
THIRD PREPARED BIRTH 2				a e	
				discussed	
				a	
				attended	
				birth	

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>61</b>	<b>65</b>	<b>66</b>	<b>70</b>	<b>72</b>
MOTHER'S AGE	33	30	33	33	27
MOTHER'S RACE	e	e	e	e	e
US CITIZEN	a	b	a	a	a
MOTHER'S EDUCATION	f	c	e	e	e
EMPLOYMENT STATUS	a	e	e	e	e
MOTHER'S JOB	a				
YEARS MARRIED	d	d	e	d	c
FATHER'S AGE	33	36	33	42	30
FATHER'S RACE	e	e	e	e	e
US CITIZEN	a	a	a	a	a
FATHER'S EDUCATION	f	e	g	e	f
EMPLOYMENT STATUS	a	a	a	a	a
FATHER'S JOB	a	na	a	a	a
INCOME	f	d	e	d	f
OLDER CHILD BD	10/26/84	09/27/83	01/23/85	09/03/83	11/02/84
OLDER CHILD MONTHS	52	65	50	66	52
OLDER CHILD GENDER	male	male	male	male	male
YOUNGER CHILD BD	03/22/88	05/08/87	09/25/87	11/13/87	10/11/87
YOUNGER CHILD MONTHS	11	22	17	16	17
YOUNGER CHILD GENDER	male	male	male	male	female
SPACING	41	43	33	50	35
THIRD CHILD BD	10/20/75		07/02/83		11/15/88
	13 years		68		4
THIRD CHILD MONTHS	? 1/2 sis		male		female
THIRD CHILD GENDER	9 years		18		13
OTHER CHILDREN					
OLDER CHILD/OTHER KIDS	ab d g	b e cousin	ab d	ab	ab defg
YOUNGER CHILD/OTHER KIDS	ab	csin, b sch	a c	b	a d
OLDER SEPARATION/MOM	5	1	2	7	5
YOUNGER SEPARATION/MOM	2	1	2	5	2
OLDER SEPARATION/DAD	2	1	3	7	5
YOUNGER SEPARATION/DAD	2	1	2	5	2
SEPARATIONS/EACH OTHER	2	1	2	3	2
OLDER CHILD/CAREGIVERS					
DAD	4	2	2	2	3

Data from Banks' Sibling Attachment Study

SUBJECT NO.	61	65	66	70	72
MOM	7	7	7	7	7
RELATIVE	1	1	1	2	1
DAY CARE/SITTER	1	1	1	1	1
YOUNGER CHILD/CAREGIVERS					
DAD	4	2	2	3	2
MOM	7	7	7	7	7
RELATIVE	1	1	2	2	1
DAY CARE/SITTER	1	1	2	1	1
OLDER CHILD/ CAREGIVERS NOW					
DAD	4	2	2	2	3
MOM	4	7	7	7	7
RELATIVE	3	1	2	2	1
	if sick				
DAYCARE/SITTER/SCHOOL	6	1	2	1	2
YOUNGER CHILD/ CAREGIVERS NOW		pre-k	preschool	preschool	preschool
DAD	4	2	2	2	3
MOM	4	7	7	7	7
RELATIVE	3	1	2	2	1
DAYCARE/SITTER/SCHOOL	6	1	2	2	2
				mdo	
OLDER CHILD/SEPARATION MOM	1	2	1	1	2
YOUNGER CHILD/SEPARATION MOM	2	5	3	4	3
OLDER CHILD/SEPARATION DAD	4	2	1	1	4
YOUNGER CHILD/SEPARATION DAD	1	2	4	1	5
YOUNGER CHILD/SEPARATION SIB	2	4	1	2	6
OLDER CHILD/SEPARATION SIB	1	1	1	1	1
MOM INVOLVE YOUNGER/BABY	abcdefghi	abcdefghi	abcdefgh	abcdefgh	abcdefghi
DAD INVOLVE YOUNGER/BABY	abcdefghi	cdefghi	bc e ghi	c g i	c efghi
SIB INVOLVE YOUNGER/BABY	cd f	a cd f	f	a f	a c ef
MOM ATTITUDE CRYING	1	2	2	3	1
DAD ATTITUDE CRYING	1	2	2	2	3
OLDER ATTITUDE YOUNGER CRIES	1	4	4	5	2
YOUNGER ATTITUDE OLDER CRIES	1	4	5	7	1
YOUNGER ATTENTION/MOM	4	4	2	2	4
YOUNGER ATTENTION/DAD	4	4	4	5	1
OLDER ATTENTION/MOM	3	4	4	4	4
OLDER ATTENTION/DAD	1	4	4	2	1
OLDER/ MOM BUSY	2	3	3	3	3
YOUNGER/ MOM BUSY	2	3	5	6	5
YOUNGER/ REACT TO ABSENCE	6	2	3	3	4
OLDER/ REACT TO ABSENCE	7	6	7	6	6
YOUNGER/ REACT SIB ABSENCE	6	6	5	4	1



