The Preschool Child's Awareness of Body Structure in Sexual Differences

Genan Taylor Anderson

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

Part of the Family, Life Course, and Society Commons

Recommended Citation
THE PRESCHOOL CHILD'S AWARENESS OF BODY STRUCTURE IN SEXUAL DIFFERENCES

by

Genan Taylor Anderson

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

MASTER OF SCIENCE

in

Child Development

Approved:

Major Professor

Committee Member

Committee Member

Dean of Graduate Studies

UTAH STATE UNIVERSITY
Logan, Utah
1969
ACKNOWLEDGEMENT

I wish to express sincere appreciation to Dr. Don C. Carter for the many patient hours he spent helping me with the planning, organization, and writing of this thesis. It is a direct result of his encouragement and suggestions.

My thanks, too, go to my four student teachers for their cooperation and assistance in making the collection of data possible.

To my husband I express my deepest gratitude for his encouragement and support which helped make this dream a reality.

Genan Taylor Anderson
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the problem</td>
<td>2</td>
</tr>
<tr>
<td>REVIEW OF LITERATURE</td>
<td>4</td>
</tr>
<tr>
<td>The young child's concept of male and female</td>
<td>4</td>
</tr>
<tr>
<td>Sex-role preference in the young child</td>
<td>8</td>
</tr>
<tr>
<td>Sex-role identification</td>
<td>19</td>
</tr>
<tr>
<td>METHODS AND PROCEDURES</td>
<td>32</td>
</tr>
<tr>
<td>Setting</td>
<td>32</td>
</tr>
<tr>
<td>Sample</td>
<td>35</td>
</tr>
<tr>
<td>Instruments</td>
<td>38</td>
</tr>
<tr>
<td>Pilot study</td>
<td>39</td>
</tr>
<tr>
<td>Main study</td>
<td>45</td>
</tr>
<tr>
<td>FINDINGS</td>
<td>56</td>
</tr>
<tr>
<td>DISCUSSION OF FINDINGS</td>
<td>68</td>
</tr>
<tr>
<td>SUMMARY AND CONCLUSIONS</td>
<td>73</td>
</tr>
<tr>
<td>Summary</td>
<td>73</td>
</tr>
<tr>
<td>Conclusions</td>
<td>75</td>
</tr>
<tr>
<td>Recommendations for future studies</td>
<td>75</td>
</tr>
<tr>
<td>LITERATURE CITED</td>
<td>77</td>
</tr>
<tr>
<td>VITA</td>
<td>80</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Relationship between the proportional numbers of each age group who expressed a recognition of the genital difference between the dolls</td>
<td>63</td>
</tr>
<tr>
<td>2.</td>
<td>Effect of opposite-sex siblings in the subjects' family on recognition of the genital differences of the dolls</td>
<td>65</td>
</tr>
</tbody>
</table>
ABSTRACT

The Preschool Child's Awareness of Body Structure in Sexual Differences

by

Genan Taylor Anderson, Master of Science

Utah State University, 1969

Major Professor: Dr. Don C. Carter
Department: Child Development

The purpose was to discover whether the preschool child who has toileted with boys and girls in an open situation for at least four weeks would recognize the genital differences between a male and a female doll and use this knowledge to select the type of clothes appropriate for these dolls. Hypotheses were: (1) The preschool child who has toileted in an open situation with both sexes for at least four weeks can identify male and female dolls on the basis of genital structure. (2) The preschool child can select appropriate clothes for male and female dolls on the basis of genital structure as the dominant cue as to sexuality. Twenty children ages three to five were selected because they had toileted in an open situation for at least four weeks with boys and girls, because they attended the same classroom, and were familiar with the experimenter. Preceding the actual collection of data a pilot study was conducted on a similar but separate classroom of children to test the proposed research design. The subjects were informed, as a group, of the general content and procedure of the experimental situation to follow. The subjects went first behind the screen with the experimenter to arrange six blocks in any design they
wished. They went again behind the screen in the doll house where they sat facing the genitals of a male and a female doll. After powdering the dolls' genitals, they selected clothes for them from two sets of male slacks and two dresses. The subject was then asked the reason for his choice. Four of the 20 subjects, two boys and two girls, were able to identify the sex of the dolls on the basis of genital structure. All four were from homes with opposite-sex siblings. Three of the four expressing a recognition were four years old. Conclusions:

(1) Preschool children appear generally to be unable to identify sexuality on the basis of genital structure. (2) Age is a significant factor influencing the child's discrimination of sexual differences. (3) The opportunity for observation and discovery of differences between the sexes through the presence of opposite-sex siblings in the home appears to be influential on the child's development of sexual awareness.

(86 pages)
INTRODUCTION

From the time a child is born we assign to it a pattern of behavior appropriate to masculinity or femininity, and we refer to the child by sex so that it may grow into awareness and know its own sex. We categorize the world into two sexes and gradually as the child develops he learns to distinguish for himself the sex of his playmates and of the adults around him. He is even able to tell fairly accurately the sex of strangers. Although this general knowledge of a young child's ability to distinguish between the sexes is common, very few researchers have explored the question of how the child makes his categorization. Simply because a child can correctly label a boy and girl, man and woman, may not mean that he understands the basic anatomical differences between the sexes. Most researchers feel that the child relies on clues such as dress, hair style, names, etc., rather than actually understanding the biological differences between the sexes. These "outside" cues are clearly more obvious and visible. For this reason they are heavily relied upon in identifying the sexes. Even adults rely heavily on these cues. However, adults realize that these features of appearance are not the determining factors in making a boy a boy, and a girl a girl. Is it possible that young children, too, are aware of the significance of the more basic anatomical differences between the sexes?

Children ask questions about their anatomy and about the anatomy of their parents, siblings, and peers. Those children who have
toileted in an open situation with both sexes have frequently had
the opportunity of observing the differences between their own
anatomy and the anatomy of a child of the opposite sex. They have
had the opportunity of viewing others of their same sex as well.
With this knowledge, shouldn't they be aware of the differences in
anatomy between the two sexes?

Statement of the Problem

The preschool child is able to categorize people into the two
sexes of males and females, or boys and girls. On what basis the
child makes this distinction is not clearly understood. None of the
researchers who have investigated this aspect of behavior have
attributed to the preschool child an understanding of the basic
genital differences, even in experimental situations where the
children dress and toilet together, which provides them with numerous
opportunities to observe these differences. Most studies have been
based on observations of the actions and verbalizations of children.
The most widely accepted theory, at present, is that hair and
clothing style clues are the major criteria upon which the preschool
child assigns a label of boy or girl to a person. However, the
possibility remains that the child understands and is able to use
the basic genital differences between the sexes in making his
categorization, although he more observably uses the more accessible
outside cues of hair and clothing styles.

The purpose of this study was to discover whether the preschool
child who has toileted with boys and girls in an open situation for
at least four weeks would recognize the genital differences between a
male and a female doll and use this knowledge to select the type of clothes appropriate for these dolls.

The following hypotheses are made in this study:

1. The preschool child who has toileted in an open situation with both sexes for at least four weeks can identify male and female dolls on the basis of genital structure.

2. The preschool child can select appropriate clothes for male and female dolls on the basis of genital structure as the dominant cue as to sexuality.
REVIEW OF LITERATURE

The Young Child's Concept of Male and Female

The question of the preschool child's awareness of genital cues and their ability to employ them in discriminating between the sexes has been investigated by several authors. Hattendorf (1932) collected questions of preschool children as reported by their mothers in a Minneapolis, Minn., school district. These questions were gathered by the mothers over a 17-month period and then reported to the researcher. Based on the questions received, the author concluded that the major interest of children two to five years old was the origin of babies, with physical sex differences second, and organs and their functions third. Of all the reported questions asked about physical sex differences of the 1109 children ages 2 to 13, 61.4 per cent of them were asked by children of this age group (Hattendorf, 1932).

In a later study by Kreitler and Kreitler a survey was made of 185 children from the age of 4 to 5½ in the Israeli kindergartens. These researchers used the questionnaire and oral interview method. The purpose of the study was to discover the extent of information and the views of children about sexual differences and the creation of babies. The questionnaire was given orally to the children who were tested individually. Complete freedom was given to the children in answering and explaining and digressing to related information. However, all questions were asked in their designated order even
though the child may have given the answer to the question in connection with a previous question.

