

Utah State University

DigitalCommons@USU

All Graduate Theses and Dissertations

Graduate Studies

5-1976

Sex Role Preference, Sibling Status and Bonding Behavior in Children

Mary Kay Biaggio
Utah State University

Follow this and additional works at: <https://digitalcommons.usu.edu/etd>

 Part of the [Psychology Commons](#)

Recommended Citation

Biaggio, Mary Kay, "Sex Role Preference, Sibling Status and Bonding Behavior in Children" (1976). *All Graduate Theses and Dissertations*. 5749.
<https://digitalcommons.usu.edu/etd/5749>

This Dissertation is brought to you for free and open access by the Graduate Studies at DigitalCommons@USU. It has been accepted for inclusion in All Graduate Theses and Dissertations by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.



SEX ROLE PREFERENCE, SIBLING STATUS,
AND BONDING BEHAVIOR IN CHILDREN

by

Mary Kay Biaggio

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Psychology

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

1976

ACKNOWLEDGMENTS

I would like to express my appreciation to Dr. Michael Bertoch not only for the guidance he gave as my committee chairman but also for the opportunities he provided for the enhancement of my professional and personal growth. I am grateful to all those professors who have been a part of my graduate experience at Utah State University: Walter Borg, E. Wayne Wright, Elwin Nielsen, and Richley Crapo.

I would like to thank those students who worked as research assistants on this study: Bill Dayhuff, Reta Folkman, and Gloria Fowler. Without their help it would have been impossible to carry out this research. I am also appreciative of the cooperation afforded by all the principals, teachers, and children with whom we worked.

I must thank my parents, my sister, and my brothers for the loving support they have offered me over the years. And to all the people who have given me their friendship during my stay in Logan I thank you for the warmth and sharing and hope you have felt it as I have.

Mary Kay Biaggio

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	ii
LIST OF TABLES	v
ABSTRACT	vi
CHAPTER	
I. INTRODUCTION	1
II. REVIEW OF LITERATURE	4
Parental Identification and sex role Learning	4
Sex Role Preference in Children	7
Sibling Status Effects	20
Bonding Behavior	25
Summary	27
III. METHODOLOGY	29
Problem Statement and Hypotheses	29
Pilot Study	30
Sample	33
Measures	33
Procedure	36
Statistical Analysis	39
IV. RESULTS	42
V. DISCUSSION	51
Evaluation of Findings	51
Limitations	58
Recommendations for Further Research	59
Summary	61
LITERATURE CITED	62
APPENDICES	68
Appendix A: Observation Checklist	69
Appendix B: Bonding Behavior Questionnaire	71
Appendix C: Teacher Rating	73
Appendix D: Teacher Ranking	75

TABLE OF CONTENTS (continued)

	Page
Appendix E: Letter to Parents	77
VITA	79

LIST OF TABLES

Table	Page
1. Test-retest Reliability Coefficients of Teacher Ratings	30
2. The Effect of Sex, Grade Level, and Sibling Status on the It Scale for Children .	42
3. The Effect of Sex, Grade Level, and Sibling Status on Bonding Behavior (Bonding Behavior Questionnaire)	43
4. The Effect of Sex, Grade Level, and Sibling Status on Bonding Behavior (Observa- tion Checklist)	44
5. Adjusted Means for Grade Level and Sibling Status Groups on Observation Checklist	45
6. Adjusted Means for Sex and Sibling Status on Observation Checklist	46
7. Adjusted Means for Grade Level and Sibling Status for Females on Observation Checklist	47
8. Adjusted Means for Grade Level and Sibling Status for Males on Observation Checklist	47
9. The Effect of Sex, Grade Level, and Sibling Status on Bonding Behavior (Teacher Rating)	48
10. Correlation Coefficients for Ranked Variables	49

ABSTRACT

Sex Role Preference, Sibling Status
and Bonding Behavior in Children

by

Mary Kay Biaggio

Utah State University, 1976

Major Professor: Dr. Michael Bertoch
Department: Psychology

The focus of this study was to explore some of the important variables in sex role development in children. The major hypotheses were concerned with differences between the independent variables child's grade level, sex, and sibling status (ordinal position and sex of sibling) on the dependent variables sex role preference and bonding behavior. Bonding, a concept which has not been examined in conjunction with sex role preference, was here defined as (1) the degree to which a child affiliates with members of his own sex and (2) the degree to which a child excludes opposite sex playmates from his affiliative realm.

Subjects were fifty-six kindergarten and thirty fourth grade boys and girls from two-child families in which the spacing between siblings was four years or less.

A pilot study was conducted to gather reliability and validity data on the measures of bonding behavior.

Subjects were orally administered the It Scale for Children (which measures sex role preference) and the Bonding

Behavior Questionnaire, which was one of four measures of bonding behavior. Each child was also observed for one hour while he was in free play. The Observation Checklist was employed to monitor bonding behavior during this time. Teachers also filled out a Teacher Rating for each child and ranked the children on the extent to which they exhibited bonding behavior. Data relating to the main hypotheses was subjected to analyses of variance.

The single significant finding was kindergarten children with older siblings bonded to a greater extent than fourth graders with older siblings or subjects with younger siblings. A modelling explanation was posited: Children learn by observing older siblings that boys play with boys and girls play with girls. No significant correlations were obtained between the It Scale for Children and the measures of bonding behavior, suggesting that bonding behavior is not simply an artifact of sex role preference but an entity of its own.

(86 pages)

CHAPTER I

Introduction

Sex role development in children has become a subject of research the last few decades. Investigators have been interested in the course of this development and have asked when do children first differentiate between the sexes, when do they first begin to identify with a sex role, and does this identification take place during some critical stage or is it a gradual development? It has generally been found that children have made an initial identification with a sex role by age five (Brown, 1956; Hartup and Zook, 1960; and Fagot and Patterson, 1969). This study, by examining two different age groups, purported to better understand what sex role development occurs between the ages of about five and ten.

Sex role development in children is a complex process, probably involving a multiplicity of factors. Beginning with Freud, theorists have recognized the impact of the parent upon the child's psychosexual development. Recent research has shown that parents serve as models and encourage or discourage sex-typed behavior (Fauls and Smith, 1956 and Santrock, 1970). This study recognizes the importance of parental influence but does not attempt to systematically study this variable. The effect of siblings upon sex role

development is a fairly new research topic, however. Investigatory studies have shown that siblings do affect each other's sex role development (Sutton-Smith and Rosenberg, 1970). This study proposed further examination of this variable and looked at sex role preference among children with one other sibling.

The relationship between bonding behavior, as defined here, and sex role development had not been given empirical consideration. Bonding was defined as (1)the degree to which a child affiliates with members of his own sex and (2)the degree to which a child excludes opposite sex playmates from his affiliative realm. The rationale for studying this variable was as follows: (1)It seems possible that since the developing child is highly influenced by peer interactions, the sex of playmates chosen will in some way be related to his sex role preference. (2)Studies on the development of sex role identification have considered the importance of parental and even sibling identification (Santrock, 1970 and Sutton-Smith and Rosenberg, 1970). Identification with peers of the same or opposite sex could also be an important facet of sex role development. (3)The extent to which a child chooses same sex playmates and excludes opposite sex playmate could be related to a need to identify with the appropriate sex role.

This study thus proposed to further delineate the impact of sibling status upon sex role preference and to

make a preliminary examination of another possibly important variable, that of bonding behavior. What follows in Chapter II is a review of the pertinent research. Chapter III presents the methodology. Chapter IV reports results and Chapter V discusses and evaluates the findings.

CHAPTER II

Review of Literature

The review that follows is divided into four major sections: (1) Parental Identification and Sex Role Development, (2) Sex Role Preference in Children, (3) Sibling Status Effects, and (4) Bonding Behavior. A review of studies on parental identification is included even though it is not a variable that is examined in this study. Since it is of major importance in the study of sex role development it is felt that such background information should be provided. Freudian theory is explained and then more recent theories and pertinent research studies are cited.

Parental Identification and Sex Role Learning

According to Freudian theory, full identification with the parent of the same sex occurs when the Oedipus conflict has been resolved. Both sexes first identify with the mother. At age five or six, the boy's incestuous wishes toward the mother become strong but are counterbalanced by castration fears. The boy resolves the Oedipus conflict by repressing incestuous wishes and incorporating the image of his father as part of his self image. This process is more complicated for girls. After the initial identification with the mother the little girl of about two discovers she has no penis. She blames her mother for this and begins to

show a preference for her father. Her incestuous wishes are repressed when she realizes she cannot replace her mother. Since she does not want to lose her mother's love she resolves the conflict by identifying with the mother. Freud's explanation of sex role identification is an important part of his theory but, like much of psychoanalytic theory, has not been empirically validated.

David Lynn (1966) has formulated a list of hypotheses based on his own research and that of others into parental and sex role identification. According to Lynn, children of both sexes initially identify with the mother. Thus, for the girl sex role development begins with mother identification and proceeds along these lines. The process for males is not as straightforward. Eventually the young boy learns to switch from mother identification to identification with a culturally defined masculine role (Lynn, 1966 and Ward, 1973). Thus, the male does not learn sex role development through father identification but rather through a gradual learning of what behaviors are or are not acceptable for him. Sex role development would then involve different learning processes for both sexes. Lynn postulates that successful sex role identification does not go hand in hand with same sex parent identification and vice versa. Males have greater difficulty achieving same sex parent identification than females and they are more likely to fail to make a complete same sex identification. Cohen (1973)

agrees that the development of sex role related aspects of life style is more problematic for males than females.

A somewhat different theoretical orientation (Johnson, 1963) holds that fathers differentiate their own sex role behavior toward boys and girls more than mothers do. Thus, it is identification with the father that is crucial in affecting an appropriate sexual identity for both sexes. The female learns her role by internalizing a reciprocal role relationship with her father. Several studies can be cited that lend credence to Johnson's notion that the father plays the most important part in the child's acquisition of the appropriate sex role. Rosenberg and Sutton-Smith's study of family interaction effects (1968) suggests that fathers play a more critical role in the development of children's sex role preference than mothers. In another study, enhanced masculinity in sons and daughters was found to be linked to identification with an instrumental father (Heilbrun, 1965). Sopchak (1952) also found that failure to identify with the father was more closely related to abnormality in men and women than was failure to identify with the mother. Studies have illustrated greater maladjustment in males who identified with mothers or grew up without fathers (Bieber et al., 1962 and Biller, 1971). Or, as identification shifts to the use of a less masculine father, the probability of disruptive behavior problems in males increases (Heilbrun and Fromme, 1965).