Data from Banks' Sibling Attachment Study

SUBJECT NO.	61	65	66	70	72
OLDER/ REACT SIB ABSENCE	7	6	7	7	5
RIVALRY ATTITUDE	4	4	2	4	3
KIDS GET ALONG (1+, 7-)	2	4	3	4	4
KIDS TIME TOGETHER	2	1	1	3	1
OLDER/SHARE (1+, 7-)	3	3	4	3	4
YOUNGER /SHARE	4	4	7	4	7
older AFFECTION younger	abcd	abc	abcd	bc	a cd
younger AFFECTION older	abc	abc	abcd	a	abcd
OLDER/ANGER	de g	b e g	ab e h	de	abc fgh
YOUNGER/ANGER	e h	a h	a e h	e h	abc e gh
OLDER/ WHY ANGRY	b	ab	b	b	abc
YOUNGER/ WHY ANGRY	b	b d	bcd	cd	abcd
OLDER REACT YOUNGER HURT	a c	a c	a e	c	abc
YOUNGER REACT OLDER HURT	a f	c	g watches	e	abc f
OLDER REACT IF YOUNGER CRIES	ab	ab	b	b	ab
OLDER RELATES KIDS (1+, 7-)	1	4	2	1	1
YOUNGER RELATE KIDS	1	4	2	7	1
YOUNGER IMITATES OLDER	2	4	5	6	7
OLDER IMITATE YOUNGER	6	4	3	4	7
PREPARATION FOR BABY	abcd	ab d	ab d	ab e discussed	abcd
second chance	no	same	no	wait to	no
COMMENTS	very fond of each o more than expected	younger child fussy to start with today		prepare E normal rival, but deep love as i older	
Birthday Game 4 correct/6 passto p	3	4	5	6	6
Syllogisms 3 correct/5 pass	2	3	3	5	5
Hide and Seek 4 correct/6 pass	5	5	6	6	6
p-t raw score total (0 - 17)	10	12	14	17	17
PERSPECTIVE-TAKING SCORE #pass	1	3	2	4	3
perspective-taker?	no	yes	no	yes	yes

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>61</b>	<b>65</b>	<b>66</b>	<b>70</b>	<b>72</b>
Glad and Sad correct/12	12	12	12	12	12
glad and sad matches	12	12	12	12	12
k or j toy sharing	4	3	4	4	3
Toy Sharing	4	nr	4	4	4
k or j treat sharing	0	4	0	4	4
Treat Sharing	i not eat	4	0	4	4
k/j photo album	2	1	1	3	3
photo album	2	2	2	3	3
k/j infant aggression to child	0	0	0	0	0
infant AGGRESSION to child	0	0	0	0	0
k/j child aggression to infant	0	0	-2	0	0
child aggression to infant	0	0	0	0	0
empathy raw score total (0-48)	36	38	33	46	45
empathy raw score w/o g & s	*	15	9	22	21
k or j empathy score	2	2	2	3	3
nancy empathy score	3	2	2	3	3
adjusted empathy score	3	2	2	3	3
empathy?	yes	some	some	yes	yes
k/j maternal caregive child	nr	1	0	0	1
Maternal CAREGIVING TO Child	1	2	1	1	2
AVERAGE OF ABOVE	0.5	1.5	0.5	0.5	1.5
k or j mom caregive infant	nr	3	3	1	1
Maternal CAREGIVING to Infant	1	3	3	3	not needed
AVERAGE OF ABOVE	0.5	3.0	3.0	2.0	0.5
k or j child caregive infant	4	0	2	3	3
Child CAREGIVING to Infant	3	0	2	3	3
AVERAGE OF ABOVE	3.5	0.0	2.0	3.0	3.0
provided care w/in 30 sec	yes	no	delayed	yes	yes
infant level of distress	000000310	00024xxx4	022310220	010301100	010112320
infant level of distress (n)	000013330	00013xxx3	020321220	000201000	000102310
infant distress rating	high	high	high	low/some	some
child level of distress	000000000	00031xxx0	010010000	000000000	000100010
child level of distress (n)	000000000	02021xxx0	010000000	000000000	000110010
child distressed?	none	some/high	low	none	low
c/i caregiving needed?	yes	yes	yes	yes	yes
k/j infant sib attachment	3	0	3	4	2
INFANT SIBLING ATTACHMENT	3	1	3	3	3
AVERAGE OF ABOVE	3.0	0.5	3.0	3.5	2.5
infant attached to child?	yes	no	yes	yes	yes
k/j infant mom attachment	2	4	3	3	2
INFANT MOTHER ATTACHMENT	2	3	3	3	3
AVERAGE OF ABOVE	2.0	3.5	3.0	3.0	2.5