They concluded that boys were better informed about the location and function of their sexual organs than girls. They also found that the Western children were well informed about sex organs of the other sex, the majority of whom were able to give exact information. This included 77 per cent of the boys and 80 per cent of the girls. The study sampled primarily Jewish children who, although their parents were of different nationalities, were born in Israel.

These findings are significant for this ethnic group and cause us to wonder if other children of our Western culture might also be this well informed. However, due to the necessity that the children feel free to discuss and express their knowledge about sexual differences, not all of the knowledge of some children may have been revealed. Without this weakness in the design, a knowledge of sexual differences even greater than the one reported may have been discovered (Kreitler and Kreitler, 1966).

Dillon observed 30 children, 15 boys and 15 girls, in a nursery school situation ages 27 to 62 months. These children, although divided in two groups by age, were equal in ratio of boys to girls. Boys and girls together in the same room completely undressed each day for their nap to put on pajamas and again after their nap to put on their clothes. The children also toileted with those of the opposite sex. Twenty-one observations on consecutive school days were made and instances of sex differentiation reported.
From these subjective observations the author concluded that among the younger children there appeared very little evidence of any recognition of sexual differences. The older children "... manifest their consciousness of sex difference chiefly by differences in clothing and customs" (Dillon, 1934, p. 172). However, some instances of recognition of physical differences by the children were reported. Such recognized differences were not considered by the author as carrying any sex significance. The major cues in distinguishing differences in the sexes were "... style of clothing, manner of wearing the hair and the names which the children bore" (Dillon, 1934, p. 176).

The findings of this study appear to be highly influenced by rater bias. No checklist or guideline was used, leaving the observer too free to distinguish between significant and non-significant actions. Also, with no means of determining the significance to the child of clues used in distinguishing the sexes, the observer is left free to draw any inferences she wishes. It seems that the observed recognition the children displayed, of physical differences between the sexes, was dismissed as a result of observer bias and may have been found to be of greater significance to a different observer. The results of this study are greatly impaired by the subjective manner in which the data were collected and reported.

A more objective study was conducted by Katcher in 1955. His sample consisted of 149 boys and 117 girls obtained from the Nursery School of the University of California's Institute of Child Welfare, a parent cooperative nursery school, a progressive elementary school, and seven California Child Care Centers. Of the 266 children, 116 were from families with an income of $275 or more per month and one
parent with a college education and both parents present in the home. The remainder of the sample were from families with a monthly income of less than $275 per month and neither parent having completed college. There were 83, three-year-olds; 102, four-year-olds; 45, five-year-olds; and 36, six- to nine-year-olds. He tested their ability to discriminate sex differences through the use of a series of pictures which forced the identification of the sex with the use of only one cue—hair, clothing, breasts, or external genitals. Care was given to establish rapport between the experimenter and the subjects and to eliminate possible effects of order presentation of the pictures. Through statistical evaluation of the results, Katcher found that:

Sex differentiating characteristics of clothing were most easily identified, followed in order by hair, genitals, and breasts. Child and same-sex cues were more accurately discriminated than adult and opposite-sex cues. . . Younger girls excelled boys in discriminating both the girl's and the boy's genital cues." (Katcher, 1955, p. 142)

This study seems to be well conceptualized and administered, giving the findings significant usefulness. It is interesting to note, however, the contrast between this study, which indicated greater awareness on the part of younger girls, and the study by Kreitler and Kreitler (1966) which led to the conclusion that boys were better informed than girls about the location and function of their sex organs.
Sex-Role Preference in the Young Child

In 1956 sex-role preference was first defined and studied separately from sex-role identification. Before this time the importance of identification was commonly recognized as essential to healthy personal adjustment, but most of the research on sex-role behavior used adult subjects. Consequently, research on the young child's development of sex-role identification and sex-role behavior was largely neglected. Although no research had been conducted in this area, early researchers recognized the need to investigate the masculine and feminine identification and behavior in the young child. To study this, it was necessary to develop a scale to measure the degree of masculine or feminine sex-role preference present in the young child.

In an attempt to fill this need, Brown developed the It Scale for Children (ITSC). He first made the distinction between sex-role identification and sex-role preference. Sex-role identification was defined as the adoption of certain sex-typed behavior and sex-role preference as sex-typed behavior one prefers or would like to adopt (Brown, 1956). Then, on the basis of previous studies that supported the validity of toys and objects as adequate tests of sex-role preference, Brown developed a scale using 36 pictures: 16 of toys, 8 paired pictures, and 4 child figures. Eight of the toys were masculine and eight feminine; half of each paired picture was masculine and half feminine; and the child figures were boy, girlish-boy, boyish-girl, and girl. A child-figure drawing unstructured as to sex and referred to as "It" was used by having the child
make choices for It. The indirect method was an attempt to overcome social pressure on the child to make the acceptable response and free him to answer his true preferences (Brown, 1956). The score on the test was obtained by giving one point for each masculine toy choice, eight points for each masculine preference on the paired pictures and twelve points for preferring the boy, eight for the girlish-boy, four for the boyish-girl and zero for the girl or any other feminine choice. The scores then range from exclusively masculine, 84, to exclusively feminine, 0.

Research studies testing the sex-role preference of children using the ITSC provide results that give needed information on the sex-role preferences of boys and girls and pose specific methodological problems in the ITSC. A comparison and review of these studies follows.

In each of the following studies inadequacies in sampling procedures exist which limit their external validity. All have used selected populations from the middle-class. However, in selecting their samples specific sub-groups of the larger middle-class population have occasionally been selected, further limiting the external validity of the findings. Matching the groups for sex and age is also common. In doing so, portions of the original samples have been dropped, placing additional limits on the external validity. These studies, therefore, are most valuable in the context of the total body of research in this area.

The ITSC test was first given to a group of children by Brown in 1955. The purposes of this study were to test whether sex-role preferences in young children could be demonstrated and qualified
and to discover if in a group of young children "... sex-role preference patterns exist that have been reported characteristic of the childhoods of male and female sexual inverts who are homosexuals" (Brown, 1956, p. 4). Previous theories suggested that the girl would show greater dissatisfaction in accepting her feminine role than the boy in accepting his masculine role and that the girl would show greater ambivalence in sex-role preference than would boys. Brown chose 146 subjects, 78 boys and 68 girls, enrolled in kindergarten in a Denver public elementary school from a middle-class section of the city. The test was administered to each child individually and scores were computed as previously outlined.

The results showed "... relatively dichotomous sex-role preference patterns in young children" (Brown, 1956, p. 18). However, boys showed a significantly greater preference for the masculine role than girls showed for the feminine role. A mixed preference as well as a strong opposite-sex preference was more frequent and pronounced in girls. Eighty-five per cent of the boys but only 45 per cent of the girls gave it a name consistent with their own sex (Brown, 1956).

Although this study made a significant contribution to the method of testing sex-role preferences in young children, there exist weaknesses in the instrument and procedures that limit the application of the findings.

The operational validity of the test is based on the items being clearly male or female which may or may not be the case. The reliability was tested by the test-retest method with a recorded correlation between scores of .71 for boys and .84 for girls. Even though this correlation is not very high, it is sufficient for
comparison of groups.

The validity of the test is questioned because of the assumed projection of the child's true feelings through his choices for It. Although It was constructed to be of neutral sex, it is possible that It may be viewed more often as male than female, thus covering the actual feminine preferences of the females. There also remains the possibility that the masculine pictures are more attractive than their feminine counterparts, that the socially defined responses for boys are more clearly defined, or that male is truly the preferred sex.

Brown repeated the ITSC test with a larger sample of 613 children, 303 boys and 310 girls, ages 5½ to 11½ from grades kindergarten through fifth in the Pleasanton, California, Elementary School. This study was an extension of the previous study with the data being collected in 1955, following the previous research. This study aimed, also, at exploring the factor of age. Again the sample was of middle-class children with 43 per cent of the fathers in the military or working for the government. The ITSC was administered as before and the results were similar. Boys scored more masculine and girls more feminine with girls more variable than boys. The boys gave a much stronger preference for the masculine role than the girls gave for the feminine. Kindergarten level girls were about equal in their preference for the two roles. Girls in the first through fourth grades preferred the masculine over the feminine role, but fifth grade girls showed a dominant preference for the feminine role (Brown, 1957).

This sample has the additional problem of being of a specific
sub-group of the middle-class. The predominantly military and
government employment of the fathers sets this group apart from the
general middle-class population. The questions of the validity of
the ITSC are still unanswered. The possibility of masculine bias
in the test connected with the It-figure or otherwise still exists.
The degree to which the subjects identify with the It-figure and
thus project their own choices into those for It remains undeter-
mined.