The most straightforward theory states that the child learns the appropriate sex role by identifying with the same sex parent (Kagan, 1964). According to Mowrer (1950), normal persons tend to identify with the parent of the same sex and neurotic persons tend to show a confused sexual identification. For women it was found that low identification with one's mother was related to low ego strength while high maternal identification was associated with strong ego identity (Dignan, 1965). Lazowich (1955) goes on to say that identification with the parent of the opposite sex is not necessarily linked to neuroticism, as not all behavior is sex-typed. A study by Reiter (1950) found, in fact, that cross-sex identification is common among college females.

It appears that the process of parental and sex role identification is quite complex and any conclusive theory needs to consider a large number of possibly relevant variables. There has been much research carried out on this subject but our knowledge of the actual processes is piecemeal. The formulation of theories concerning these processes, such as those of Lynn (1966) and Johnson (1963), will be helpful in directing research efforts.

Sex Role Preference in Children

This section will review studies relating to differences between the sexes and age groups in sex role preference, use of the It Scale for Children in measuring sex

role preference, differences in socioeconomic status groups, and sex of experimenter effects.

Several researchers have examined sex role identification and sex role preference in children. These studies typically allow children to choose, by direct or projective means, between toys or activities that have been judged by general consensus and/or empirical evidence to be appropriate to one or the other sex. In general, marked differences have been found between the sexes (Rabban, 1950; Brown, 1956; Ward, 1978; and Fagot and Patterson, 1969). Some studies also ask the children if they (or some person upon which they are projecting) would rather be a mother or father in an attempt to ascertain choice of preferred adult sex role. These studies thus provide evidence concerning the extent to which children identify with, are indifferent to, or reject culturally prescribed sex roles. The following review of these studies begins with those employing the youngest subjects and proceeds to those with older children, in order that a perspective can be gained relative to the development of sex roles in children. The age group covered will extend from pre-school age children to pre-adolescent children.

A study of one-year-olds found sex differences relative to play even at this age (Goldberg and Lewis, 1969). Girls chose toys which involved more fine than gross muscle coordination, while the reverse was true for boys. Boys also were more active in their play style than girls.

In a study of ten boys and six girls, ranging in age from eighteen months to thirty months, the proportion of time spent by each on available play activities was compared (Etaugh et al., 1975). Girls were more likely than boys to paint, help the teacher, and read books or listen to stories while boys preferred to hammer and play with transportation toys. Boys spent more time than girls in opposite sex behaviors and also spent less time than girls in own sex activities. These authors suggested that feminine play preferences in two-year-olds could reflect maternal identification since, according to both psychoanalytic and social learning theories, children of both sexes initially identify with the mother.

In a study looking at children's awareness and anticipation of adult sex roles (Vener and Snyder, 1966), it was concluded that preschoolers are enmeshed in a female world since (1) female sex-linked articles are more accurately identified than are male articles by both girls and boys at all ages, and (2) a majority of the girls' preferences were same sex items at all ages, whereas the boys do not choose a majority of same sex items until the age of 51 to 60 months. The very high concensus between the pre-adolescent and adult judges with respect to the sex-linkages of items examined, along with the preschooler's awareness of these same linkages, suggests a high stability of sex role definition.

Two nursery school classes comprised of thirty-six three-year-olds were observed on a sex-role behavior checklist intermittently throughout the year (Fagot and Patterson, 1969). Sex-appropriate behaviors were present in both the schools from the beginning of the year and were stable over time. Boys were more inclined to prefer to play with blocks and transportation toys, girls more likely to prefer painting and art work. Boys spent more time in opposite sex behaviors but there were no differences in the percentages of time that the sexes spent in appropriate-sexed behaviors.

One study observed three to five-year-old children in a nursery school over three ten-week quarters (Harper and Sanders, 1975). Definite sex differences emerged. Boys played consistently more than girls outdoors in sand, on a tractor, on a climbing structure, and about an equipment shed. Girls spent more time indoors at craft tables and in the kitchen.

An important study by Brown (1956) reports on the construction of a projective test of sex role preference, the It Scale for Children. In the administration of this scale a stick figure, named "It," is presented to the child along with pictures of sets of toys, half male-appropriate, half female-appropriate. The child is asked to pick the toy which "It" would like to play with. Data on the scale are provided for kindergarten children, seventy-eight boys

and sixty-eight girls. Large and significant differences were found to exist between boys and girls on the It Scale, suggesting the existence of definite, relatively dichotomous sex role preference patterns. Some children showed a mixed or confused preference pattern, indicating acceptance of components of both male and female roles. This tendency was twice as frequent in girls as in boys. Some children showed considerable inversion of sex roles. Once again, this tendency was more frequent and more pronounced in girls than in boys. There was a greater preference shown by boys for the masculine role than by girls for the feminine role.

Hartup and Zook (1960) examined sex role preference in 161 three and four-year-old children employing the It Scale for Children. This technique has been criticized by some researchers as biasing the results in favor of a male role preference since the It figure may be viewed as a boy by some children (Hartup and Zook, 1960; Brown, 1962; and Lansky and McKay, 1963). Hartup and Zook (1960), in employing this scale, found clear-cut sex-role differentiation among three and four-year-olds. Boys showed slightly stronger masculine preference than girls showed feminine preferences (this finding could, however, be a result of the bias inherent in the It figure). It was also found that four-year-old girls were more feminine in their sex-role preference than three-year-old girls but there was only a slight trend in this direction for the boys' age groups. This

study also examined the effects of verbal instructions that stressed varying amounts of similarity between It and the subject. It was concluded that the It Scale is highly sensitive to variations in instructions since girls responded with more feminine scores when the It figure was called "a little girl" than when it was called "It." One study that examined the possibility of a potential masculine bias in the It figure employed various procedures in the administration of the scale (Fling and Manesovitz, 1972). Clear sex differences in play interests were found for the twenty-two four-year-olds in this study. In regard to the sex role preference measure it was concluded that a masculine bias exists in the It figure. Researchers are recommended to eliminate this bias by using an imaginary or concealed It. Lansky and McKay (1963), also testing the hypothesis that the It figure results in favor of a masculine preference, administered the test to thirty-six kindergarten children with the It figure concealed in an envelope. At a later time, the test was administered in the standard fashion, with the It figure in view. Data from comparison of administrations did not support the view that the It figure is seen as male by most children at this age. The evidence regarding any bias in the It figure is, thus, inconclusive.

Liebert et al. (1971) examined the effects of sex-typed information on children's toy preferences by giving

modelling cues to first grade children regarding the preferences of the sexes for the sets of toys used in the study. It was found that children will alter their choices of toys according to whether they have been told an item is sex-appropriate or sex-inappropriate. These results were obtained with female experimenters but were also replicated with male experimenters, indicating that sex of experimenter, in this situation, did not affect children's choices.

Hartup and Moore (1963) designed a study whereby children's avoidance of inappropriate objects could be assessed without being confounded by preferences for sex-appropriate objects. Children, ages three to eight, were observed while playing with sex-inappropriate and neutral toys. Latency of orienting to inappropriate toys was longer for older than younger boys, but no age difference was found for girls. Percent of time spent with inappropriate toys was lower for older than younger children of both sexes. It was generally found, then, with advancing age, young children increasingly avoid inappropriate-sex objects.

A similar study used one game and labelled it as either sex-appropriate, sex-neutral, or sex-inappropriate (Montemayor, 1974). For the children, ages six to eight, the effect of labelling on their performance (time spent with the toy) was in the same direction and of the same magnitude for both boys and girls. Performance was highest when the game was labelled sex-appropriate, interme-

diate when no sex label was given, and lowest when labeled sex-inappropriate.

Ward (1973) administered the It Scale for Children to thirty-six third grade children. It was found that boy's masculine role preference was higher than girl's feminine role preference.

Nadelman (1974) tested recall, knowledge, and preference for masculine and feminine items in 240 five to eight-year-old children from working class and professional middle class families. Children recalled, knew, and preferred same-sex items significantly more than opposite sex items. Girls' scores were less rigidly sex typed than were boys'. Older children showed greater stereotypy of preference than did younger children. Sex differences in preference scores of older children were greater in the working than in the middle class.

To test the hypothesis of differential sex role preference among boys and girls, forty-eight pre-kindergarten, kindergarten, first grade, and second grade children were given a sex-oriented toy preference test (Ward, 1968). The hypothesis was supported; boys preferred boys' toys more than girls preferred girls' toys. Older children preferred own-sexed toys more than younger children.

Hall and Keith (1964) administered the It Scale for Children to forty-four third and fourth graders. Results indicated a rigid pattern of masculine preference on the

part of boys and a tendency for girls to respond with male-typed choices as often as female ones. A trend toward masculine sex-role preference among boys and girls was thus demonstrated. The tendency among lower-class boys, as compared with upper-class boys, to score in the highest, most masculine area of the was statistically significant. There was a slight trend for upper-class girls to receive more feminine scores than lower-class girls.

Rabban's classic study of "Sex-role identification in young children in two diverse social groups" studied 300 children, ranging in age from thirty months to eight years (Rabban, 1950). Children were presented eight pairs of toys, one suitable for boys, one for girls, and chose the one he liked best. Each child was also asked which parent he would like to be when he was older. In both class groups, boys were more clearly aware of sex-appropriate behavior than girls. Three-year-olds showed incomplete recognition of sex differences and were unaware of the appropriateness of sex-typed toys. Fourth and fifth years were periods of growth in and clarification of sex roles for working class boys and the sixth year was significant for middle class boys. Working class girls accepted a sex-appropriate pattern by six but middle class girls did not fully acquiesce to definition of appropriate sex-patterning even by the eighth year, when all other groups have accepted social expectations. Boys and girls of the working class were ear-

lier and more clearly aware of sex role patterns than boys and girls of the middle class group (this difference was especially great for girls). Rabban's results reflect less sex-typing among children than most other studies show. This could be due to the fact that he used only eight pairs of toys, all of which were fairly common and may not, thus, have had sex-typed valences as strong as those used in other studies.