Data from Banks' Sibling Attachment Study

SUBJECT NO.	61	65	66	70	72
<i>k/j child mom attachment</i>	2	2	1	2	2
CHILD MOTHER ATTACHMENT	1	3	1	2	2
AVERAGE OF ABOVE	1.5	2.5	1.0	2.0	2.0
<i>k/j infant sociable mom</i>	1	2	2	3	3
Infant SOCIABLE Mother Score	1	3	2	3	3
<i>k/j mom sociable infant</i>	1	2	3	3	3
Mother SOCIABLE Infant Score	1	3	3	3	3
<i>k/j child sociable mom</i>	2	3	3	2	3
Child SOCIABLE Mother Score	1	3	3	3	3
<i>k/j mom sociable child</i>	2	2	3	2	3
Mother SOCIABLE Child Score	1	3	3	3	3
<i>k/j infant sociable child</i>	2	2	2	3	2
Infant SOCIABLE Child Score	2	2	2	2	2
<i>k/j child sociable infant</i>	4	2	2	2	2
Child SOCIABLE Infant Score	3	2	3	2	2
<i>k/j infant sociable S</i>	1 nr	nr	nr	nr	
Infant sociable stranger	2 i	agres s	2	1	2
<i>k/j child sociable S</i>	0 nr	nr	nr	nr	
Child sociable Stranger	0	0	1	0	2
THIRD/KID EXPERIENCE	a cde		abc	a	
THIRD SEPARATE MOM	7		2		2
THIRD SEPARATION DAD	7		4		4
Third separation sib 1	5		2		2
THIRD SEPARATION SIB 2	2		2		2
THIRD CAREGIVE DAD	3		2		3
THIRD CAREGIVE MOM	7		7		7
THIRD CAREGIVE RELATIVE	3		1		1
THIRD CAREGIVE DAY CARE	1		1		2
THIRD CAREGIVE NOW DAD	4		2	na	
THIRD MOM	4		7	na	
THIRD RELATIVE	2		2	na	
THIRD DAY CARE/school	1 school		3	na	
THIRD REACT MOM SEPARATION	1		1		3
THIRD REACT DAD SEPARATION	1		1		2
THIRD REACT SIB 1 SEPARTIONS	1		1		1
THIRD REACT SIB 2 SEPARATIONS	1		1		1
MOM DO THIRD CHILD BABY	abcdefghi		abcdefghi		abcdefghi
DAD DO THIRD CHILD BABY	c gi		bcde gi		abcdefg
Third do Sib 1	bc f		f		cd f
THIRD DO SIB 2	bcdef		f		a cd f
THIRD SO SIB 2 CRIES	1		4		1

Data from Banks' Sibling Attachment Study

SUBJECT NO.	61	65	66	70	72
THIRD DO SIB 1 CRIES	3		4		1
YOUNGER DO THIRD CRIES	4		4		1
OLDER DO THIRD CRIES	3		5		2
THIRD ATTENTION MOM	7		7		4
THIRD ATTENTION DAD	4		7		5
THIRD MOM BUSY SIB2	3		6	na	
THIRD MOM BUSY SIB1	4		6	na	
THIRD REACT ABSENCE	7		7		3
THIRD REACT SIB1 ABSENCE	7		7		5
THIRD REACT SIB2 ABSENCE	7		7		5
THIRD RELATE TO SIB1	4		3		3
THIRD RELATE TO SIB 2	2		3		1
TIME SIB1 AND THIRD	2		1		2
TIME SIB 2 AND THIRD	2		1		1
THIRD SHARE SIB2	2		5		4
THIRD SHARE SIB 1	7		6		4
Third affection SIB 1	abc e vlntr ply		abcd		smiles, enjoys
THIRD AFFECTION SIB 2	abc e treats		abcd		their company
SIB 1 AFFECTION THIRD	abcde follows		abcde w/words		abcd
SIB 2 AFFECTION THIRD	ab e imitates		abcde		abcd
THIRD ANGER SIB1	ab defg		ab de g		na
THIRD ANGER SIB 2	de		a		na
Sib 1 anger Third	ab defgh		ab e gh		g "be quiet"
Sib 2 ANGER Third	e h		h		e "mama"
THIRD WHY ANGRY	ab		ab		na
THIRD REACT SIB2 HURT	abc		a c		na
THIRD REACT SIB1 HURT	abc		c		na
THIRD DO SIB2 CRIES	ab		ab		na
THIRD DO SIB1 CRIED	ab		ab		na
THIRD RELATE OTHER KIDS	2.5		2		na
Sib 2 imitate Third	7		6		2
Sib 1 imitate Third	7		6		3
THIRD IMITATE SIB2	7		2		1

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>61</b>	<b>65</b>	<b>66</b>	<b>70</b>	<b>72</b>
<b>THIRD IMITATE SIB1</b>	7		3		1
<b>THIRD PREPARED BIRTH 1</b>	ab d		a		a c sib2 13 mo
<b>THIRD PREPARED BIRTH 2</b>	d		abcd		

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>80</b>
MOTHER'S AGE	27
MOTHER'S RACE	e
US CITIZEN	a
MOTHER'S EDUCATION	e
EMPLOYMENT STATUS	d
MOTHER'S JOB	
YEARS MARRIED	d
FATHER'S AGE	27
FATHER'S RACE	e
US CITIZEN	a
FATHER'S EDUCATION	e
EMPLOYMENT STATUS	a
FATHER'S JOB	g marine
INCOME	b
OLDER CHILD BD	11/01/82
OLDER CHILD MONTHS	76
OLDER CHILD GENDER	male
YOUNGER CHILD BD	03/12/88
YOUNGER CHILD MONTHS	12
YOUNGER CHILD GENDER	female
SPACING	64
THIRD CHILD BD	
THIRD CHILD MONTHS	
THIRD CHILD GENDER	
OTHER CHILDREN	
OLDER CHILD/OTHER KIDS	cdefg
YOUNGER CHILD/OTHER KIDS	b d
OLDER SEPARATION/MOM	2
YOUNGER SEPARATION/MOM	1
OLDER SEPARATION/DAD	7
YOUNGER SEPARATION/DAD	7
SEPARATIONS/EACH OTHER	1
OLDER CHILD/CAREGIVERS	
DAD	4