Hartup and Zook tested the sex-role preference of 161 three-
and four-year-old children from selected nursery schools using
Brown's ITSC. The purposes of their study were "... to obtain
information concerning the sex-role preferences of three- and
four-year-old children" and "... to explore the effects of the
instructions employed with the It Scale" (Hartup and Zook, 1960,
p. 420). The children were randomly assigned to groups and matched
for sex and age. Three groups were given the ITSC with different
instructions. One group was given the name "It" for the It-figure;
the second group was told It was the sex matching that of the
subject; and the third group was given the subject's own name for
It. The tests were scored as outlined by Brown (1956). Reliability
was checked by the test-retest method with a correlation between
tests of .66 for boys and .71 for girls.

The results confirmed Brown's previous results that there are
clear sex differences on the It Scale. They also showed the four-
year-old boys and girls scoring more masculine and feminine respec-
tively than their three-year-old counterparts. The boys scored
more masculine when It was given the subject's own name. However,
the girls received more feminine scores when It was labeled a
"little girl," lending support to the hypothesis that it may be perceived most often as a boy by all subjects. Nevertheless, the masculine bias may indicate that male is the preferred sex or simply be a result of the children giving the conventional label of "he" to a neutral object.

Internal validity was sought by matching the experimental groups for age and sex. During this process a portion of the original sample was dropped. An attempt was made to choose a sample that would allow generalizations between social classes. However, the authors admit the probability of a "gross sampling error" in this effort as only the middle-class was found to be represented. The varying effects of different experimenters were controlled by Zook doing all the testing herself. However, the influence of a female experimenter on the scores of the children was not considered (Hartup and Zook, 1960).

Lansky and McKay questioned the results of the previous studies and hypothesized that "... boys today have greater preference for the feminine role than girls do for the masculine" (Lansky and McKay, 1963, p. 415). They tested 36 kindergarten children, 20 boys and 16 girls, enrolled in a private kindergarten in a Boston, Mass., suburb. Ninety-four per cent of the children were Class I and II on the Minnesota Scale for Parental Occupations. In their report in Psychological Reports, 1963, they focus on the children's results on the ITSC. The test was first administered according to the instructions by Brown with the exception of the concealment of the It-figure. Later the test was readministered with the It-figure visible to the subjects. The possible effects of the previous
familiarity with the test on the scores of the second test were recognized. The results supported their hypothesis about boys' and girls' preferences for roles; showing boys more variable in their masculine choices and more willing to guess girl than for girls to guess boy. There was no significant tendency for either sex to label the It-figure more frequently as a boy. Consequently, this study does "... not support the view that the It-figure is seen as male by most children of this age" (Lansky and McKay, 1963, p. 415).

The use of a convenient sample limits the external validity of the findings. However, in selecting the sample there appeared to be an attempt to test subjects similar to those tested in previous studies. The authors in this study tend to compare their results to other studies without accounting for the differences that may be due to sample variations or changes in society.

The most recent published study on this topic tested the possibility of masculine bias toward the It-figure (Endsley, 1967). It was hypothesized that concealing the It-figure would reduce the masculine scores of both boys and girls. The sample included 40 children 3½ to 5½, 20 boys and 20 girls. The groups were matched for sex and randomly assigned. One group was given the ITSC in the standard manner and one group with It concealed in an envelope. The results supported Brown's (1956) original findings with boys scoring more masculine and less variable and girls more feminine and more variable. However, the mean ITSC scores of his control and experimental groups were not significantly different. His findings did not show the It-figure to be the source of masculine bias. However, the author does not suggest that there is no masculine bias in the
ITSC. He points up the need for further investigations to pinpoint possible source(s) of masculine bias (Endsley, 1967).

This matched sample was selected from an undefined population. Its small size is an additional limitation on the generalizability of the findings.

The deficiencies in the samples of this research significantly limits the generalizability of their findings. Consequently, the writer will only attempt to compare results and draw inferences where the research agrees.

A factor that influences the validity of the findings is the usefulness of the IT Scale for Children in measuring the sex-role preferences of the young child. The reliability of the test was measured both by Brown (1956) and Hartup and Zook (1960) by the test-retest method. Both concluded that the reliability was fairly high, although reliability was not as high for Hartup and Zook's sample (.66 compared to .71, .71 compared to .84). Nevertheless, these differences may be due to chance and not be significant. In both cases reliability is markedly lower for boys than for girls. The girls moved toward greater femininity on the retest given by Hartup and Zook. In spite of these factors the authors concluded that these coefficients are fairly high for tests involving preschool children and reasonably adequate compared with other instruments measuring psychological characteristics. This reliability is sufficiently high for the comparison of groups as is done in these studies.

The operational validity is based on the assumption that the items are actually associated with masculine and feminine behavior. This validity is confirmed by the consistent differences in the
scores of boys and girls on the test. In repeated tests of young children using the ITSC, boys score more masculine and girls more feminine.

A separate question of possible masculine bias in the test has been given extensive consideration. The possibility of the It-figure as the source of bias is considered by all four researchers. Brown felt that there is a tendency for the It-figure to be perceived as male by both sexes of school-age children (Brown, 1962). Hartup and Zook (1960) controlled the instructions given to each group. A different label for the It-figure was given to each group: the first group was given the label "It"; the second "a little boy (or girl)" consistent with the subject's sex; and the third group was given the subject's name for the It-figure. Their results show "... the measure of sex-role preferences provided by the It Scale is highly sensitive to variation in the instructions given to the subject" (Hartup and Zook, 1960, p. 426). Lansky and McKay controlled for visual masculine bias of the It-figure by concealing It in an envelope for the first administration of the ITSC and allowing the child to hold It during the second test. They found that there was no significant tendency for either sex to label the It-figure "boy" more frequently than "girl" (Lansky and McKay, 1963). The major purpose of Endsley's study was to test the possible bias of the It-figure. He used two groups and concealed the It-figure from one group. He concluded that the It-figure was not the source of masculine bias in the test (Endsley, 1967).

The studies just reviewed all found that boys prefer the masculine role and girls prefer the feminine role. Because each
sample was selected from geographically different middle-class groups, it seems reasonable to assume that future research in this area will support this finding. However, this is the only point upon which these studies agree. The question of variability of responses for boys and girls is mentioned by Brown (1957), Endsley (1967), and Lansky and McKay (1963) with opposing conclusions. Brown and Endsley found girls the most variable (Brown, 1957; Endsley, 1967) while Lansky and McKay (1963) found boys more variable. Due to the inadequacies of each sample no conclusion can be made.

These studies provide some interesting data on the topic of age differences and role preference. Hartup and Zook (1960) found that the four-year-old children more frequently chose the role consistent with their sex than their three-year-old counterparts (Hartup and Zook, 1960). Results on the preferences of the five-year-old kindergarten age group show boys prefer the masculine role and girls the feminine role (Lansky and McKay, 1963; Brown, 1956; Endsley, 1967). Other results show girls of this age group have a mixed preference (Brown, 1957) and that they show this mixed preference twice as frequently as boys of the same age group (Brown, 1956). The preferences of girls in the first through fourth grades shifts to a definite preference for the masculine role (Brown, 1957). The fifth grade girls show an interesting reverse to a dominant preference for the feminine role (Brown, 1957). The research is insufficient and lacks the external validity to draw any universal conclusions from the present data.

DeLucia questioned the reliability of toy preference in relation to sex-role preferences of children. She used two sets of 24 pairs
of toy pictures, one set masculine and the other feminine. The toy pictures were matched for size, value, and intricacy of moving parts. They were five-by-seven, black and white pictures. A child-figure the same sex as the subject was used by having the subject make the choice for the child-figure. With an opposite-sex experimenter the reliability coefficients for the test were .67 and .72. The subjects were selected from the Broad Street School, Providence, R. I., grades kindergarten through fourth. The results showed that the number of appropriate choices for both sexes increased in grades kindergarten through third. However, both sexes showed an inversion of appropriate choices in the fourth grade. Boys made more appropriate choices than girls.

The findings support the validity of a toy preference test as a measure of sex-role preference in the young child. The test was effective in separating the responses of the sexes. The inversion found in the fourth grade may or may not be significant. Reliability is sufficient for the comparison of groups. That boys made more appropriate choices than girls is consistent with the research on sex-role preferences of the young child using Brown's It Scale.