A study similar to Rabban's compared fourth graders from traditional middle class schools and homes with those from modern middle class homes (Minuchin, 1965). Unequivocal commitment to one's own sex role, sex-typed play, aggressive expression in boys, and a family orientation in girls were more consistently characteristic of children from traditional backgrounds. Girls, particularly those with modern orientations, were less sex-typed and more flexible in role commitment than were boys.

DeLucia (1963) pretested the Toy Preference Test on a group of children, ranging from kindergarten to fourth grade. She found an orderly increase in the number of sex-appropriate choices for both boys and girls through the third grade. Fourth graders made fewer appropriate choices than did third graders. Boys made more sex-appropriate choices than girls and this tendency became consistently more pronounced throughout the elementary school years. The reliability of the Toy Preference Test was markedly higher

when administered by an opposite sexed experimenter than when it was administered by a same sexed experimenter.

In a study on the stability of play interests thirty-six children who had participated in two separate preschool studies at ages three and four were given an interest questionnaire at age ten (Fagot and Littman, 1975). The play preferences of boys appeared to indicate more stable sex role behavior while girls retained a broader range of interests throughout childhood.

In a large scale study by Brown (1956), 600 children between the ages of five and eleven were administered the It Scale for Children. Boys showed a predominantly masculine role preference at kindergarten and first grade levels and an even stronger masculine preference at grades two, three, four, and five. Girls as a group did not show nearly the same degree of feminine role preference. There was a marked change at grade five, however, with girls showing less preference for the masculine role than they had earlier evidenced.

Hartley and Hardesty (1964) examined the perception of sex role in five, eight, and eleven-year-old children. Results indicated that children distinguish clearly between boys' and girls' sex-role activities and that toy items have great stability as sex-role indicators. Boys seem equally sensitive to male and to female peer-age roles, as sensitive to female roles as are girls, and more aware of fe-

male roles than are girls of male roles. It is suggested that a negative directive plays a greater part in boys' sex-role identification, forcing an awareness of opposite sex-role activities for the purpose of avoiding them.

An interesting study of the relationship between sex role differences and spatial visualization examined sixth and ninth grade children's responses (Nash, 1975). When asked "Would you rather be a male or a female?" more girls than boys reported cross-sex preferences and more sixth than ninth grade girls made opposite sex choices. It was also the case that older children were more sex-role stereotyped than younger children.

One study measured sex role standards about achievement in the areas of athletic, spatial and mechanical, arithmetic, reading, artistic, and social skills (Stein and Smithells, 1969). Subjects were 120 boys and girls from second, sixth, and twelfth grades. The total sample rated the areas from most feminine to most masculine in this order : social, artistic, reading, arithmetic, spatial and mechanical, and athletic. In general, older children made more extreme ratings: twelfth graders considered athletic and arithmetic skills more masculine and reading and social skills more feminine than younger children. There was an overall tendency for girls to make more feminine ratings than boys, especially on athletic and reading skills, but sex differences decreased with age. Findings suggested that the change in

sex role standards between the second and twelfth grades is primarily concerned with learning what is inappropriate for one's sex rather than what is appropriate.

In looking at all these studies some definite trends can be pinpointed. Girls seem to be more sex-appropriate in their behavior at an earlier age than boys, with preschool girls evidencing sex-typed behavior and preschool boys showing more variability in their sex-typed responses. As was noted in one of the studies (Etaugh et al., 1975), this phenomenon may be due to the alleged maternal identification that initially occurs in both boys and girls. With the commencement of school, however, boys quickly acquire standards for sex-appropriate behavior and more rigidly adhere to these standards than do girls throughout the elementary school years. For both sexes, however, there is a movement toward closer adherence to the culturally prescribed standards with increasing age. This process commences later in boys and eventually becomes more pronounced in them. Interestingly, a switch in many girl's role preference occurs during the early elementary years. At this time, the preference for the feminine role weakens and some girls even show a preference for the masculine role. It should be noted, however, that many of the studies reporting this finding employed the It Scale for Children, which may influence choice of male-preferred objects and activities. Thus, the extent to which this shift occurs in girls may be

somewhat exaggerated in the reserach literature. Nevertheless, evidence does indicate some tendency in this direction. It also seems that girls switch back to a feminine role preference at about fifth or sixth grade. Another fairly definite finding is that children from the lower classes and more traditional backgrounds are more rigidly sex-typed in their behavior.

Sibling Status Effects

Recognition of the possible effects of sibling status upon child development has been fairly recent. Adler was probably the first psychologist to elaborate this notion, but his ideas were based upon his dynamic theory of the family constellation, not upon experimental evidence (Adler, 1928). In the last few decades there has been some research carried out on the effect of the sibling upon child development, beginning with a long series of studies by Helen Koch, examining the effect of sibling status upon various dimensions of child behavior (Koch, 1954, 1955a, 1955b, 1956a, 1956b, 1956c, 1957).

Studies that have looked specifically at sibling status effects upon sex role preference have generally found that this variable does have some influence. Brown (1956), in examining sex role preference in five and six-year-olds, found that boys with only female siblings scored somewhat more feminine than boys who had only male siblings. No significant differences were found relative to this vari-

able among girl groups. Brim (1958) found that children with cross-sex siblings have more traits of the opposite sex than do those with same-sex siblings. Also, this effect was greater when the child had an older sibling instead of a younger sibling. Another study (Schell and Silbur, 1968) found that children with an opposite sex sibling, as compared to children without siblings, were better able to make sex-typed discriminations for a boy or a girl. These authors concluded that having a sibling of the opposite sex seems to be a primary factor in learning sex-typed discrimination for boys and girls.

The Koch studies examined the effects of sibling status on five and six-year-old children from two-child families. In one of these studies teachers rated children on dimensions of sissiness and tomboyishness (Koch, 1956c). None of the sibling variables was significantly related to tomboyishness in girls, although there was a strong suggestion that girls with a brother more than two years older have a tendency to be relatively tomboyish. Second born boys with sisters evidenced more sissiness than first born boys with sisters (when the spacing between sibs was less than four years).

Rosenberg and Sutton-Smith (1964) investigated ordinal position and sex role identification in nine to twelve-year-old children from one, two, and three child families. It was their observation that the presence of opposite sex

siblings tends to decrease the self-sex preferences on a play and game list while the presence of like-sex siblings tends to reinforce the self-sex preferences. For the second-born in the two and three child families, the presence of an older like-sex sibling is conducive to appropriate sex role identification with minimal anxiety. The presence of an older opposite-sex siblings leads to sex role conflict and heightened anxiety. In three-child families the male with two female siblings shows heightened masculinity and anxiety (conflict-induced anxiety).

Bigner's study (1972) lends further support to the hypothesis that siblings influence sex role preference. Findings revealed that males with older brothers made significantly more masculine sex role preference scores than did males with older sisters. Females with older sisters made significantly more feminine scores than females with older brothers.

A study by Fauls and Smith (1956) examined children's self perceptions in terms of complying with the appropriate sex role. Pairs of pictures of male and female appropriate activities were presented and children were asked "Which of these do you do?" and "Which do you like to do best?" Five-year-olds manifested a clear identification with the appropriate sex. Contrary to the researchers' expectations, it was found that only children more often chose sexually appropriate activities than did children

with one or more older like-sex siblings. It was speculated that either older siblings have no influence on the younger child's learning of sexually appropriate behavior or that the greater permissiveness in the relationship between the parents and the younger child counterbalances the teacher-pupil relationship between older and younger siblings. It must be noted, however, that the findings of this study are not in agreement with those of most other studies, which seem to reveal that an older sibling has a definite impact upon younger sibling's sex role learning.

In a study mainly concerned with the effects of paternal absence on sex-typed traits, sex and ordinal position of siblings were also considered (Santrock, 1970). Father absent girls with older female siblings were significantly more dependent than father present girls with older male siblings. Father absent girls with older male siblings only were significantly more aggressive than father absent girls with older female siblings. Father absent boys with older male siblings were significantly more masculine than father absent boys with older female siblings.

Sutton-Smith and Rosenberg (1970) report a study in which the influence of sibling sex upon the interests of college students was examined. Responses to a recreational inventory showed that the effect of brothers on sisters was as noticeable as the effect of sisters on brothers. Boys with sisters showed fewer athletic interests and a direc-

tionally greater interest in strategy. Girls with brothers showed more athletic interests and were also more social in their interests. In general, brothers and sisters affected each other with their own interests.

An analysis of sibling dyads' responses to the Strong Vocational Inventory revealed that the all-boy's dyad preferred typical masculine entrepreneurial activities, while the all-female dyads preferred typical female secretarial-type activities (Sutton-Smith et al., 1964). Same sex dyads thus reinforced the appropriate-sex occupational choices. Opposite-sex dyads showed a stronger interest in creative occupations such as artist, music performer, author, and architect.

A book by Sutton-Smith and Rosenberg entitled The Sibling (1970) reviews and summarizes the available data on sibling status effects. These general conclusions about the sex role identities of the eight configurations of boys and girls from two-child families are provided: (1) Males with an older brother are the most masculine and least feminine of all the boys of two-child configurations; (2) Females with an older sister are some of the most feminine and least masculine of all the females; (3) Firstborn males with brothers show a highly masculine pattern of interests; (4) Firstborn females with sisters are rated as feminine; (5) Males with an older sister have the most feminine rating among the four boy groups; (6) Females with older brothers

have the most masculine rating among all girl groups; (7) Firstborn males with younger sisters show a masculine pattern of interests; and (8) Firstborn females with younger brothers are described as highly feminine.

Bonding Behavior

No research has specifically reported on the relationship between bonding behavior and sex role preference although some related studies can be cited. One finding that is self-evident is that children tend to choose members of their own sex as playmates more often than members of the opposite sex (Laosa and Brophy, 1970, 1972). One of the Koch studies (1957) found that those children listed as playmates, as preferred playmate, and as best friend were more frequently those of the child's own sex than the opposite sex. Boys listed proportionately more male companions than girls did female ones. Also, when a child's sex was different from that of his sibling the incidence of holding preference for playmates opposite in sex or expressing indifference as to sex of playmates was higher than when the child's sex was the same as his sibling.