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>80</b>
MOM	5
RELATIVE	3
DAY CARE/SITTER	5
YOUNGER CHILD/CAREGIVERS	
DAD	2
MOM	7
RELATIVE	1
DAY CARE/SITTER	1
OLDER CHILD/ CAREGIVERS NOW	
DAD	1
MOM	7
RELATIVE	2
DAYCARE/SITTER/SCHOOL	1
YOUNGER CHILD/ CAREGIVERS NOW	1st grade
DAD	1
MOM	7
RELATIVE	2
DAYCARE/SITTER/SCHOOL	6
OLDER CHILD/SEPARATION MOM	1
YOUNGER CHILD/SEPARATION MOM	1
OLDER CHILD/SEPARATION DAD	4
YOUNGER CHILD/SEPARATION DAD	na
YOUNGER CHILD/SEPARATION SIB	1
OLDER CHILD/SEPARATION SIB	1
MOM INVOLVE YOUNGER/BABY	abcdefghi
DAD INVOLVE YOUNGER/BABY	hi
SIB INVOLVE YOUNGER/BABY	def
MOM ATTITUDE CRYING	2
DAD ATTITUDE CRYING	2
OLDER ATTITUDE YOUNGER CRIES	1
YOUNGER ATTITUDE OLDER CRIES	1
YOUNGER ATTENTION/MOM	6
YOUNGER ATTENTION/DAD	na
OLDER ATTENTION/MOM	3
OLDER ATTENTION/DAD	3
OLDER/ MOM BUSY	2
YOUNGER/ MOM BUSY	2
YOUNGER/ REACT TO ABSENCE	6
OLDER/ REACT TO ABSENCE	7
YOUNGER/ REACT SIB ABSENCE	7

Data from Banks' Sibling Attachment Study

SUBJECT NO.	80
OLDER/ REACT SIB ABSENCE	7
RIVALRY ATTITUDE	4
KIDS GET ALONG (1+, 7-)	2
KIDS TIME TOGETHER	1
OLDER/SHARE (1+,7-)	2
YOUNGER /SHARE	1
older AFFECTION younger	abcd
younger AFFECTION older	a
OLDER/ANGER	ab
YOUNGER/ANGER	a
OLDER/ WHY ANGRY	a
YOUNGER/ WHY ANGRY	d
OLDER REACT YOUNGER HURT	a c
YOUNGER REACT OLDER HURT	g
OLDER REACT IF YOUNGER CRIES	worries a
OLDER RELATES KIDS (1+,7-)	4
YOUNGER RELATE KIDS	3
YOUNGER IMITATES OLDER	5
OLDER IMITATE YOUNGER	6
PREPARATION FOR BABY	a e
second chance	discussed same
COMMENTS	parents separated infant 3mo i hs cold ok reltshp
Birthday Game 4 correct/6 passto p	6
Syllogisms 3 correct/5 pass	5
Hide and Seek 4 correct/6 pass	5
p-t raw score total (0 - 17)	16
PERSPECTIVE-TAKING SCORE #pass	3
perspective-taker?	yes



Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>80</b>
Glad and Sad correct/12	12
glad and sad matches	12
k or j toy sharing	0
Toy Sharing	0
k or j treat sharing	0
Treat Sharing	0
k/j photo album	2
photo album	3
k/j infant aggression to child	0
infant AGGRESSION to child	0
k/j child aggression to infant	-3
child aggression to infant	-3
empathy raw score total (0-48)	23
empathy raw score w/o g & s	-1
k or j empathy score	2
nancy empathy score	1
adjusted empathy score	1
empathy?	no
k/j maternal caregive child	0
Maternal CAREGIVING TO Child	1
AVERAGE OF ABOVE	0.5
k or j mom caregive infant	2
Maternal CAREGIVING to Infant	3
AVERAGE OF ABOVE	2.5
k or j child caregive infant	2
Child CAREGIVING to Infant	2
AVERAGE OF ABOVE	2.0
provided care w/in 30 sec	no
infant level of distress	000000122
infant level of distress (n)	000000232
infant distress rating	alone/hurt
child level of distress	000000000
child level of distress (n)	000000000
child distressed?	none
c/i caregiving needed?	yes
k/j infant sib attachment	3
INFANT SIBLING ATTACHMENT	2
AVERAGE OF ABOVE	2.5
infant attached to child?	yes
k/j infant mom attachment	3
INFANT MOTHER ATTACHMENT	2
AVERAGE OF ABOVE	2.5