The reliability of toys as an indicator of sex-roles in childhood is further supported by Hartley and Hardesty's study using a structured pictorial technique as an interview aid in administering open-end verbal questions to middle and lower class children ages 8 through 11 from New York City. They also found that "... male attributes are established earlier (than female attributes)" (Hartley and Hardesty, 1964, p. 47).

The possible influence of parental preference for the male sex
on the young child's sex-role preference was considered by Hartley, Hardesty, and Gorfein. They used a sample of 132, eight through eleven-year-olds from a middle class population and gave them a story completion test which inquired into their future adult roles and desired family composition. Seventy-eight per cent of her subjects said their parents preferred a child of their same sex. The "... girls preferred female children and boys preferred male children" (Hartley, Hardesty, and Gorfein, 1962, p. 266).

No evidence was found to support the assumption that children reject their own sex identity because of such perceived preferences. (Hartley, Hardesty, and Gorfein, 1962, p. 227)

This study explores an important hypothesis concerning the reoccurring finding that boys make more appropriate sex-preference choices than girls and that inverted sex preference is more frequent in girls. The negative findings are significant in ruling out a perceived parental preference for the male sex as the reason for young children rejecting their own sex identity.

**Sex-Role Identification**

Children in our society develop early a pattern of behavior consistent with their sex. Hattwick, in seeking to identify these characteristic patterns of behavior, observed 283 boys and 296 girls ages 2 through 4½ in the Winnetka Public School Nursery of Chicago. He found that boys are more aggressive and outgoing in their behavior. They were more aggressive, negative, wiggly and resistant. During work periods they asked for unnecessary help, wasted time and left their work incomplete more frequently than did girls. The boys were also found to have more speech problems and a higher incidence
of masturbation. Among the girls, however, there was a greater frequency of avoiding play, shrinking from notice, jealousy, seeking praise, staying near an adult, criticizing others and thumb sucking. Girls showed fears of strange people and places and fear of high places. They cried more easily than boys, avoided taking risks, told more fanciful stories, misrepresented facts and bossed others. There was no significant age difference in the possession of these characteristics by these children (Hattwick, 1937).

Although this sample is not representative of any population other than itself, it is reasonably safe to assume that we would expect to find sharp sex differences in behavior from any subsample of our total population.

Koch found in his observation of the interaction of 178 preschool boys and girls in the University of Chicago Nursery School that as early as two years old children are inclined to prefer classmates of their own sex. He assumes from this that by the age of two the child has made an identification with the sex-role of his sex (Koch, 1944). Brown found that a child begins to distinguish between male and female and masculine and feminine as early as age two. Preference for one sex role or the other begins to emerge by age three (Brown, 1958). In Rabban's study of sex-role preference and identification of children from the ages of three to eight, he concluded "... that, on the whole, after the age of four the children have made their toy choice aware of their own sex, of clothing and hair styles as marks of sex differences, and of the appropriate adult sex role for their sex" (Rabban, 1950, p. 120).

The research agrees that sex-role identification emerges early
in the child's life. However, the factors that influence and shape this identification are not as clearly defined. Differing opinions on the importance of the variables involved have given rise to a number of theories.

The Freudian theory of identification is supported by many researchers. Pearson discusses the identification process as seen by Freud for the boy.

At this stage the boy directs the genitalized libido toward the mother. But the boy perceived that he has to share his mother with the father, a rival who has meant little to him during the previous stages of development. The child perceives that the father is more pleasing to the mother and he endeavors to imitate him. He takes his father as his ideal, that is, he incorporates his father's characteristics as part of his super-ego. In order to prevent punishment on the part of the father (the threat of castration) it becomes necessary for him to suppress his sex feelings and after a period of struggle does so, at about the age of two to four. (Pearson, 1931, p. 698)

Freud's process of identification for the girl is described by Brunswick.

The mother's castration means not only the depreciation of the love object and the possibility of the girl's own castration as in the case of the boy; the mother's castration is above all the doom of the girl's hopes of ever acquiring possession of a penis. The girl abandons the mother as a love object with far more embitterment and finality than the boy...

The active wish for a penis of the little girl arises with the observation of the difference between the sexes and the determination to have what the boy has. This original basis is narcissistic. An object root is formed when the little girl realized that without the penis she is unable to win the mother.

When the girl becomes to a greater or lesser degree reconciled to her own lack of a penis, she determines to take as her love object an individual whose possession of the penis is assured and for whose love it may even by worth while... to accept castration... and a virtue is made out of a necessity. Here the girl identifies herself with the castrated mother...
In three of Lynn's papers concerning the process of identification the young child uses, he concludes that from the research reviewed that his hypothesis is supported that originally both boys and girls identify with the mother and that it is the boy who must change his identification. This hypothesis is consistent with Freud. However, Lynn deviates from the theory of Freud when he continues by saying that the boy makes his masculine identification with the cultural stereotype that is spelled out to him by his mother and other females in society such as teachers. He claims that the identification is made with the masculine stereotype due to the absence of the male model (Lynn, 1959; Lynn, 1961; Lynn, 1962). He feels therefore, that the presence of the father in the home is important for the boy's identification (Lynn, 1962).

To discover the behavior correlates of five-year-old children in child-rearing practices and attitudes of their mothers, Sears selected a sample of

... three-hundred and seventy-nine mothers, and their five-year-old children (202 boys, 177 girls) in public school kindergartens from suburban metropolitan areas in New England. The parental sample ranged widely in age, education, socioeconomic status, and ethnic origin. A standardized interview was used with the mothers. It covered both infant and current child-rearing practices, together with material relating to family interrelationships. The interviews averaged two hours in length, were recorded in the home, and then transcribed. They were rated on over 200 scales, descriptive of child-rearing dimensions of behavior. The children were given two 20-minute sessions of standardized permissive doll play, and a half-hour projective test for the measurement of guilt. Teacher ratings of activity, aggression, and conscience were obtained. (Sears, R., 1953, p. 431)

The results showed that "... a theory of sex-typing may be constructed on the basis of differential treatment of boys and girls

(Brunswick, 1940, p. 302-316)
by their mothers" (Sears, R., 1953, p. 431). The interviews showed differences in the child-rearing practices of the mothers in relation to girls and boys in areas of discipline and emotional interaction.

This study emphasizes the importance of the mother as a socializing agent in the formation of the appropriate sex-role identification of both boys and girls.

On the other hand, the girls "... tend to identify with aspects of their own mother's role specifically" (Lynn, 1959, p. 134). Lynn concluded that girls learn their sex-role through a close personal relationship with their mothers and through imitation. Boys, however, learn their sex role by: (1) defining the goal, (2) restructuring the field, and (3) abstracting principles. As a result, Lynn finds support to his hypotheses that

... females will tend to demonstrate greater need for affiliation than males, (2) females tend to be more dependent than males on the external context of a perceptual situation and hesitate to deviate from the given, (3) males tend to surpass females in problem-solving skills, (4) males tend to be more concerned with internalized moral standards, (5) females tend to be more receptive to the standards of others than males. (Lynn, 1962, p. 559-560)

Lynn also concluded:

(1) With increasing age, males become relatively more firmly identified with the masculine role, and females relatively less firmly identified with the feminine role. (2) A larger portion of females than males will show preference for the role of the opposite sex. (3) A higher proportion of females than males adopt aspects of the role of the opposite sex. (Lynn, 1959, p. 134)

This ambivalence of the female in accepting her traditional role is explained in a later paper. He attributes this ambivalence to the fact that girls are inhibited by the social preference for males and also lack punishment for adopting aspects of the mascu-
A similar observation of the girl's ambivalence in accepting her appropriate role is reported by Rabban (1950).

The fourth and fifth years for working class boys and the sixth year for middle class boys are periods of clarification of sex role. Working class girls make definitive sex-appropriate choices by six years of age. Middle class girls do not achieve this clarity of acceptance of the social definitions of sex-appropriate choices, even at the eighth year. In this ceiling year, all other groups have completely accepted these social expectations. (Rabban, 1950, p. 126)

Johnson agreed with Freud and Lynn that both sexes first identify with the mother, but he also feels that they both identify second with the father.

... It is identification with the father, in the sense of internalizing a reciprocal role relationship with the father, which is crucial for producing appropriate sex role orientations in both males and females. (Johnson, 1963, p. 319)

The father plays husband to the girl and mentor to the boy while the mother treats them both the same. He feels the mechanisms for identification are fear of loss of love, fear of aggression, and love reciprocity. He found support for his hypothesis in the literature he reviewed (Johnson, 1963).