Several observational studies make further contributions in this area. In looking at developmental patterns it was found that girls tended to engage in play activities with one or more companions whereas boys engaged predominantly in independent play until the age of five, at which time there was a sudden burst of more integrative, interpersonal

structure (Iwanaga, 1973). Another study determined that for two-year-olds there was no definite preference for playmates of the same or opposite sex but that four-year-olds showed a decided preference for companions of the same sex (Hagman, 1933). For children from a rural background there was a marked tendency for five-year-old boys to score higher than girls on peer-social behaviors (Gottfried and Seay, 1974). In a study in which pre-schoolers were observed during free play it was noted that boys overchoose boys as play companions and girls overchoose girls, with this tendency being more pronounced in boys (McCandless and Hoyt, 1961). Chapman (1933), in a study of thirty-three nursery school children, found a marked cleavage in friendships on the basis of sex, with children of each sex tending to form friendships with others of their sex. Boys showed a distinct tendency to make friends with boys of like age and girls showed the same tendency to a lesser degree. The tendency to associate with like-sex children increased with age for boys but not for girls.

Some studies have analyzed the content of children's play groups. One study examined the composition of 888 play groups made up of 276 preschool children (Chevaleva-Janovskafa, 1927). More boys participated in groups than girls and more unisexual groups were masculine in composition. One finding of this study that is at odds with most other data held that children of three to five years formed bisex-

ual groups more often than unisexual groups. A similar study analyzed 781 play groups made up of two preschool children (Parten, 1932). Two-thirds of these groups were unisexual in composition. For girls, eighty-one percent of their five favorite playmates were other girls and for boys sixty-two percent were other boys. Every girl's favorite playmate was another girl; twelve of the nineteen boys had favorite playmates of their own sex. All seven who preferred girls were under the median age and two had an older sister who had been in the same school as their favorite playmate. In a study of second graders it was found that boys appeared to be slightly more active in the area of peer interactions (Travis, 1974). Furthermore, girls divided their attention fairly evenly between boys and girls but boys showed a distinct preference for interactions with other boys.

From these studies it appears as if early elementary level boys have more same sex playmates than do girls. If the degree to which a child bonds with members of his own sex does indeed correspond to the strength of his same sex role preference, this finding is exactly what we would expect since boys do have a higher same sex role preference than girls.

Summary

As can be seen from the review of sex role preference studies, elementary level children of both sexes gradually

develop a more stable same sex role preference. Girls at the kindergarten and first grade level are generally more feminine than are boys masculine. Boys quickly develop a strong masculine role preference, however, and adhere to this preference more strongly than do girls to the feminine role. Girls are generally more flexible in their sex role choice and some girls even show a preference for the masculine role during the middle and upper elementary years.

From the studies reviewed relative to sibling status, it seems to be the case that sibling status affects sex role identification. Children with an opposite sex sibling, especially one older than himself, can more easily discriminate between sex-typed toys and activities and are usually not as rigid in their adherence to the same sex role preference as are children with a same sex sibling.

Studies which relate to bonding behavior indicate that boys choose same sex playmates more often than girls. Also, a child with an opposite sex sibling is less likely to choose only same sex playmates than a child with a same sex sibling. None of the studies reviewed have, however, examined the extent to which a child might exclude playmates according to their sex.

CHAPTER III

MethodologyProblem Statement and Hypotheses

From a review of literature previously cited, the writer became aware of the lack of research related to the impact of sibling effects on sex role preference. In addition, the investigator conducted a preliminary investigation of bonding behavior as it relates to sex role development since this variable had not been previously recognized.

Following are the main hypotheses:

(1) There will be no significant difference between grade levels, between males and females, and between sibling status groups on sex role preference.

(2) There will be no significant interaction effects between the independent variables sex, grade level, and sibling status on sex role preference.

(3) There will be no significant difference between grade levels, between males and females, and between sibling status groups on bonding behavior.

(4) There will be no significant interaction effects between the independent variables sex, grade level, and sibling status on bonding behavior.

(5) There will be no significant correlation between sex role preference and bonding behavior.

Pilot Study

A pilot study was carried out for the purpose of gathering reliability data on the three measures of bonding behavior: the bonding behavior questionnaire, observation of free play, and teacher ratings (samples of these measures are to be found in the appendices). Subjects were twelve kindergarten and twelve fourth grade children. All correlations are Pearson Product-moment correlation coefficients.

Test-retest reliability of the bonding behavior questionnaire proved high, with a coefficient of .85. This analysis was carried out for twelve kindergarteners with a two week period between test administrations.

Test-retest reliability of teacher ratings for four different teachers are shown in Table 1.

Table 1

Test-retest Reliability Coefficients of Teacher Ratings.

Grade Level	Number of Students	Time Between Administrations	Coefficient
Kindergarten	12	2 weeks	.51
Fourth	12	2 weeks	.85
Kindergarten	10	6 weeks	.44
Kindergarten	9	6 weeks	.78

The average coefficient for all four groups is .65. Since this coefficient is not very high it was decided to obtain a rank score during the main study for each child by re-

questing that the teacher rank subjects on the extent to which they exhibit bonding behavior. This rank score could then be used in conjunction with the teacher rating and other measures of bonding behavior.

Two observers, using a checklist of bonding behaviors, observed each of the kindergarten and fourth grade children for four fifteen-minute observation periods, during which time the children were in free play. An inter-rater reliability coefficient of .94 was obtained.

To determine the length of the time period required to obtain a representative sample of a child's bonding behavior while in free play, correlations were computed between pairs of fifteen minute periods and pairs of thirty minute periods. The correlation between fifteen minute time periods was low, with a coefficient of .23 obtained for ratings of kindergarten and fourth grade children. The correlation between thirty minute periods was higher, with a coefficient of .63. It was thus decided to employ a full hour observation period for the main study. With all other variables held constant, it can be estimated using Spearman-Brown's prophecy formula that the correlation between sixty minute periods would be approximately .78. It was noted in this analysis that the behavior of kindergarten children was more variable than that of fourth graders. Scores for kindergarteners on the observation measure are, thus, not to be considered as reliable as scores for fourth graders.

A correlation coefficient computed for the teacher rating and the bonding behavior questionnaire was .67 for the kindergarten sample and .49 for the fourth grade sample. The correlation between the teacher ratings and observational measures of bonding behavior for the kindergarten group was .44. A correlation coefficient of .31 was obtained between the bonding behavior questionnaire and observational measure for the kindergarten sample. Correlations between the three measures of bonding behavior were, thus, not extremely high. The relatively low correlations could be due to differences in what each instrument is measuring and/or the variability that was noted to be characteristic of the children's behavior. The bonding behavior questionnaire, in which the child responds with names of children to questions regarding the extent to which he includes and excludes others, yielded the most reliable test-retest data.

To take errors of measurement into consideration, corrections for attenuation were carried out for the reliability coefficients obtained for the observational and other measures of bonding behavior. The coefficient obtained for the teacher rating and observational measure moved from .44 to .63. The correlation between the bonding behavior questionnaire and the observational measure moved from .31 to .48. Teacher ratings thus more closely agreed with behavior observed during free play than did the bonding behavior questionnaire.

The pilot study thus pointed out the need to employ a full hour observation period for the main study. It also showed that correlations between the observation and other measures of bonding behavior were low. It was therefore decided to also employ a Teacher Ranking in addition to the Bonding Behavior Questionnaire and Teacher Rating for the main study.

Sample

Subjects for this study included 86 children attending Logan City Public Schools. Fifty-six were kindergarteners and 30 were fourth graders. There were 41 males and 45 females. Subjects were from two-child families in which the age between the siblings was four years or less, with the exception of five subjects who were from three-child families, the third child being an infant aged six months or less.

Measures

Brown's It Scale for Children (1956) was used to measure sex role preference in children. In the administration of this scale a stick figure, named "It," is presented to the child along with pictures of sets of toys and other articles, half male-appropriate, half female-appropriate. The child is asked to pick the toy or article which "It" would like to play with. In the construction of this measure Brown found large and significant differences between

the sexes. Test-retest correlations of .71 for boys and .84 for girls were obtained when the scale was administered to kindergarten children in test sessions thirty days apart. In a review in Euros's Mental Measurement Yearbook McCandless (1965) stated that the It Scale can be recommended as a potentially profitable research tool.

Four instruments were devised by this researcher to measure bonding behavior: the observation checklist, the bonding behavior questionnaire, a teacher rating, and a teacher ranking. The observation checklist (see Appendix A) was considered the criterion variable. Each child was observed during one hour of free play with observation checks made at one-minute intervals. As free play periods seldom lasted more than fifteen to twenty minutes observations were usually made over three or four periods. Children were usually observed outside with the exception of a few occasions in which teachers held the class inside. The only stipulation on free play suitable for observation was that students be free to play with whomever they choose. Behaviors listed on the checklist covered these categories: inclusion of adults and same or opposite sex children, exclusion of adults and same or opposite sex children, and solitary play. Response categories were weighted so that the greater the extent to which a child included same sex children and excluded opposite sex children, the higher was his score. Interaction with an adult was given a neutral weighting. Scores ranged from 0 to 120. It was estimated

that the test-retest reliability of a one hour observation period would be .78 (see Pilot Study for explanation). An inter-rater reliability coefficient of .94 was obtained for this measure during the pilot study.

The bonding behavior questionnaire (see Appendix B) was administered orally and required that the child name others whom he would include or exclude in a variety of activities. The first twelve items ask the child to name three children he would like to play with and three children he would choose not to play with when engaging in several different play activities. Four of these activities are male-oriented, four neutral, and four female-oriented. These activities were selected from a play and game list validated by Rosenberg and Sutton-Smith (Rosenberg and Sutton-Smith, 1960 and Sutton-Smith and Rosenberg, 1963). These researchers gave a list of play items to third, fourth, fifth, and sixth graders to determine which items differentiated girls from boys, boys from girls, and which do not differentiate (neutral). The activities included in this questionnaire which do differentiate between the sexes are significant beyond the .001 level of confidence for grades three to six. Items were scored according to the extent to which a child included same sex children and excluded opposite sex children. Scores ranged from 0 to 81. Test-retest reliability was found to be .35 with a two-week interval between administrations. The correlation between this measure and the ob-

servation checklist was .31 or .48 when a correction for attenuation was computed.