Data from Banks' Sibling Attachment Study

<b>SUBJECT NO.</b>	<b>80</b>
<i>kj child mom attachment</i>	2
<b>CHILD MOTHER ATTACHMENT</b>	1
<b>AVERAGE OF ABOVE</b>	1.5
<i>kj infant sociable mom</i>	3
Infant <b>SOCIABLE</b> Mother Score	2
<i>kj mom sociable infant</i>	3
Mother <b>SOCIABLE</b> Infant Score	2
<i>kj child sociable mom</i>	3
Child <b>SOCIABLE</b> Mother Score	2
<i>kj mom sociable child</i>	3
Mother <b>SOCIABLE</b> Child Score	2
<i>kj infant sociable child</i>	3
Infant <b>SOCIABLE</b> Child Score	2
<i>kj child sociable infant</i>	3
Child <b>SOCIABLE</b> Infant Score	3
<i>kj infant sociable S</i>	nr
Infant sociable stranger	2
<i>kj child sociable S</i>	nr
Child sociable Stranger	0
<b>THIRD/KID EXPERIENCE</b>	
<b>THIRD SEPARATE MOM</b>	
<b>THIRD SEPARATION DAD</b>	
Third separation sib 1	
<b>THIRD SEPARATION SIB 2</b>	
<b>THIRD CAREGIVE DAD</b>	
<b>THIRD CAREGIVE MOM</b>	
<b>THIRD CAREGIVE RELATIVE</b>	
<b>THIRD CAREGIVE DAY CARE</b>	
<b>THIRD CAREGIVE NOW DAD</b>	
<b>THIRD MOM</b>	
<b>THIRD RELATIVE</b>	
<b>THIRD DAY CARE/school</b>	
<b>THIRD REACT MOM SEPARATION</b>	
<b>THIRD REACT DAD SEPARATION</b>	
<b>THIRD REACT SIB 1 SEPARTIONS</b>	
<b>THIRD REACT SIB 2 SEPARATIONS</b>	
<b>MOM DO THIRD CHILD BABY</b>	
<b>DAD DO THIRD CHILD BABY</b>	
Third do Sib 1	
<b>THIRD DO SIB 2</b>	
<b>THIRD SO SIB 2 CRIES</b>	

APPENDIX E  
SELECTED STATISTICAL ANALYSES

## Correlations

Age of Child/ Perspective-taking, Empathy, Caregiving

Data Set = Empathy, Perspective-Taking, Child Caregiving, and Infant At

OLDMONTH Age of older child in months

SPACING Months between infant & child    PERSCORE # of games passed  
 PTRAW total # correct/ 3 games    SUMGANDS var1 identify + matches/ 24  
 SUMSHARE total sharing score 0 - 16    EMPWOGS empathy raw score w/o g & s  
 AVEMPATH average of two empathy ratings    AVGKIDCG avged child caregiving rating  
 AVGSIBAT average of sibling attachment

36 Cases processed.

Correlations (Pairwise Deletion of Cases)

	SPACING	PERSCORE	PTRAW	SUMGANDS	SUMSHARE	EMPWOGS	AVEMPATH
OLDMONTH	0.9586	0.7887	0.7545	0.4727	0.4875	0.5115	0.5916
Prob.	0.0001	0.0001	0.0001	0.0036	0.0026	0.0014	0.0001
n	36	36	36	36	36	36	36

	AVGKIDCG	AVGSIBAT
OLDMONTH	0.3556	0.2881
Prob.	0.0333	0.0883
n	36	36

Empathy/ Child Caregiving &amp; Infant Sibling Attachment

Data Set = Empathy, Perspective-Taking, Child Caregiving, and Infant At

AVGKIDCG avged child caregiving rating    AVGSIBAT average of sibling attachment

SUMGANDS var1 identify + matches/ 24    SUMSHARE total sharing score 0 - 16  
 SUMALBUM total of photo album ratings    IAGGRESS infant aggression total  
 CIAGGRES total child aggression/ infant    EMPRAWGS raw score w/ glad & sad game  
 EMPWOGS empathy raw score w/o g & s    AVEMPATH average of two empathy ratings

36 Cases processed.

Correlations (Pairwise Deletion of Cases)

	SUMGANDS	SUMSHARE	SUMALBUM	IAGGRESS	CIAGGRES	EMPRAWS	EMPWOGS
AVGKIDCG	0.2510	0.5201	0.5754	0.1926	0.1469	0.5388	0.5690
Prob.	0.1397	0.0011	0.0002	0.2603	0.3927	0.0007	0.0003
n	36	36	36	36	36	36	36

	AVGSIBAT	AVEMPATH
AVGKIDCG	0.2785	0.7020
Prob.	0.1000	0.0001
n	36	36

	AVGSIBAT
AVGSIBAT	0.6253
Prob.	0.0001
n	36

## Correlations

Perspective-taking/ Empathy, Caregiving, Attachment

Data Set = Empathy, Perspective-Taking, Child Caregiving, and Infant At

BIRTHDAY p-t game 4/6 to pass

HIDSEEEK p-t game 4/6 to pass

PERSCORE # of games passed

SYLLOGIS p-t game 3/5 to pass

PTRAW total # correct/ 3 games

SUMGANDS var1 identify + matches/ 24

SUMALBUM total of photo album ratings

AVEMPATH average of two empathy ratings

AVGSIBAT average of sibling attachment

SUMSHARE total sharing score 0 - 16

EMPWOGS empathy raw score w/o g &amp; s

AVGKIDCG avged child caregiving rating

36 Cases processed.

Correlations (Pairwise Deletion of Cases)