The results from administration of the Terman and Miles' Attitude-Interest (M-F) Test given to 326 adult subjects lead Ferguson to conclude that pleasant and desirable childhood experiences enable the child to accept the appropriate models and adopt the "normal" behavior pattern. Unpleasant childhood experiences lead to rejection of appropriate models and failure to adopt the "normal" behavior pattern (Ferguson, 1941). Sears, however, concluded from his studies on doll play aggression in young
children that:

The learning processes by which the child develops the action system appropriate to his sex depends, among other things, on the existence of models upon whose behavior he may pattern his own. (Sears, Pintler, and Sears, 1946, p. 240)

Twenty-nine girls and 34 boys between the ages of 3-6 and 5-6 were selected from four nursery schools for the purpose of developing a measure of like-sex parent imitation in preschool children and

... to explore the relation of this measure to sex-typing, sex of child, chronological age, and maternal attitudes as measured by the Parental Attitude Instrument. ... The child's tendency to imitate the like-sex parent in preference to imitation of the opposite-sex parent was measured by means of a forced-choice doll play interview. (Hartup, 1962, p. 95)

Sex-typing was measured by the It Scale for Children. The findings showed:

... a significant relation between imitation of the like-sex parent and appropriate sex typing ... for girls, but not for boys. Both boys and girls tended to imitate the like-sex parent more frequently than the opposite-sex parent ... .

... Maternal dissatisfaction with the husband and the homemaking role also were positively related to imitation of the mother by girls. Five maternal measures, all reflecting authoritarian, intrusive, or suppressive attitudes, were related to imitation of the father by boys. (Hartup, 1962, p. 95)

The degree of similarity to the same-sex parent was tested by Gray and Klaus (1956). They used 34 female and 28 male student volunteers from a Southern college. They administered a sentence completion test and a study of values for oneself and for each parent to each student. The study of values questionnaire was sent by the students to their parents to fill out and return.

The design of this research is weak. To begin with they used
a volunteer sample of an isolated population with a biased male sample. The data collection from the parents were especially loose. In view of these deficiencies the findings are of questionable validity by themselves. They did find that the students were more like the same-sex parent in areas of major interest. On the projective test the students showed more affection to the same-sex parent and perceived themselves more like the same-sex parent (Gray and Klaus, 1956).

Lazowick (1955) sampled 418 University of Illinois students and gave them and their parents a list of 10 words to which they were to assign meanings. The results were computed from the similarity of meanings. They showed a greater degree of identification between parents and children are associated with less anxiety. Men, he concluded, form stronger identifications than women; and there was a greater degree of similarity within families than between families (Lazowick, 1955). However, Angrilli in his test of 30 boys ages 4 to 5½ from New York State nursery schools (intact, middle-class families) found no significant relationship between the masculine identification of the boys and those of their parents (Angrilli, 1960).

The research in the area of parent-child similarity in relation to sex-role identification is weak and inconclusive. The problems of sample selection and test administration are numerous. Therefore, no definite conclusions on the relationship of similarities between parent and child on sex-role identification can be reached.

The effect of parental dominance on the sex-role preferences and parent-child trait similarity was investigated by Hetherington.
His sample consisted of 36 boys and 36 girls ages 4 through 5, 6 through 8 and 9 through 11 enrolled in nursery or public elementary schools. Half of the boys and girls in each group were from father-dominant homes and half from mother-dominant homes. The instruments used were Farina's measure of parent dominance; the ITSC; the parent-child similarity test reliable at .82 for mothers, .86 for father, and .79 for children; and an imitation task. The results on the ITSC show parental dominance influenced sex-role preferences. The most appropriate sex-role preferences occurred when the father was dominant. The boys from mother-dominant homes acquired more feminine sex-role preferences than boys from father-dominant homes. However, girls from mother-dominant and father-dominant homes showed no difference in sex-role preference at any age.

The prediction of an increasing similarity of the child and dominant parent on non-sex-typed traits with age is supported . . . Neither the sons nor daughters in mother-dominant homes identified with the passive father . . . These findings stressed the great importance of "identification with the aggressor" in boys' identification, and its lesser importance in the identification of girls. (Hetherington, 1965, p. 193)

This study, although not a representative sample of the population nor large enough for adequate comparison between age groups, used reasonably reliable instruments to arrive at some significant conclusions.

In an attempt to discover the effects of the parents' nurturance and control as perceived by the child on the child's identification, Emmerich selected a sample of 31 nursery school children, 16 girls and 15 boys from an original sample of 41. These children ranged in age from 3-7 to 5-1. A two-part structured doll-play interview was administered to each child by an examiner. The first part was
designed to reflect the child's conception of his parents' nurturance-control attitudes. The second part was to reflect the child's own nurturance-control attitude toward another person. Rater reliability was high, +.97. However, item reliability of the test were questionably low at +.69, +.50, and +.73. The results showed that:

... The subjects tended to identify more with the same-sex parent than with the opposite-sex parent ... Both sexes perceived the mother as relatively more nurturant (and less controlling) than the father ... With increasing age within the age range sampled boys increasingly exaggerated in their behavior the controlling attitude that they associated with the father role. (Emmerich, 1959, p. 294-295)

Emmerich concluded that:

/His/ findings seemed to contradict rather widely held beliefs about the development of identification. It is often assumed that the mother is the initial identification model for both boys and girls, and that boys later switch to the father as the principal model, resulting in less continuity and consequently less stably and strongly sex-typed identifications than in girls. (Emmerich, 1959, p. 295)

Despite Emmerich's small, nonrepresentative sample and low test-retest reliability coefficients on his instrument, his results were consistent with previous findings and thus useful in supporting existing hypotheses. He not only found the children making an identification more often with the same-sex parent, but he also found this to be more true for boys than girls as would be expected. The perception of the mother as more nurturant and the father as more controlling seems consistent with Hetherington's conclusion that "identification with the aggressor" is an important factor in the boy's identification with the father and of lesser importance in the identification of the girls. His conclusion in opposition to the
theory that both boys and girls first identify with the mother and then the boy changes may be warranted. The constant tendency for research findings to show a more stable, clear masculine identification in the young boy and only a weak, fluctuating feminine identification in the girl supports Emmerich's findings and conclusion.

Sears tested the effect of nurturance or warmth of the same-sex parent on sex-role choice of kindergarten children. She hypothesized that:

... The crucial antecedent factors will include: (1) child's recognition of the fact of his own sex, (2) nurturance or warmth of the parent chiefly responsible for child-rearing, (3) warmth of the same-sex parent, (4) anxiety, which may arise from punishment or from restriction on the child's attempts to be self-directing. (Sears, P., 1953, p. 431)

The subjects selected were 202 boys and 177 girls, all kindergarten age, plus their mothers.

The children were given two sessions of doll play, scored on frequency of use of agents for "good" (nonaggressive) behavior. Scores for antecedent factors were obtained from ratings on interviews with mothers. (Sears, P., 1953, p. 431)

The results showed "... positive choices for the same sex role and avoidance of the opposite sex role are in general associated with antecedent conditions of warmth, permissiveness, and low restrictions" (Sears, P., 1953, p. 431)

In a later study Fandura and Huston tested a matched sample of 24 children of each sex ages 45 to 61 months enrolled in the Stanford University Nursery School. They hypothesized that:

... Nursery school children, while learning a two-choice discrimination problem, also learn to imitate certain of the experimenter's behavior which is totally irrelevant to the successful performance of the orienting task. (Fandura and Huston, 1962, p. 300)

The results generally "... substantiate the hypothesis that
children display social learning behavior of an incidental sort, and that nurturance is one condition facilitating such imitation learning" (Fandura and Huston, 1962, p. 300).

"... To evaluate the behavior of the fathers of the strongly father-identified (i.e., highly masculine) group toward their sons," Mussen and Distler (1960, p. 90) screened 38 white boys from two kindergarten classes of predominantly middle-class schools.

The mothers of 19 boys, nine of them high and ten of them low in masculinity as measured by the It Scale, were interviewed about their own and their husbands' child-rearing practices and the boys' conscience development. (Mussen and Distler, 1960, p. 99)

The interviews consisted of 32 open-end questions.

The major findings were as follows:

1. The variables of father-son relationships are more directly associated with sex-typing than are those pertaining to mother-son relations.

2. According to mothers' reports the fathers of the highly masculine group had stronger affectional bonds, and acted more affectionately, toward their sons than did the fathers of boys low in masculinity. These findings appear to support the developmental hypothesis of identification.