The teacher rating (see Appendix C) is a seven item scale which requires that the teacher indicate whether the child is more likely to include or exclude adults or same or opposite sex children or to play alone. Items were scored such that the more a child included same sex children and excluded opposite sex children, the higher his score was. Scores ranged from 0 to 13 but were noted to cluster at the higher range. Test-retest reliability coefficients ranged from .51 to .85 for four different teachers and two different time intervals (see Pilot Study). The average correlation coefficient was .65. The correlation between the teacher rating and observation checklist was .44, or .63 when a correction for attenuation was computed.

The teacher ranking (see Appendix D) first explained the concept bonding behavior and then requested that the teacher rank those children in her class identified for this study on the extent to which they exhibit bonding behavior. The correlation coefficient between the teacher ranking and teacher rating, determined by Spearman's coefficient of rank correlation, was .63. The correlation between the teacher ranking and observation checklist was .30, and was also determined by Spearman's coefficient of rank correlation.

Procedure

After the research proposal was approved by the Logan

City Board of Education the research project was explained to each of the elementary school principals. All principals granted the researcher permission to carry out the study in their school. Participating schools included Edith Bown, Adams, Hillcrest, Ellis, Woodruff, Wilson, and Riverside.

Kindergarten and fourth grade students from two-child families were identified by either inspection of files containing family data or by communication with the classroom teacher. Father's occupation, used as an index of socioeconomic status, was ascertained in the same manner.

Letters (see Appendix E) were then sent to parents of the identified children. The letter explained that a research project was being carried out in Logan City Public Schools. Parents were informed that students would be removed from the classroom for not more than thirty minutes and administered two brief and easy tests of play activities and that each child would be observed during his free play period. Parents were asked to provide information as to the number of children in the family and their ages since this was one important part of the research project. In this way, family data was confirmed and if any student was not suitable for the study he was not included. Parents checked their approval or disapproval, signed the letter, and it was returned by the student. Follow-up letters were sent if the initial letter was not returned. All but five

of the ninety-one sets of parents with children suitable for the study gave their approval.

The main researcher made all the initial contacts with kindergarten and fourth grade teachers, explaining what the project would involve and requesting the teacher's cooperation. All teachers granted permission. Classrooms were then assigned to one of the four researchers. Close contact was maintained between the main researcher and the three research assistants, with meetings or phone conferences held at least once weekly or bi-weekly. Assistants were encouraged to contact the main researcher should any problems arise. In this way, the research procedure was kept uniform.

The four researchers for this study worked with one class at a time, first identifying suitable subjects, then having the teacher send out letters, and then screening the letters. Scheduling arrangements were made with the classroom teacher so that the research could be carried out with the least possible interruption of regular classroom activities. Students were removed from the classroom, one at a time, and administered the Bonding Behavior Questionnaire and the It Scale for Children. Rapport with subjects was good, with the exception of one girl who had to be retested as she would not cooperate initially. Children were introduced to the researcher by the teacher and the researcher then explained that he was working on a project for college

and needed children to help him out by answering some questions. Children were then observed by the researcher during their free play, free choosing, or recess periods. The stipulation on periods suitable for observation was that the children be free to play with whomever they choose. Structured physical education classes were thus not suitable. The length of these periods varied from one class to another but usually lasted from fifteen to thirty minutes. As a one hour observation time was required, the researchers usually observed the children on different days over two to four sessions. Each of the classroom teachers then filled out the rating sheets and a ranking scale for the children in her class who were suitable for the study. At the conclusion of the data collection in each classroom the teacher was thanked and a brief explanation of the findings was sent to her and the principals when the project was completed.

Statistical Analysis

Data were subjected to four analyses of variance with sex, grade level, and sibling status as the independent variables in each analysis. Since there were two sex groups, two grade levels, and four sibling status groups the analysis was a $2 \times 2 \times 4$. The four sibling status groups were labeled as follows: (1)oldest child with a brother, (2)youngest child with a brother, (3)oldest child with a sister, and (4)youngest child with a sister. The four independent variables in these analyses were the It Scale for Children, the Observa-

tion Checklist, the Bonding Behavior Questionnaire, and the Teacher Rating. When significant F values were obtained, Scheffé tests were employed to pinpoint significant differences between groups. A null hypothesis was rejected if its statistical probability exceeded the .05 level of confidence. Since this study was exploratory with reference to bonding behavior, trends were also noted when statistical probability exceeded the .10 level of confidence.

T tests were computed for mean scores on the It Scale for Children and the Bonding Behavior Questionnaire to determine if there were any differences when tests were administered by a male versus a female experimenter.

A correlation matrix was computed between the It Scale for Children and measures of bonding behavior.

A multiple correlation was computed, with the Observation Checklist as the criterion variable and the Bonding Behavior Questionnaire and Teacher Rating as the predictors.

Spearman's Coefficient of Rank Correlation was utilized in determining the correlation for rank measures. Correlations were computed for these pairs of scores: Teacher Ranking and Teacher Rating, Teacher Ranking and Observation Checklist, Socioeconomic Status and Observation Checklist, and Socioeconomic Status and It Scale for Children. Socioeconomic Status was determined by ranking the father's occupation (or mother's if she was the single parent) on the following list of occupational categories: (1)Professional,

technical, and kindred workers. (2)Managers, officials, and proprietors, (3)Sales workers, (4)Clerical and kindred workers, (5)Craftsmen, foremen, and kindred workers, (6)Operatives and kindred workers, (7)Transportation workers, (8) Laborers, (9)Farmers and farm managers, (10)Farm laborers and foremen, (11)Service workers, and (12)Private household workers (Reiss, 1961).

CHAPTER IV

Results

Four three-way analyses of variance were carried out in which the independent variables in each case were sex, grade level, and sibling status and the four dependent variables were It Scale for Children, Bonding Behavior Questionnaire, Observation Checklist, and Teacher Rating. The results of the first analysis are shown in Table 2.

Table 2
The Effect of Sex, Grade Level, and Sibling
Status on the It Scale for Children.

Source	DF	M.S.	F	Probability
Total	85			
Sex	1	4236.17	7.55	p<.01
Grade Level	1	955.06	1.70	p>.05
Sibling Status	3	606.95	1.08	p>.05
Sex X Grade Level	1	121.48	.22	p>.05
Sex X Sibling Status	3	321.47	.57	p>.05
Grade Level X Sibling Status	3	798.75	1.42	p>.05
Sex X Grade Level X Sibling Status	3	207.06	.37	p>.05
Error	70	561.43		

On the It Scale for Children, which measures sex role preference, there was one significant difference between groups. This finding was expected and simply showed males to score higher, that is, to have a greater preference for the male role, than females. The range of scores on this test was 0 to 84. The mean score for males was 71 while for females it was 44.

Table 3

The Effect of Sex, Grade Level, and Sibling Status on Bonding Behavior (Bonding Behavior Questionnaire).

Source	DF	M.S.	F	Probability
Total	85			
Sex	1	9.30	.06	p>.05
Grade Level	1	121.90	.80	p>.05
Sibling Status	3	350.88	2.30	p<.10
Sex X Grade Level	1	110.96	.73	p>.05
Sex X Sibling Status	3	146.13	.96	p>.05
Grade Level X Sibling Status	3	11.20	.07	p>.05
Sex X Grade Level X Sibling Status	3	2.41	.02	p>.05
Error	70	152.54		

There were no significant findings for the three-way analysis with the Bonding Behavior Questionnaire as the dependent variable (see Table 3) but there was a trend noted in the sibling status groups. Sibling status group 2 (a child with an older brother) had a slightly lower score on the Questionnaire than did other sibling groups. That is, children with older brothers bonded less with the same sex than did other sibling groups. This trend was neither expected nor highly significant.

Table 4

The Effect of Sex, Grade Level, and Sibling Status
on Bonding Behavior (Observation Checklist).

Source	DF	M.S.	F	Probability
Total	85			
Sex	1	3.73	.0	$p > .05$
Grade Level	1	325.93	.68	$p > .05$
Sibling Status	3	949.96	1.98	$p > .05$
Sex X Grade Level	1	111.46	.25	$p > .05$
Sex X Sibling Status	3	1072.84	2.24	$p < .10$
Grade Level X Sibling Status	3	1408.31	2.94	$p < .05$
Sex X Grade Level X Sibling Status	3	1303.29	2.72	$p < .10$
Error	70	479.58		

Table 5
Adjusted Means for Grade Level and Sibling
Status Groups on Observation Checklist.

		Sibling Status				Total Means
		1	2	3	4	
Grade Level	K	83.26	81.48	76.65	85.05	81.61
	4	103.92	74.71	111.08	71.85	90.39
Total Means		93.59	78.10	93.86	78.45	

There was one significant interaction effect between grade level and sibling status on the analysis with the Observation Checklist as the dependent variable (see Tables 4 and 5). The reason for this interaction is that the pattern for kindergarten children is not as would be expected from the total means. Kindergarten children with an older brother or sister scored higher than would be expected and kindergarten children with a younger sister or brother scored lower than would be expected.

The interaction between sex and sibling status for this same analysis approached significance ($p < .10$). As can be seen from the adjusted means shown in Table 6, the discrepancies in the expected pattern reside in the second and fourth sibling groups. For males, those with an older brother were observed to play more with the same sex and those with an older sister played more with the opposite sex. For

Table 6
Adjusted Means for Sex and Sibling
Status Groups on Observation Checklist.

		Sibling Status				Total Means
		1	2	3	4	
Sex	Males	95.86	94.88	97.80	53.85	85.60
	Females	91.32	61.32	89.93	103.05	86.40
Total Means		93.59	78.10	93.86	78.45	

females, those with an older brother were observed to play more with the opposite sex and those with an older sister played more with the same sex. This effect was more pronounced in children with an older sister than those with an older brother.

In the same analysis the interaction between sex, grade level, and sibling status also approached significance ($p < .10$). The adjusted means for this interaction are shown in Tables 7 and 8. This interaction followed the same pattern as those noted in the interactions between grade level and sibling status and between sex and sibling status. That is, kindergarten girls with an older brother played more with the same sex than did fourth grade girls. Also, kindergarten girls with an older brother played more with the same sex than did fourth grade girls. And kindergarten girls with a younger sister played less with same sex than did

fourth grade girls with a younger sister.