	SUMGANDS	SUMSHARE	SUMALBUM	EMPWOGS	AVEMPATH	AVGKIDCG	AVGSIBAT
BIRTHDAY	0.5360	0.4570	0.6207	0.5112	0.5471	0.3092	0.2290
Prob.	0.0008	0.0051	0.0001	0.0014	0.0006	0.0665	0.1791
n	36	36	36	36	36	36	36
SYLLOGIS	0.4739	0.4678	0.4570	0.4718	0.4665	0.1780	0.2331
Prob.	0.0035	0.0040	0.0051	0.0037	0.0041	0.2991	0.1713
n	36	36	36	36	36	36	36
HIDSEEEK	0.3993	0.4602	0.4236	0.4838	0.5060	0.1782	0.2538
Prob.	0.0158	0.0047	0.0100	0.0028	0.0016	0.2984	0.1353
n	36	36	36	36	36	36	36
PTRAW	0.5358	0.5232	0.5734	0.5556	0.5766	0.2559	0.2702
Prob.	0.0008	0.0011	0.0003	0.0004	0.0002	0.1319	0.1110
n	36	36	36	36	36	36	36
PERSCORE	0.4958	0.5393	0.5573	0.5568	0.5318	0.2059	0.2377
Prob.	0.0021	0.0007	0.0004	0.0004	0.0008	0.2284	0.1628
n	36	36	36	36	36	36	36

Caregiving/ Infant Sibling Attachment, Empathy, P-t

Data Set = Empathy, Perspective-Taking, Child Caregiving, and Infant At

AVGKIDCG avged child caregiving rating

AVGSIBAT average of sibling attachment

MOMKIDCG avg of mom/child caregiver

EMPWOGS empathy raw score w/o g &amp; s

AVGMOMIC avg of mom/infant caregiving

PTRAW total # correct/ 3 games

SUMSHARE total sharing score 0 - 16

36 Cases processed.

Correlations (Pairwise Deletion of Cases)

	AVGSIBAT	AVGMOMIC	MOMKIDCG	PTRAW	EMPWOGS	SUMSHARE
AVGKIDCG	0.6903	-0.2067	0.0624	0.2559	0.5690	0.5201
Prob.	0.0001	0.2264	0.7175	0.1319	0.0003	0.0011
n	36	36	36	36	36	36

## Correlations

## Edu-Stat Correlation Analysis

Data Set = Reliability of OBSERVERS

KJEMPATH empathy global rating 0-3high	KJCHCARE child caregiving to infant
KJINFATT infant attachment to child	KJTOYSHA toy sharing 0 to 4 (voluntary)
KJTREAT treat sharing rating 0-4	KJPHOTO rating of photo album 0 - 3
KJCHILD child aggression to infant	KJAGGRES infant aggression to child
KJMOMCAR mom infant caregiving	KJMATCAR mom caregive to child rating
NEMPATHY nancy's empathy rating 0=low	CHICAREI nvb rating of child caregiving
INSIBATT nvb infant sibling attachment	TOYSHARE nancy's toy sharing rating
TREATSHR nancy's treat sharing rating	PHOTOALB nancy's rating of album
CHILDAGG nancy's rating 0(high)-3(none)	ICAGGRES nancy's rating 0 to 3 (none)

Correlations		Correlations		Correlations		Correlations	
	TOYSHARE		CHILDAGG	KJINFATT	INSIBATT	KJPHOTO	PHOTOALB
KJTOYSHA	0.5369	KJCHILD	0.9209	Prob.	0.7122	Prob.	0.8538
Prob.	0.0015	Prob.	0.0001		0.0001		0.0001
	CHICAREI		MATCARE		MOHICARE		TREATSHR
KJCHCARE	0.9055	KJMATCAR	0.6215	KJMOMCAR	0.6761	KJTREAT	0.9324
Prob.	0.0001	Prob.	0.0001	Prob.	0.0001	Prob.	0.0001
		n	32	n	32	n	32
	NEMPATHY		ICAGGRES				
KJEMPATH	0.8298	KJAGGRES	0.9319				
Prob.	0.0001	Prob.	0.0001				

### T-tests

Gender of Older Child/ P-t, Empathy, Caregiving, Attachment

Data Set = Empathy, Perspective-Taking, Child Caregiving, and Infant At

Classification Variable = OLDSEX Sex of older child m=1,f=2

SUMALBUM total of photo album ratings

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	2.3158	0.9748	Equal	0.4365	34	0.6652
2.0000	17	2.1765	0.9344	Unequal	0.4376	34	0.6645

Variance Test: F = 1.0883 with 18,16 D.F.; Prob. = 0.8714

CIAGGRES total child aggression/ infant

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	2.3684	1.0253	Equal	-1.4934	34	0.1446
2.0000	17	2.7647	0.3999	Unequal	-1.5576	24	0.1324

Variance Test: F = 6.5728 with 18,16 D.F.; Prob. = 0.0004

EMPWOGS empathy raw score w/o g & s

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	20.2632	7.4598	Equal	0.9957	34	0.3264
2.0000	17	17.7647	7.5790	Unequal	0.9948	34	0.3269