3. There were trends in the data that suggest that the fathers of the highly masculine group play a greater role in their son's upbringing, doing more of their son's caretaking and having greater responsibility for child-rearing policies. These trends, together with the findings about the warmth and affection of the fathers of highly masculine boys, may be interpreted as supportive of the role theory of identification.

4. The highly masculine boys appear to experience more permissive, easygoing familial climate and less punitive, more love-oriented techniques of discipline than their less masculine peers. (Mussen and Distler, 1960, p. 99)

The studies of Sears, P. (1953), Fandura and Huston (1962), and Mussen and Distler (1960) all found that nurturance or warmth of the same-sex parent toward the child is an important factor in
the development of an identification for the appropriate sex role. Sears, P. (1953) as well as Mussen and Distler (1960) concluded that permissiveness, and a less-punitive familial climate were also important in aiding the development of the appropriate sex-role identification.
METHODS AND PROCEDURES

Setting

The Child Development Laboratories are operated by the Department of Family and Child Development at Utah State University. There are three classrooms with a central kitchen and work area. All three classrooms share an outside playground with a variety of permanent equipment items suitable for a variety of uses. Each room is equipped with child-size tables, chairs, shelves, sinks, and toilets. Standard pieces of equipment in each room are a jungle gym, a fully equipped doll house area, and hollow-wooden blocks, as well as a variety of small wood unit-blocks. Lockers are provided so that each child has a separate place to put his wraps. In addition to the equipment which is standard in each room, there is also a wide variety of manipulative toys. These toys, science materials, musical instruments, sensory media, etc., are shared among the rooms and used as teaching aids.

The toilets in each room are not separated from the other areas by any physical barriers. The children are free to use these facilities whenever they need to do so. These toilets lack privacy from observation or company. Many times toileting becomes a social experience as two children sit side-by-side and casually converse. No taboo, significance, or restriction impedes opposite sexes from toileting at the same time or merely observing one another. In these classrooms toileting is treated as naturally as washing one's
hands, with no particular sex significance attached to it. Before departing for excursions (which occur at least five times every 10 weeks) all children are encouraged to toilet. Consequently, almost all of the children use the facilities at some time during a 10-week period.

Each classroom has at least one wall equipped with one-way glass behind which are observation booths. These booths are utilized by university students studying child development and are usually occupied while the children are in the rooms. Louvered or screened openings below and above the glass allow for movement of sound between the room and observation booths. Consequently, the children are occasionally aware of observers as a result of their infrequent disturbance.

The three rooms accommodate six groups of 20 children each. The children are in the nursery four days a week, for two and one-half hours each of the four days. The hours are such that they do not accommodate the working mother, and no children attend on Fridays. There are four student teachers for each group of 20 children. One faculty supervisor also serves in each group with a ratio of five adults to 20 children.

The laboratories are structured with a recent emphasis on cognitive development with specific concern for development of concepts. Acquisition of positive social skills among peers and in group learning situations are also goals of the program. Each piece of equipment which is available for the children's use during free play is designed to teach and reinforce one specific concept. During the free play time, which varies each day from one to one and
one-half hours at different intervals, the teachers interact freely with the children. Through their conversation the teachers will attempt to teach or to reinforce the concepts taught by the equipment, as well as to encourage conversation and promote language and social development. They help the children learn self-control and social skills.

Each of the four student teachers serves as a head teacher for two separate weeks during a 10-week quarter. During this time the student serving as head teacher will, in conference with her supervisor, plan the activities, room arrangement, and equipment for the week. A central concept is selected to be taught during the week and is reinforced through excursions, visitors, room equipment, displays, and group activities. At least five concepts are taught each quarter, and reinforced by activities of science, music, and food. In addition, sensory media and creative art experiences are a regular part of the school week. Songs and fingerplays are used every day to reinforce language skills.

The child development laboratories are utilized as teaching facilities for training preschool education teachers and for research. Daily schedules vary with the activities planned for each day. However, standard to every school day is a flexible amount of free play.Alternation of quiet and active activities is utilized to meet the children's physical needs without the use of a formal rest period. All scheduling is sensitive to the attention span, cognitive level, and emotional needs of the group and of individual children in the group. Juice is served each day. The children generally are called together at least once a day for some type of group activity
in which everyone is expected to participate. These range from science, music, or food experiences, to excursions, visitors, stories, and art. In addition, many activities are present in the room each week in which the children may choose to participate or not, as they select the activities in which they are interested, and in doing so omit others.

Each room is arranged in different, distinct areas. Quiet areas such as music, reading, and manipulative toys are separated from the more active blocks, jungle gym, doll house, and large muscle equipment. Specific limits are set on each area which vary among the six groups. All aspects of effective room arrangement such as lighting, accessibility, space, etc., are utilized in placement of the equipment and definition of the areas. Order, classification, and discrimination are of primary concern in the arrangement of equipment in the rooms. Each material has its own place in the room near other materials of the same general classification. Discrimination is required for the children to return their equipment to its designated place in the room and is taught through categorization of the room and the arrangement of materials and supplies.

Sample

The sample consisted of 20 children, 10 boys and 10 girls, ages three to five attending what is called the East Laboratory of the University nursery school. This sample is not representative of any group other than themselves. The subjects were selected primarily because of their familiarity with the experimenter. In this particular classroom, the experimenter was also the faculty supervisor and,
consequently, was able to be with these children in the nursery school situation five weeks before the actual testing began. Because this investigation intruded into an area of sensitive feelings, of which children of this age group are just becoming aware, it was felt that the children would be shy and reticent in volunteering their understandings. As a result any attempt to tap their knowledge in this area, it was believed, must be conducted in a situation as familiar and natural as possible. Consequently, the sample was selected on the basis of familiarity with the experimenter rather than for representativeness.

Another factor influencing the selection of an entire class was ease in facilitating the use of the familiar classroom for collection of data. To achieve maximum possible naturalness in the experimental situation, it was felt that testing should ideally occur in the subjects' accustomed surroundings. Introduction to the experimental situation as a total group, and participation of each class member, would allow for privacy of the experimenter and subject while the child was able to remain in familiar surroundings. Group stress on all having a turn in the experimental situation would also minimize the problem of reluctance of some children, especially boys, to participate. Thus, a combination of familiar surroundings and a person with whom the children were comfortable and felt secure were the major criteria for selection of the sample.

The children in the sampled classroom were all from the Cache Valley area which surrounds Utah State University. In this particular group, their fathers' occupation ranges from physician and professor to merchant. Seventeen of the 20 children were placed in the
laboratory from a waiting list. Applications for admittance of children are usually made when the children are very young because most of the children are accepted in order of application from this list. Not all children are admitted from the regular waiting list. A "special" category is provided to allow for entrance of newcomers to the community, and children who need the laboratory experience, or are needed in the program. Three children in this group were admitted as "specials:" two because of late arrival to the area and one because his speech is not clearly understandable. All of these children are from intact homes except two boys whose mother is a divorcée who has remarried. The children range in age from 3-0 to 5-0.

This group had toileted in the open situation in the laboratory, with both sexes, for at least five weeks previous to testing. Only two, one of each sex, had shown any hesitance to toilet with a child or children of the other sex near. All of the children had been in the doll house to play for varying lengths of time during the five weeks previous to testing. Playing "house" was a favorite game which was frequently carried over to the jungle gym. Six dolls of neuter sex were available and in use, as well as facilities for bathing and dressing them. Both boys and girls had enjoyed playing with the dolls. None of the children had been exposed to dolls with distinct genital characteristics prior to the research experience.
Instruments

For the preliminary block play situation a set of six blocks two inches square were used. They were in an open box just large enough to contain them. On the different sides of the blocks were painted blue shapes of varying size and form. The blocks were designed to teach the concepts of "circle" and "square," and "inside" and "outside." However, in this situation the shapes on the blocks were described merely as designs.

The dolls used for collecting the data were 24 inches long with short blond hair. Both are made of rubber and are very nearly exactly alike except one has the male genital and the other the female genital. Care was taken to control the factor of hair length and style so that the hair could not be used by the subjects as a method of differentiating the dolls. The female doll's hair was cut to be as similar to the male's hair as possible.

Four sets of doll clothes were used. Two sets consisted of red cordoroy, long slacks or pants, with straps and a red checked, button-down-the-front shirt. A fly was stitched on the slacks or pants to make them more masculine. The other two sets of clothes consisted of two dresses and matching underpants. Four sets were used so that both dolls could be dressed as one sex if the subject made no differentiation between them as to sex.