Table 7
Adjusted Means for Grade Level and Sibling
Status for Females on Observation Checklist.

		Sibling Status				Total Means
		1	2	3	4	
Grade Level	K	83.55	80.21	82.71	86.88	83.34
	4	108.16	109.55	112.88	20.83	87.85
Total Means		95.86	94.88	97.80	53.85	

Table 8
Adjusted Means for Grade Level and Sibling
Status for Males on Observation Checklist.

		Sibling Status				Total Means
		1	2	3	4	
Grade Level	K	82.97	82.75	70.58	83.21	79.88
	4	99.68	39.88	109.28	122.88	92.93
Total Means		91.32	61.32	89.93	103.05	

As can be seen in Table 9, there were no significant findings for the Teacher Rating.

To determine if children responded differently to a

Table 9
 The Effect of Sex, Grade Level, and Sibling
 Status on Bonding Behavior (Teacher Rating).

Source	DF	M.S.	F	Probability
Total	85			
Sex	1	.46	.08	p>.05
Grade Level	1	2.32	.42	p>.05
Sibling Status	3	6.04	1.09	p>.05
Sex X Grade Level	1	1.18	.21	p>.05
Sex X Sibling Status	3	1.72	.31	p>.05
Grade Level X Sibling Status	3	4.65	.84	p>.05
Sex X Grade Level X Sibling Status	3	2.12	.38	p>.05
Error	70	5.53		

male versus a female experimenter t tests were computed for the It Scale for Children and the Bonding Behavior Questionnaire, the two tests which were orally administered. Differences between means for tests administered by a male or a female experimenter were not significant.

Correlation coefficients computed between the It Scale for Children and the measures of bonding behavior were very low, in the 0 range. None of the three measures of bonding behavior (Observation Checklist, Bonding Behavior Questionnaire, and Teacher Rating) correlated with the It Scale, which measures sex role preference.

A multiple correlation coefficient was computed with the Observation Checklist as the criterion variable and the Bonding Behavior Questionnaire and Teacher Rating as predictors. A multiple correlation coefficient of .45 was obtained. Since the correlation between the Observation Checklist and Teacher Rating is .44 the addition of the Bonding Behavior Questionnaire essentially had no effect. A beta coefficient (weighting) of .08 was assigned to the Bonding Behavior Questionnaire. The beta coefficient for the Teacher Rating was .39.

Spearman's Coefficient of Rank Correlation was employed to compute correlations between rank scores. Results are reported in Table 10.

Table 10

Correlation Coefficients for Ranked Variables.

Socioeconomic Status and Observation Checklist	.09
Socioeconomic Status and It Scale for Children (males)	-.05
Socioeconomic Status and It Scale for Children (females)	-.04
Teacher Rating and Teacher Ranking	.63
Teacher Ranking and Observation Checklist	.30

Although not a major part of the study, the investigator thought it might be productive to also collect data on socio-

economic status. There was no correlation between socioeconomic status and sex role preference as measured by the It Scale or between socioeconomic status and bonding behavior as ascertained by observation. The Teacher Ranking did not correlate with the Observation Checklist but there was some correlation between it and the Teacher Rating.

CHAPTER V

Discussion

This study examined the effects of siblings on sex role preference and made a preliminary examination of bonding behavior as it relates to sex role development. Subjects were forty-six kindergarten and thirty fourth grade boys and girls from two-child families. Subjects were administered a measure of sex role preference and a Bonding Behavior Questionnaire in addition to being observed on bonding behavior. Teachers filled out a Teacher Rating for subjects and ranked them relative to bonding behavior.

Evaluation of Findings

The first analysis showed, as had been expected, that males at both grade levels had a greater preference for the male role than did females for the male role. The scores ranged from 0 to 84, a high score indicating a preference for the male role and a low score indicating a preference for the female role. It is interesting to note that for both grade levels, males had a greater preference for the male role than did females for the female role. The mean for females was 44, which indicated a mixed preference. This finding is in line with the results of several other studies (Brown, 1956; Hartup and Zook, 1960; Hall and Keith, 1964; Ward, 1968; and Ward, 1973). The explanation deemed most reasonable by the

investigator is that the male role is more attractive to young children, perhaps because boys' games are more "fun" or because the role allows for greater freedom and diversity of interests and activities. However, another explanation might posit that it is more socially acceptable for young girls to show "tomboyish" interests than it is for males to act like "sissies." Boys thus adhere more closely to the prescribed role whereas girls are not pressured as much to fit a rigidly defined sex role during the elementary years. It must also be noted that some researchers have criticized the It Scale because of a possible tendency for the "It" figure to be viewed as a male (Hartup and Zook, 1960; Brown, 1962; and Lansky and McKay, 1963). This could have influenced girls' choices in the direction of masculine preferences but it is the opinion of this researcher that this does not invalidate the finding that males prefer the masculine role more than females prefer the feminine role as this has been ascertained by other research techniques (DeLucia, 1963; Ward, 1968; Nadelman, 1974; and Nash, 1975).

The major finding of this study was the significant interaction effect that was noted between grade level and sibling status in the analysis with the Observation Checklist as the dependent variable. That is, kindergarten children with an older brother or sister scored significantly higher on bonding behavior than fourth grade children with older siblings. Also, kindergarten children with a younger

brother or sister scored significantly lower than fourth grade children with younger siblings. In effect then, kindergarteners with an older sibling played more with same sex children while kindergarteners with a younger sibling played less with same sex children. This finding indicated that older siblings do influence younger sibling's choice of playmates, at least at the kindergarten level. This is a novel finding in research studies on sibling effects and peer choice. It may be the case that these children have learned by watching their older siblings that boys play with boys and girls play with girls. This result supports the finding of a related study which tested children's ability to make sex-typed discriminations (Schell and Silbur, 1968). These researchers found that children with an opposite-sex sibling, as compared to children without siblings, were better able to make sex-typed discriminations. It is concluded that having a sibling of the opposite sex may be a major factor in learning sex-typed discriminations.

In this same analysis, it is noteworthy that older sibs had a greater impact on kindergarten than fourth grade children. The fact that that this effect diminished by fourth grade suggests that older siblings do not have as much effect on playmate choice in the later years or that other variables have more influence. Kindergarteners with a younger sibling were observed to play less with same sex children than would have been expected. It might be posited

that these children were less influenced by their siblings since the sibs were younger (ages ranged from one to five) and could not as yet have had much impact upon their older sibs.

The interaction between sex and sibling status in the same analysis approached significance and lends further support to the notion that older siblings affect playmate choice. That is, children with older same sex sibs were observed to play more with same sex children whereas children with older, opposite sex siblings played more with opposite sex children. This effect was more pronounced for children with an older sister, suggesting that she might have more impact on younger sibs than does an older brother. This interaction was not highly significant, however.

Similarly, the interaction between sex, grade level, and sibling status in this analysis approached significance and showed, again, that kindergarteners did not follow the expected pattern. Specifically, kindergarten boys with an older sister played more with same sex children than did fourth grade boys with an older sister. Kindergarten girls with an older brother played more with other girls than did fourth grade girls with an older brother. This trend, which is not highly significant, seems to indicate that some kindergarten children with an older opposite sex sibling may react negatively to this sibling's influence on their playmate choice by bonding tightly with other same sex children.

This trend may be explainable in terms of Rosenberg and Sutton-Smith's finding (1964) that a boy with two female siblings shows heightened masculinity and conflict-induced anxiety. That is, a male with an older sister may react to her influence on his sex role by emphasizing his masculine role preference and avoiding contact with female playmates. Another trend in this interaction showed kindergarten girls with a younger sister to play less with other girls than fourth grade girls with a younger sister. This would lead one to think that younger sisters do influence older sister's playmate choices, but not until the later elementary years. None of the interactions here reported were highly significant, however.

The findings just discussed were obtained for the Observation Checklist. No significant findings were obtained for the other measures of bonding behavior (Bonding Behavior Questionnaire or Teacher Rating). Since the correlations between these measures and the Observation Checklist were low, these measures are viewed as insufficient indices of bonding behavior. (It is possible that the Bonding Behavior Questionnaire is measuring some aspect of bonding behavior, but nevertheless, children's verbal reports on it did not correspond with their observed patterns of playmate choice.) The multiple correlation that was computed with the Observation Checklist as the criterion variable and the Bonding Behavior Questionnaire and Teacher Rating as predictors did not yield a high multiple correlation coefficient, probably

because none of the initial correlations were high.

Since no significant correlations were obtained between the It Scale and the measures of bonding behavior it may safely be concluded that bonding behavior is not simply an artifact of sex role preference but is an entity in and of itself. This finding is of significance in that it opens up another research area in the study of children's sex role development. If bonding behavior is not a reflection of a child's sex role preference it would be interesting to determine its role in the developmental process (see Recommendations for Further Research).

Some studies have found sex role preference to be related to socioeconomic status, with children of the lower classes adopting the appropriate sex role at a younger age and adhering to this role more rigidly than middle or upper class children (Rabban, 1950 and Hall and Keith, 1964). This study found no relationship between either sex role preference or bonding behavior and socioeconomic status. Given a sample drawn from a community of greater socioeconomic heterogeneity, however, differences might be found.

Some of the studies that do relate to bonding behavior have found that boys choose more same sex playmates than girls (Chapman, 1933; Koch, 1957; McCandless and Hoyt, 1961; and Travis, 1974) although one study found the opposite to be true (Parten, 1932). In this study, no significant differences were found. Boys played with boys as much as girls

played with girls. This phenomenon may be associated with this particular sample, however, which represents the relatively small community of Logan, Utah.

Several studies have found children's toy and activity choices to become more sex-appropriate with age (DeLucia, 1963; Hartup and Moore, 1963; Hartup and Zook, 1960; Ward, 1968; and Nadelman, 1974). This study found no significant differences between age groups on either sex role preference or bonding behavior. Once again, this may have been due to the relative homogeneity of this particular sample.