Variance Test: F = 1.0322 with 16,18 D.F.; Prob. = 0.9411

AVEMPATH average of two empathy ratings

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	2.3158	0.8368	Equal	1.1131	34	0.2735
2.0000	17	1.9706	1.0227	Unequal	1.1005	32	0.2793

Variance Test: F = 1.4936 with 16,18 D.F.; Prob. = 0.4101

AVGKIDCG avged child caregiving rating

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	1.9737	1.2188	Equal	-0.0676	34	0.9465
2.0000	17	2.0000	1.1040	Unequal	-0.0680	34	0.9462

Variance Test: F = 1.2188 with 18,16 D.F.; Prob. = 0.6962

AVGSIBAT average of sibling attachment

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	2.3421	0.7463	Equal	1.0438	34	0.3039
2.0000	17	2.0588	0.8818	Unequal	1.0340	32	0.3089

Variance Test: F = 1.3960 with 16,18 D.F.; Prob. = 0.4922

OLDMONTH Age of older child in months

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	57.8947	13.6500	Equal	2.0334	34	0.0499
2.0000	17	49.8235	9.5278	Unequal	2.0739	33	0.0460

Variance Test: F = 2.0525 with 18,16 D.F.; Prob. = 0.1545

## T-tests

Gender of Older Child/ P-t, Empathy, Caregiving, Attachment

Data Set = Empathy, Perspective-Taking, Child Caregiving, and Infant At

Classification Variable = OLDSEX Sex of older child m=1,f=2

BIRTHDAY p-t game 4/6 to pass

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	4.2632	2.0505	Equal	0.4552	34	0.6519
2.0000	17	3.9412	2.1929	Unequal	0.4535	33	0.6532

Variance Test: F = 1.1437 with 16,18 D.F.; Prob. = 0.7779

SYLLOGIS p-t game 3/5 to pass

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	3.3684	1.7388	Equal	1.0937	34	0.2818
2.0000	17	2.7059	1.8962	Unequal	1.0883	33	0.2844

Variance Test: F = 1.1893 with 16,18 D.F.; Prob. = 0.7177

HIDEESEEK p-t game 4/6 to pass

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	5.2105	1.2283	Equal	2.1524	34	0.0386
2.0000	17	3.9412	2.2212	Unequal	2.0878	25	0.0472

Variance Test: F = 3.2701 with 16,18 D.F.; Prob. = 0.0176

PTRAW total # correct/ 3 games

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	12.8421	4.5615	Equal	1.3419	34	0.1885
2.0000	17	10.5882	5.5120	Unequal	1.3276	32	0.1937

Variance Test: F = 1.4602 with 16,18 D.F.; Prob. = 0.4366

PERSCORE # of games passed

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	2.4211	1.3464	Equal	1.2934	34	0.2046
2.0000	17	1.8235	1.4246	Unequal	1.2893	34	0.2060

Variance Test: F = 1.1194 with 16,18 D.F.; Prob. = 0.8114

SUMGANDS var1 identify + matches/ 24

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	22.2105	4.3916	Equal	-0.3163	34	0.7537
2.0000	17	22.6471	3.8233	Unequal	-0.3188	34	0.7518

Variance Test: F = 1.3194 with 18,16 D.F.; Prob. = 0.5822

SUMSHARE total sharing score 0 - 16

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	19	10.8947	5.5065	Equal	1.6271	34	0.1129
2.0000	17	7.8824	5.5889	Unequal	1.6258	34	0.1132

Variance Test: F = 1.0301 with 16,18 D.F.; Prob. = 0.9443



## T-tests

## Gender of Infant/ Sibling Attachment

Data Set = Empathy, Perspective-Taking, Child Caregiving, and Infant At

Classification Variable = YOUNGSEX Sex of younger child m=1,f=2

## AVGSIBAT average of sibling attachment

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	21	2.0952	0.8891	Equal	-0.9860	34	0.3311
2.0000	15	2.3667	0.6935	Unequal	-1.0281	34	0.3112

Variance Test: F = 1.6436 with 20,14 D.F.; Prob. = 0.3445

## IAGGRESS infant aggression total

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	21	2.6667	0.7130	Equal	-0.2959	34	0.7691
2.0000	15	2.7333	0.5936	Unequal	-0.3053	34	0.7620

Variance Test: F = 1.4426 with 20,14 D.F.; Prob. = 0.4879

## YOUNGMN Age of Younger child in months

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	21	17.0476	3.3686	Equal	-0.1822	34	0.8565
2.0000	15	17.2667	3.8073	Unequal	-0.1785	28	0.8597

Variance Test: F = 1.2774 with 14,20 D.F.; Prob. = 0.6020

## AVGIMOMA avg infant/mom attachmt avg5

Class	N	Mean	Std.Dev.	Variance	T-Value	D.F.	Prob.
1.0000	21	2.8333	0.5774	Equal	-0.3352	34	0.7395
2.0000	15	2.9000	0.6036	Unequal	-0.3327	30	0.7417