A small can of baby powder was also used, to have the children powder the genitals of the dolls.
Pilot Study

The pilot study was conducted in what is called the North Laboratory of the University nursery school. Therefore, this was a completely different group of children than those used in the actual study, although they possessed some characteristics in common with the selected sample. Both groups of children were assigned to their specific room and hour from the same waiting list and list of "specials." Each room contains similar open toileting situations making both groups uniform in this specific and important area.

The testing of the pilot group was conducted in the doll house area of the classroom. The two nude dolls and the four sets of clothes were placed on the child-size table in the doll house. No screen or physical barrier was used to separate the doll house from the remainder of the room other than the usual arrangement of the doll house equipment. It was decided that the children would feel more free to go to the unfamiliar experimenter and the dolls if they were not required to enter a strange or secluded environment. Open to view the remainder of the room, the subject would be more at ease with the strange situation and experimenter.

As the subject entered the doll house, he was introduced to the new dolls and seated near them at the table. He was then instructed that they were pretending that the dolls had just had a bath and were told that they could powder the dolls. When given the can of powder the subject was free to powder the dolls as he wished. Next the subject was told that although they were not going to dress the dolls, he could chose the clothes he would
put on them if he were going to dress them. After selecting from
the four sets of clothes, the subject was asked for each doll why
he chose those particular clothes. If the subject answered by giving
the sex of the dolls, he was asked how he could tell. Then the
subject was dismissed with a "Thank you" and a suggestion of
pursuing another activity in the room.

Only the first two children tested were invited by the exper­
imenter to go with her into the doll house to see the new dolls.
All other children tested in the pilot study were invited by the
faculty supervisor for the room to go to the doll house area to see
the dolls. This was done partly because of the lack of cooperation
received by the experimenter with the hope that the faculty super­
visor would be more successful in eliciting the participation of the
children in light of her familiarity with them. Another reason for
this procedure was the refusal of the children in the doll house
area to leave the experimenter and free her to extend the invitation
to participate to the other children.

The first child to be tested was a girl age 3-10. She chose
the slacks for both dolls; but, when the experimenter pointed to
the male doll and asked her the reason for chosing slacks for that
doll, she replied, "It's a boy." Her reply to a similar query
concerning the female doll was, "It's a girl." However, when asked
why the male doll was a boy, she simply answered, "Cause," and stared
at the male doll's genital.

A boy, 4-10, was tested next. He chose dresses for both dolls.
When asked why, he didn't answer. He was extremely interested in
powdering the dolls and wanted to go ahead and dress them. He
refused to leave the doll house. Later he identified correctly the sex of the dolls, but with no reason except, "Cause."

A group of five girls gathered around and the experimenter was unable to isolate them. Consequently, they were tested one at a time with an attempt to isolate the answers as much as possible. The responses were as follows.

Girl, 3-3: chose male pants for both dolls and gave no response to the question of why.

Girl, 3-7: chose male pants for both dolls and labeled each doll with the appropriate sex but did not know how to tell why.

Girl, 3-9: chose dresses for both dolls and said, "It's a girl," for both dolls.

Girl, 3-11: selected a dress for both dolls and labeled each doll with the appropriate sex and explained that the one doll was a boy because he, "Has one of these," pointing to the genital of the male doll.

Girl, 4-3: selected a dress for the male doll and pants for the female doll. She appeared unaware of the differences between the dolls.

Two boys, both 4-0, came over to the dolls but one remained only long enough to look at the dolls and the other stayed to powder the dolls and then left refusing to choose clothes. The other 10 present in the classroom refused to come to the doll house.

Four of the seven children tested in the pilot study were able to identify correctly the sex of the dolls although only one was able to verbalize this knowledge. The other three were seemingly unaware of any sex differences between the dolls.
One possible factor influencing the higher proportion of recognition of the sex differences in the dolls in the pilot study may have been that the one girl, 3-11, who pointed out the genital difference between the dolls was one of the first questioned. Five of the other six tested were sitting around the dolls when she pointed out this insight. Two other subjects subsequently labeled each doll with the appropriate sex, but could not explain why. The responses of these two were probably prompted by the earlier response of the one girl, 3-11.

The original belief of the author in the necessity of the subjects to be familiar with the experimenter was affirmed by the pilot study. The almost complete refusal of the boys to participate was a strong indication that the confidence of the subject must be obtained before they would feel free to participate in the research and volunteer their understandings concerning the genital differences between the dolls. The majority of the children in the pilot study had seen and even worked and played with the experimenter at least four separate days in the previous 10-week period. Consequently, the experimenter was not a complete stranger to them but a remembered visitor. Nevertheless, this casual acquaintance was not sufficient to overcome the barriers that obstructed their participation in the experimental situation. Therefore, it was decided that a deeper, more intimate familiarity with the experimenter that could come only in a constant teacher-child relationship was necessary to gain the cooperation of the subjects.

Another assumption supported by the pilot study was the additional advantages of using an entire classroom for the sample.
With the full class participating, the necessity of all taking their turn could be stressed and more easily enforced by the experimenter-teacher, usually accepted as a directing figure. Presented in a manner which would give the subject essentially no choice whether to participate, there would exist a higher probability of obtaining the cooperation of the entire sample. Because everyone in the classroom is given the opportunity of going into the experimental situation, it would be much easier to educate the children to the necessity of waiting their turn and allowing the experimenter and subject complete privacy. Also, the general understanding the group possesses concerning the experimental situation would aid in eliciting participation of the sample as well as privacy for the experimenter and subject. It became evident in the pilot study that this type of group cooperation could not be effectively obtained when the entire classroom was not oriented to the research and used in the sample. It proved impossible to maintain any degree of privacy between the subject and the experimenter during the pilot study. Consequently, the responses given could not be relied upon as accurate.

A separate factor of privacy for the subject and experimenter, confirmed by the pilot study, was the necessity of a screen of some type to aid in separating the experimenter and subject from the group without isolating them completely. It was decided to proceed with previous intentions of using a screen to partially separate the doll house from the remainder of the room.

It was the initial intention of the author to precede the actual collection of data with a block play situation structured similar to the doll play experience which would follow. The purposes of such a
mock research situation would be to acquaint the children with an experimental situation, its structure and content. Hopefully, this would be a pleasant experience with masculine overtones which would put the subjects at ease in this strange situation and make them less hesitant to participate in the research. The pilot study pointed to a need for both familiarity of the subjects with the new experimental situation and a masculine lead to motivate participation on the part of the boys.

Following the pilot study the author concluded that it would be more effective to have the subjects powder specifically the genital area of the dolls rather than the body in general. In this way particular notice of the genital area would take place without the subjects' attention being lost in the larger expanse of the dolls' entire bodies. During the pilot study, powdering the dolls became the major focus of the subjects' attentions rather than serving as an aid to recognition of the genital differences between the dolls. One factor contributing to this situation was the amount of powder that flew from the six small holes of the can each time a subject inverted it. The dolls were blanketed with powder, thereby obstructing observation of the genital areas, rather than serving to focus on the structural differences of the dolls in these areas. Therefore, three of the six holes were covered for the actual collection of data which followed.

Another insight uncovered by the pilot study was the idea of the experimenter pointing directly at the genitals of each doll as a question was directed to the subject concerning that particular doll. This salient factor would draw additional notice to the area under
investigation without overtly verbalizing the focus of attention.

The pilot study reaffirmed the author's belief that the dolls were the same except for the genital differences. The attention of the subjects was focused on the genital areas of the dolls as they seemed unaware of the other areas of the dolls' bodies. In addition, all of the sex differences explained were in terms of the genitals of the dolls with no mention of other differences.

This preliminary trial provided the experimenter with a helpful experience in administering the test and asking the subjects for their responses.

Main Study

Prior to the actual collection of data the subjects were told as a group that although they do many things together, as a group, sometimes they do things with just one teacher and one child. They were told that in the next period of several days, all of them would have a turn to go with the experimenter alone, first to play with some blocks and later to the doll house. It was stressed that they would all need to take their turn to come with the experimenter alone.

The attention of the children was drawn to the coming experimental situation for three major reasons: (1) to stress the necessity for all to participate, (2) to build curiosity and enthusiasm in connection with their anticipated participation, and (3) to emphasize that the experience was for only one child and the experimenter at one time. It was felt that a preview of the experience to come would elicit anticipation of their coming participation by the subjects and
aid in obtaining their cooperation for the research. It was also hoped that such an introduction to the scope and import of the research situation would help in obtaining the support of the male subjects. Giving the subjects advance knowledge of their future participation structured the situation in such a way that the subjects understood in advance that their participation was not optional, but only a matter of when they had their turn. In this manner cooperation of the entire sample would be reasonably assured.