Part of the definition for bonding behavior related to a tendency to exclude opposite sex children. During children's free play very little excluding behavior was noted, however. Excluding responses were so few as to make a statistical analysis unfeasible. It is probable that this behavior is discouraged by teachers and other adults and that by the middle or end of the school year (when this study was conducted) children had already settled into playmate groups. It can be mentioned, however, that when exclusion responses were observed they were almost always emitted by fourth grade boys (in unisex groups) and were directed at fourth grade girls. Indirect support of this tendency is provided by Chapman's study (1933). In this analysis of playmate styles it was found that the tendency to associate with like-sex children increases with age for boys but not for girls.

This study did not find any differences in children's responses to a male versus a female experimenter. Since the

results of other studies examining this variable have been inconclusive no definitive statement can be made about sex of experimenter effects in studies examining sex role preference.

Limitations

One variable that no doubt should be considered in studies examining sibling configuration is the spacing between siblings. It is probably safe to say that if siblings do influence each other's sex role development the influence is greater when the siblings are fairly close and less when they are further apart, simply because there is less contact if great age differences exist. This study did require that subjects have siblings four years or less apart in age so the subjects were fairly homogeneous with respect to their proximity in age to their siblings. This study did not, however, examine any age difference break-downs for these subjects.

This study is also limited in that it only studies children with one other sibling. Obviously, there are numerous other sibling configurations that can be examined. The findings obtained here may be specific to two-child families and may not hold for larger sibling groups.

This study neither controls for nor makes a systematic study of parental influence. It is thus limited in that no statement can be made as to the differences in impact between parental and sibling variables. Examination of any possible

interaction between these variables is also excluded.

One of the limitations of this study was that children were observed only in the school setting and only for one hour. No doubt, a more accurate appraisal of children's playmate choices could have been made had children also been observed during after school hours and for a longer period of time. It is probable that the school setting imposes some restrictions on playmate choices since children must go to recess at a certain time with a specific group and are limited in the activities which they can engage in.

The other measures of bonding behavior did not correlate highly with the Observation Checklist. Since these measures (Bonding Behavior Questionnaire and Teacher Rating) did not yield any meaningful index of bonding behavior this portion of the study is limited in that it only utilized one measure, the Observation Checklist, in examining the concept bonding behavior.

Any conclusions drawn from this study must take into account the population from which this sample was taken. Logan, Utah must be characterized as a somewhat atypical community in that it is relatively small, close-knit, and predominantly LDS in religious orientation.

Recommendations for Further Research

It is recommended that the concept bonding be further researched and that variables such as differences between the sexes, differences in age groups, the effect of one's

sibling configuration, the effect of sex role preference, and the effect of socioeconomic status again be taken into consideration with a more heterogeneous sample. In addition, the effect of parental identification and parental standards and the effect of the child's popularity might be examined. A child's playmate choices certainly are influenced by a number of variables and these choices do, in turn, have some effect upon the child. The effects of peers on the socialization of young children is an area that has not received much attention and yet there can be no doubt that peers play an important role in the socialization process.

It is interesting to note that children's verbal reports on the Bonding Behavior Questionnaire did not correspond with their observed behavior. The correlation coefficient between the Questionnaire and the Observation Checklist was .31. This discrepancy suggests another possible research area: Why children's reports on the sex of children with whom they play does not correspond with their actual behavior.

It is recommended that the effects of siblings upon each other be further researched. But it must be recognized that this is a complex variable since sibling patterns can take so many different configurations and be influenced by the various individuals making them up. Any meaningful study of sibling effects would need to consider as many of these variables as possible and should utilize a fairly large sample.

None of the correlations between the criterion measure

of bonding behavior (Observation Checklist) and other measures (Bonding Behavior Questionnaire, Teacher Rating, or Teacher Ranking) were high. These other instruments are thus not deemed to be adequate measures of bonding behavior. If they were to be refined, an extension in the number of items employed in the Bonding Behavior Questionnaire and Teacher Rating would be recommended. Also, it would be necessary to collect reliability and validity data using a large sample of children. It would be most appropriate to have these tests normed on various age groups, as it is most likely that actual differences do exist between age groups in regards to bonding behavior. Also, different norms should be collected for males and females.

Summary

This chapter has evaluated the research findings, outlined the limitations of this study, and made recommendations for further research. In general, support has been gained for the notion that siblings have some impact upon children's playmate choices. Bonding behavior has been found to be a concept separate from sex role preference. It is recommended that bonding behavior be further researched on a more heterogeneous sample.

Literature Cited

- Adler, A. Characteristics of the first, second, and third child. Children, 1928, 3, 14, 52.
- Bieber, I., Dain, H.J., Dince, P.R., Drellich, M.G., Grand, H.G., Gundlach, R.H., Kremer, M.W., Rifkin, A. H., Wilbur, C.B., and Bieber, T.B. Homosexuality. New York:Basic Books, 1962.
- Bigner, J.J. Sibling influence on sex-role preference of young children. Journal of Genetic Psychology, 1972, 121, 271-282.
- Biller, H.B. The mother-child relationship and the father absent boy's personality development. Merrill-Palmer Quarterly, 1971, 17, 227-241.
- Brim, O.G., Jr. Family structure and sex role learning by children: A further analysis of Helen Koch's data. Sociometry, 1958, 21, 1-16.
- Brown, D.G. Masculinity-femininity development in children. Journal of Consulting Psychology, 1957, 21, 197-202.
- Brown, D.G. Sex-role preference in children:Methodological problems. Psychological Reports, 1962, 11, 477-478.
- Brown, D.G. Sex-role preference in young children. Psychological Monographs, 1956, 70, Whole No. 421.
- Challman, R.C. Factors influencing friendships among pre-school children. Child Development, 1932, 3, 146-158.
- Chevaleva-Janovskaja, E. Les groupements spontanés d'enfants à l'âge préscolaires. Archives de Psychologie, 1927, 20, 219-233.
- Cohen, D.B. Sex role orientation and dream recall. Journal of Abnormal Psychology, 1973, 82, 246-252.
- DeLucia, L. The toy preference test: A measure of sex-role identification. Child Development, 1963, 34, 107-117.
- Dignan, Sister M.H. Ego identity and maternal identification. Journal of Personality and Social Psychology, 1965, 1, 476-483.
- Etaugh, C., Collins, G., and Gerson, A. Reinforcement of sex-

- typed behaviors of two-year-old children in a nursery school setting. Developmental Psychology, 1975, 11, 255.
- Fagot, B.I., and Littman, I. Stability of sex role and play interests from preschool to elementary school. Journal of Psychology, 1975, 89, 285-292.
- Fagot, B.I., and Patterson, G.R. An in vivo analysis of reinforcing contingencies for sex-role behaviors in the preschool child. Developmental Psychology, 1969, 1, 563-568.
- Fauls, L.B., and Smith, W.D. Sex-role learning of five-year-olds. Journal of Genetic Psychology, 1956, 89, 105-119.
- Fling, S., and Manosevitz, M. Sex typing in nursery school children's play interests. Developmental Psychology, 1972, 7, 146-152.
- Goldberg, S., and Lewis, M. Play behavior in the year-old infant: Early sex differences. Child Development, 1969, 40, 21-31.
- Gottfried, N.W., and Seay, B. Early social behavior: Age and sex baseline data from a hidden population. Journal of Genetic Psychology, 1974, 125, 61-69.
- Hagman, E.P. The companionship of preschool children. University of Iowa Studies: Studies of Child Welfare, 1933, 17, 69.
- Hall, M., and Keith, R.A. Sex-role preference among children of upper and lower social class. Journal of Social Psychology, 1964, 62, 101-110.
- Harper, L.V., and Sanders, K.M. Preschool children's use of space: Sex differences in outdoor play. Developmental Psychology, 1975, 11, 119.
- Hartley, R., and Hardesty, F.P. Children's perceptions of sex roles in childhood. Journal of Genetic Psychology, 1964, 105, 43-51.
- Hartup, W.W., and Moore, S.G. Avoidance of inappropriate sex-typing by young children. Journal of Consulting Psychology, 1969, 27, 467-473.
- Hartup, W.W., and Zook, E.A. Sex role preference in three- and four-year-old children. Journal of Consulting Psychology, 1960, 24, 420-426.

- Heilbrun, A.B., Jr. An empirical test of the modeling theory of sex-role learning. Child Development, 1965, 36, 789-799.
- Heilbrun, A.B., Jr., and Fromme, D.K. Parental identification of late adolescents and level of adjustment: The importance of parent-model attributes, ordinal position, and sex of the child. Journal of Genetic Psychology, 1965, 107, 49-59.
- Iwanaga, M. Development of interpersonal play structure in three, four, and five year-old children. Journal of Research and Development in Education, 1973, 6, 71-82.
- Johnson, M.M. Sex role learning in the nuclear family. Child Development, 1963, 34, 319-333.
- Kagan, J. Acquisition and significance of sex typing and sex role identity. In M.L. Hoffman and L.W. Hoffman (Eds.), Review of Child Development Research v.I. New York: Russell Sage Foundation, 1964, 137-168.
- Koch, H.L. Attitudes of young children toward their peers as related to certain characteristics of their siblings. Psychological Monographs, 1956, 70, Whole no. 426. (a)
- Koch, H.L. The relation in young children between characteristics of their playmates and certain attributes of their siblings. Child Developmental, 1957, 28, 175-202.
- Koch, H.L. The relation of certain family constellation characteristics and the attitudes of children toward adults. Child Development, 1955, 26, 13-40. (a)
- Koch, H.L. The relation of "primary mental abilities in five- and six-year-olds to sex of child and characteristics of his sibling. Child Development, 1954, 25, 209-223.
- Koch, H.L. Some emotional attitudes of the young child in relation to characteristics of his sibling. Child Development, 1956, 27, 393-427. (b)
- Koch, H.L. Some personality correlates of sex, sibling position, and sex of sibling among five- and six-year-old children. Genetic Psychological Monographs, 1955, 52, 3-50. (b)
- Koch, H.L. Sissiness and tomboyishness in relation to sib-

- ling characteristics. Journal of Genetic Psychology, 1956, 88, 231-244.(c)
- Lansky, L.M., and McKay, B. Sex-role preference of kindergarten boys and girls: Some contradictory results. Psychological Reports, 1963, 13, 415-421.
- Liebert, R.M., McCall, R.B., and Hanratty, M.A. Effects of sex-typed information on children's toy preferences. Journal of Genetic Psychology, 1971, 119, 133-136.
- Laosa, L.M., and Brophy, J.E. Effects of sex and birth order on sex-role development and intelligence among kindergarten children. Developmental Psychology, 1972, 6, 409-415.
- Laosa, L., and Brophy, J.E. Sex by birth order interactions in measures of sex typing and affiliation in kindergarten-age children. Proceedings of the 78th Annual Convention of the American Psychological Association, 1970, 5, 363-364.
- Lazowick, L.M. On the nature of identification. Journal of Abnormal and Social Psychology, 1955, 51, 175-185.
- Lynn, D.B. The process of learning parental and sex-role identification. Journal of Marriage and the Family, 1966, 28, 466-470.
- McCandless, B.R. It Scale for Children. In O.K. Buros (Ed.), The Sixth Mental Measurements Yearbook. Highland Park, N.J.: 1965. Pp. 270-271.
- McCandless, B.R., and Hoyt, J.M. Sex, ethnicity, and play preferences of preschool children. Journal of Abnormal and Social Psychology, 1961, 62, 683-685.
- Minuchin, P. Sex-role concepts and sex-typing in childhood as a function of school and home environments. Child Development, 1965, 36, 1033-1048.
- Montemayor, R. Children's performance in a game and their attraction to it as a function of sex-typed labels. Child Development, 1974, 45, 152-156.
- Mowrer, D.H. Learning Theory and Personality Dynamics. New York: Ronald Press, 1950.
- Nadelman, L. Sex identity in American children: Memory, knowledge, and preference tests. Developmental Psychology, 1974, 10, 413-417.