Variance Test: F = 1.0929 with 14,20 D.F.; Prob. = 0.8359

## Means and Ranges for Selected Variables

## Means and Ranges for Variables

Data Set = Empathy, Perspective-Taking, Child Caregiving, and Infant At

OLDMONTH	Age of older child in months	YOUNGMN	Age of Younger child in months
SPACING	Months between infant & child	BIRTHDAY	p-t game 4/6 to pass
SYLLOGIS	p-t game 3/5 to pass	HIDEESEEK	p-t game 4/6 to pass
PTRAW	total # correct/ 3 games	PERSCORE	# of games passed
SUMGANDS	var1 identify + matches/ 24	SUMSHARE	total sharing score 0 - 16
SUMALBUM	total of photo album ratings	EMPRAWGS	raw score w/ glad & sad game
EMPWOGS	empathy raw score w/o g & s	AVEMPATH	average of two empathy ratings
AVGSIBAT	average of sibling attachment	AVGKIDCG	avgd child caregiving rating
AVGMOMIC	avg of mom/infant caregiving		

Variable	Mean	Std Dev	Minimum	Maximum
OLDMONTH	54.0833	12.4105	30.0000	89.0000
YOUNGMN	17.1389	3.5063	11.0000	23.0000
SPACING	37.0000	12.4097	15.0000	70.0000
BIRTHDAY	4.1111	2.0946	0.0000	6.0000
SYLLOGIS	3.0556	1.8196	0.0000	5.0000
HIDEESEEK	4.6111	1.8559	0.0000	6.0000
PTRAW	11.7778	5.0884	1.0000	17.0000
PERSCORE	2.1389	1.3970	0.0000	4.0000
SUMGANDS	22.4167	4.0804	8.0000	24.0000
SUMSHARE	9.4722	5.6744	0.0000	16.0000
SUMALBUM	2.2500	0.9449	0.0000	4.0000
EMPRAWGS	41.5000	9.8372	14.0000	52.0000
EMPWOGS	19.0833	7.5152	5.0000	28.0000
AVEMPATH	2.1528	0.9321	0.0000	3.5000
AVGSIBAT	2.2083	0.8139	0.5000	3.5000
AVGKIDCG	1.9861	1.1494	0.0000	3.5000
AVGMOMIC	2.4722	0.7833	1.0000	3.5000

VITA

Nancy Vickrey Banks

Candidate for the Degree of

Master of Science

Thesis: RELATIONSHIP OF EMPATHY, PERSPECTIVE-TAKING  
ABILITY, AND CAREGIVING IN YOUNG CHILDREN  
TO INFANT SIBLING ATTACHMENT

Major Field: Family Relations and Child Development

Biographical:

Personal Data: Born January 26, 1948, in Beaumont,  
Texas. Married, 2 children.

Education: Graduated from Rice University,  
Houston, Texas, with B. A. in History, May,  
1970; attended University of Houston as a  
history graduate student, then as a student  
in child development September 1970 - May,  
1971; attended Lamar University, Beaumont,  
Texas, January, 1972 to May, 1976, earning  
Texas teaching certificate for grades First  
through Sixth, with specializations in  
Kindergarten and Early Childhood for the  
Handicapped December, 1973; attended Stephen  
F. Austin State University, Fall, 1974;  
completed requirements for the Master of  
Science degree at Oklahoma State University in  
December, 1989.

Teaching Experience: Day care teacher in four  
year old room, January - March 1971, at  
Little Peoples in Houston, Texas.  
Substitute teacher for Houston Independent  
School District April- May, 1971.  
Client Supervisor, Beaumont State Center for  
the Mentally Retarded, October 1971 -  
January 1973. Lead teacher, Headstart,

Alabama-Coushatta Indian Reservation January 1974 - May 1975. On-site director of Central Day Care Center, Beaumont, Texas from May, 1975 - May, 1976. Teacher of toddlers, two year olds Children's Learning Lab Tulsa County Vocational Highschool, December, 1976 - May, 1981. Teacher of two's in a Mother's Day Out (MWF) March 1982 - May 1984; one year old's (W) September 1982- May 1983, First Presbyterian Church, Tulsa, Ok. Preschool teacher, Henthorne Recreation Center (TT) February 1982 - August 1985. Teacher, Child Development Associate classes for adults, CCS Academy, January 1984 - May 1987. Infant Enrichment, Toddler Playgroup, Music and Movement, Digging Dinosaurs, Adventures in Space, Puppets, Mom and Pop Tots, Messy Art, Shirt Painting, Art You Can Eat, Cooking and Science classes for Byrd and Wright Community Schools, Henthorne and Whiteside Recreation Centers, Fall 1982 to present. Puppet workshop for the gifted first grade at Jenks East, January 1989 and SUUSI, August, 1989.

Research Experience: Graduate assistant for Dr. John McCullers and A.J. O'Malley, "Paradoxical regression in moral reasoning in college students: Artifact of material rewards?", Spring, 1985.

Professional Activity: April, 1973 - present attended more than 50 workshops, presented by NAEYC, OEA, ACEI, Friends of Day Care, and Headstart. June 20, 1979: Chaired organizing committee International Year of the Child's "Southroads Mall Celebrates Children". Have made 25 invited presentations and workshops, April 1973 to present.