- Nash, S.C. The relationship among sex-role stereotyping, sex-role preference, and the sex difference in spatial visualization. Sex Roles, 1975, 1, 15-32.
- Parten, M.B. Social participation among preschool children. Journal of Abnormal and Social Psychology, 1932, 27, 243-269.
- Rabban, M. Sex-role identification in young children in two diverse social groups. Genetic Psychological Monographs, 1950, 42, 81-158.
- Reiss, A.J., Jr. Occupation and Social Status. New York: Free Press, 1961.
- Reiter, S.R. Identification and the nature of affective relationships with the parent as measured by recall of outstanding childgood experiences: A correlation study. Journal of Intercollegiate Psychological Association, 1950, 1, 129-138.
- Rosenberg, B.G., and Sutton-Smith, B. A revised conception of masculine-feminine differences in play activities. Journal of Genetic Psychology, 1960, 96, 165-170.
- Rosenberg, B.G., and Sutton-Smith, B. Family interaction effects on masculinity-femininity. Journal of Personality and Social Psychology, 1968, 8, 117-120.
- Rosenberg, B.G., and Sutton-Smith, B. Ordinal position and sex-role identification. Genetic Psychological Monographs, 1964, 70, 297-328.
- Santrock, J.W. Paternal absence, sex typing, and identification. Developmental Psychology, 1970, 2, 264-272.
- Schell, R.E., and Silber, J.W. Sex-role discrimination among young children. Perceptual and Motor Skills, 1968, 27, 379-389.
- Sopchak, A.L. Parental "identification" and "tendency toward disorders" as measured by the Minnesota Multiphasic Personality Inventory. Journal of Abnormal and Social Psychology, 1952, 47, 159-165.
- Stein, A.H., and Smithells, J. Age and sex differences in children's sex-role standards about achievement. Developmental Psychology, 1969, 1, 252-259.
- Sutton-Smith, B., Roberts, J.M., and Rosenberg, B.G. Sibling association and role development. Merrill-Palmer Quarterly, 1964, 10, 25-38.

- Sutton-Smith, B., and Rosenberg, B.G. Development of sex differences in play choices during preadolescence. Child Development, 1963, 34, 119-126.
- Sutton-Smith, B., and Rosenberg, B.G. The Sibling. New York: Holt, Rinehart and Winston, Inc., 1970.
- Travis, C. An ethological study of an open classroom. Education, 1974, 94, 282-286.
- Vener, A.M., and Snyder, C.A. The preschool child's awareness and anticipation of adult sex-roles. Sociometry, 1966, 29, 159-168.
- Ward, W.D. Patterns of culturally defined sex-role preference and parental imitation. Journal of Genetic Psychology, 1973, 122, 337-343.
- Ward, W.D. Variance of sex-role preference among boys and girls. Psychological Reports, 1968, 23, 467-470.

Appendixes

Appendix A

Observation Checklist

Observation Checklist

Child's Name _____ Sex _____ Grade _____

Talking or playing with:

Same sex (one child, group,
mostly same sex group) _____ 2 _____Opposite sex (one child, group,
mostly opposite sex group) _____ 0 _____

Mixed group, equal number _____ 1 _____

Teacher or other adult _____ 1 _____

Solitary play _____ 3 _____

Excluding:

Same sex (one child, group,
mostly same sex group) _____ 0 _____Opposite sex (one child, group,
mostly opposite sex group) _____ 2 _____

Mixed group, equal number _____ 1 _____

Total time _____

Total Score _____

Appendix B

Bonding Behavior Questionnaire

Bonding Behavior Questionnaire

Items 1 through 12:

If you were going to _____ what three kids would you want most to be with? What three kids would you not want to be with?

1. fly a kite
2. play tic tac toe
3. play pin the tail on the donkey
4. go bicycle riding
5. play cops and robbers
6. play London Bridge
7. build model airplanes
8. play hop skotch
9. build forts
10. play jump rope
11. play bows and arrows
12. play dolls
13. If you could arrange the desks in class the way you wanted what three kids would sit right around you? Who would you make sure was far away (three)?
14. Who are your three best friends?

Scoring: 1 point for each same sex child included, 1 point for each opposite sex child excluded.

Appendix CTeacher Rating

Teacher Rating

Child's Name _____ Sex _____ Grade _____

Teacher rating this child _____

- ___ 1. Is the student more likely to talk or play with a same sex or opposite sex child?
 A) same sex (2)
 B) opposite sex (0)
 C) equally with both sexes (1)
- ___ 2. Is the student more likely to talk or play with a group of same sex or opposite sex children?
 A) same sex (2)
 B) opposite sex (0)
 C) equally with both sexes (1)
- ___ 3. Is the student more likely to talk or play with a mixed group which is mostly same sex, opposite sex, or equally mixed?
 A) mostly same sex (2)
 B) mostly opposite sex (0)
 C) equally mixed (1)
- ___ 4. Is the student's free play time spent mostly with one or more other children, with a teacher or other adult, or alone?
 A) with one or more children (1)
 B) with a teacher or other adult (1)
 C) alone (S)
- ___ 5. Is the student more likely to exclude one same sex or one opposite sex child?
 A) same sex (0)
 B) opposite sex (2)
 C) equally for both sexes (1)
- ___ 6. Is the student more likely to exclude a group of same sex or opposite sex children?
 A) same sex (0)
 B) opposite sex (2)
 C) equally for both sexes (1)
- ___ 7. Is the student more likely to exclude a mixed group which is mostly same sex, mostly opposite sex, or equally mixed?
 A) mostly same sex (0)
 B) mostly opposite sex (2)
 C) equally mixed (1)

 Total Score _____ S _____

Appendix D

Teacher Ranking

Teacher Ranking

Dear _____

Would you please read this sheet carefully and then perform the rating requested for those students identified as suitable for the study. Your cooperation is certainly much appreciated.

One of the variables considered in this research project looks at children's choice of playmates. Since teachers spend so much time with children we thought they would be valuable sources of information. We would like you to rate the following children on a variable named "bonding behavior." Bonding behavior refers to the tendency for a child to include same sex children in his playmate circle and to exclude opposite sex children. Give a rating of "1" to the child who most includes same sex playmates and most excludes opposite sex playmates. Give the lowest rating to the child who least includes same sex children and least excludes opposite sex children. Thank you!

School _____ Grade _____

Children identified as suitable for this study:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Teacher ranking of these children:

1. _____	7. _____
2. _____	8. _____
3. _____	9. _____
4. _____	10. _____
5. _____	11. _____
6. _____	12. _____

Appendix E
Letter to Parents

Letter to Parents

Dear Parent,

This letter is to request your cooperation in a research project presently being carried out in the Logan City elementary schools. This study requires that the toy and play preferences of kindergarten and fourth grade students be examined. One important part of the research looks at ways in which siblings influence each other. For this reason it is important for the investigators to know how many children are in the family and what their ages are.

We would like to request that you permit your child to participate in this study. This would entail removing the student from the classroom for not more than thirty minutes and administering two brief and easy tests of play activities. Each child would also be observed during his free play periods. We would like you to know that you are free to withdraw your consent and discontinue participation at any time. All information will, of course, be considered confidential and children will be identified by a code number when the data is analyzed.

Should you have any specific questions concerning this project please feel free to contact Mary Kay Biaggio at 753-2709 or Dr. Michael Bertoch at 752-4100, extension 7254.

Please sign this form and return it with your child tomorrow.

Thank You!

_____ I approve of my child's participation in this project

_____ I disapprove of my child's participation in this project

Signature of one Parent

Phone Number

If you approve please provide the following information:

Total number of children in family _____

Name of each child	Sex of Child	Age of child	Grade Level
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Vita

Mary Kay Biaggio

Candidate for the Degree of

Doctor of Philosophy

Dissertation: Sex Role Preference, Sibling Status, and Bonding Behavior in Children

Major Field: Combined Professional-Scientific Psychology

Biographical Data:

Personal: Born in Chicago, Illinois, November 4, 1950, daughter of William C. and Phyllis W. Biaggio.

Education: Graduated from Marquette Senior High School in Marquette, Michigan, in 1969; received Bachelor of Science Degree from Northern Michigan University with a major in psychology in 1973; received Master of Science Degree from Utah State University with a major in counseling psychology in 1975.

Professional Experiences: 1972-1973, counselor, Brookridge, home for emotionally disturbed children, Marquette, Michigan; 1974, vocational counselor, Logan Board of Education, Logan, Utah; 1974, instructor, personal assessment seminar, Utah State University, Logan, Utah; 1974-1976, counselor, Hillside, private home for emotionally disturbed adolescents, Logan, Utah; 1974-1975, Career education coordinator, Utah State Board of Education, Ogden, Utah; 1975-1976, Staff associate, Exceptional Child Center, Logan, Utah.