Privacy for the experimenter and subject was essential for reliability of findings. Any clues conveyed to the subject being tested by an observing subject would invalidate the results. Presentation of the coming experimental situation to the group with stress on the experience being for the experimenter and only one child at a time allowed for greater assurance of privacy in the situations to follow. An important factor to obtaining this type of cooperation from the subjects was satisfactory assurance that each subject would be able to have their own individual opportunity in the situation.

High curiosity was an additional factor present in this age group which required adequate manipulation. These children are drawn to the unfamiliar. If the experimental situation were structured with enough unknown to draw out the subjects' curiosity without eliciting an over-reactive response of fear, conditions would be ideal for obtaining the cooperation of the subjects. For this reason the experimental task was briefly stated to make it appealingly familiar without explaining in detail the actual exercise the subjects would execute. It was felt that this amount of introduction would overshadow any fear of the new situation and
arouse enough curiosity in the subjects to make them eager to participate. However, enthusiastic, anticipant subjects present an additional dilemma if they fail to wait their turn to enter the experimental situation. Therefore, the structure of the situation with only one child with the experimenter at a time was essential to the introduction.

Following the introduction a solid screen approximately 4 feet high was placed in a corner of the classroom and behind it was placed a child-size table, two chairs and the blocks. The screen did not completely isolate the experimenter and subject from the remainder of the room, but it allowed them to be separate from the group. The blocks were placed on the table and the box next to them. The subject was shown that the blocks had different designs on each side and then instructed to put the blocks back into the box making any design he wished. When the blocks were replaced in the box, the subject was rewarded with verbal approval from the experimenter, thanked, and excused to play in the room.

The major purpose of the block play situation was to give the subjects experience in the experimental situation. It was designed to provide the subjects with a simple task with a correct response as the only expected result, so that success would be assured. The task was planned with the intent of being simple and requiring only a small amount of time. Blocks were selected for their masculine connotation. The combination of these factors, it was felt, would provide the subjects with a pleasant and successful experience in an experimental situation. The experience they would gain would make them more confident and at ease in the experimental setting to
follow. It was believed that the block play experience should also help dissipate any apprehension toward the new type of situation felt by any of the subjects. The masculine overtones of the first experience with the experimental situation was intended to present the setting as one equally acceptable for boys as girls. The experience was also for the purpose of helping the experimenter become aware of any specific apprehensions of individual subjects and to provide her with a preliminary opportunity to deal with them, before the actual collection of data began. The experimenter would then be aware of potential problems that might arise during the genuine research and be prepared to cope with them satisfactorily without interfering with the resultant findings.

The first subjects were tested during the free play period at the end of the day. It was found that for some of the subjects this was not a good time for they were tired and inattentive. Consequently, it was decided that all future testing would be done as they arrived in the morning. The majority of the subjects were very anxious to take their turn with the experimenter. They would wait their turn on the opposite side of the screen and clamour to be next when one subject left. However, two (one boy and one girl) were apprehensive and expressed a fear of not being able to do the task.

The girl seemed hesitant as she went behind the screen and sat stiffly, as the experimenter explained the task. When the explanation was finished she sat rigidly silent and made no motion to attempt the task. Reassurance that it did not matter how she replaced the blocks had no visible effect. Then she heard some of the children playing on the other side of the screen, and she poked her head around the
screen and greeted them. She then moved to retreat from the uncomfortable experimental situation to the familiar play room and activities. As she started to leave the experimenter told her she needed to put the blocks in the box before she went to play with the other children. She returned to the table, picked up the blocks one at a time and with jerky movements she placed the blocks in the box twisting them in her hands and mechanically muttering, "I don't know which way to put it," over a nervous laugh. She replaced the blocks, hesitated a moment to glance at the completed task and hurried out to play.

The boy refused when asked the first time to go to the blocks. He said, "I can't do it." The second time he was unoccupied when invited, and with persuasion he agreed to go behind the screen with the experimenter. He listened to the instructions and then very deliberately turned the blocks over in his hands as he decided which design to put up. He finished the task and left without rush.

The block play situation did serve the purposes for which it was included. It proved to be a successful and enjoyable situation for all the subjects. They were all more at ease the second time they encountered the experimental situation in the doll house than they had been in the previous block play situation. For those children who were initially frightened of the situation, it gave them confidence and helped them to feel at ease. The subjects received a positive attitude toward the experimental situation and were more eager to participate in a similar situation later in the doll house. All of the boys except one came to the doll house following this without reluctance in contrast to the refusal of the
boys in the pilot study. It appears that the block play situation served as an adequate masculine introduction to recruit the participation of the boys into the experimental situation in the doll house. The experimenter was subsequently able to entice the subjects into the experimental situation while invoking their anticipation and enthusiasm.

This preliminary exercise also helped the children to learn that they were not to go behind the screen until invited by the experimenter. They realized that they really would have the opportunity to take their turn and were, as a result, more willing to wait. Privacy for the experimenter and subject increased as the testing in the block play situation progressed.

From the block play experience it was learned that it was better to test only a few children per day, as this aided in creating a relaxed and responsive environment surrounding the experimental situation. Early morning testing was found to be characterized with a more relaxed atmosphere and more responsive subjects.

For the purposes of this research project, the doll house was set up in the north corner of the laboratory. This area was selected because it was the most isolated, to allow for maximum privacy. A dividing screen approximately 4 feet high was placed in such a way as to allow additional privacy without isolating the experimenter and the subject completely from the remainder of the room. This was the same screen used to separate the experimenter and subject during the introductory block play situation which preceded the actual collection of data.

A child-size table was used, on which to place the two dolls and
the four sets of clothes, during the testing situations. Two child-sized chairs were used, one for the subject and one for the experimenter. The dolls were placed side-by-side on the table with their legs raised exposing their genital regions which were placed near the edge of the table by the chair where the subject was seated. The clothes were placed on the right side of the dolls in two rows. In each row was a dress, and a shirt and slacks outfit. Matching sets of clothes were diagonal to one another. The arrangement of the clothes with respect to proximity to the dolls was changed periodically during the collection of data to control for the placement of the set of clothes nearest the subject on the first doll. The can of powder was held by the experimenter except while the subject was powdering the dolls.

The subject was seated directly facing the two dolls in such a way that he was confronted with the genitals of the dolls. The subject was then instructed that these were the experimenter's new dolls and that they were going to pretend that the dolls had just had a bath. Then the experimenter asked them if they knew what they did with dolls after they have a bath. Regardless of the yes, no, or silent answer, the experimenter continued. We powder their bottoms so they won't get diaper rash. The experimenter then gave the subject the can of powder and instructed them they should powder the dolls' bottoms. The subjects were generally eager for this experience and many took great care in rubbing the powder in thoroughly. The subject was then told that although they were not going to dress the dolls, they were going to decide which clothes to put on the dolls if they were going to dress them. The experimenter then drew the subject's
attention to the clothes and explained that they had two pair of shirts and slacks and two dresses. Then turning to the dolls and pointing to the genital area of one at a time the experimenter asked the subject which clothes they should put on each. As each choice was made, the set chosen was placed on top of the doll. Pointing again to the genital area of the dolls one at a time, the experimenter asked the subject why he chose those particular clothes for the doll. If the subject responded by identifying the sex of the doll, the experimenter then asked how he could tell. The same procedure was used for all the subjects even though they identified the sex of the dolls before choosing the clothes. After testing the first 12 subjects and finding only three at all aware of the genital difference, it was decided to add to the end of the interview of the last eight the question, "Is one of the dolls a boy or are they both girls?" to see if any additional clues to their awareness appeared.

The atmosphere of the interview was very relaxing and free. The corner position of the doll house isolated the subject and experimenter from the distraction of the room noise as well as from the other children. The subject and experimenter were completely alone with the reassuring hum of the classroom in the background.

The children were again eager to have their turn, yet patient in waiting, occupying themselves until told it was their turn. It was the same two children who refused their turn when first asked. The boy peeked into the doll house area once and saw the dolls and doll clothes. When the experimenter was talking to him and letting him know he could have his turn the following day, he firmly reiterated that he did not want a turn. Told that he would need to
take his turn he asked, "Why?" Then he said he didn't want to dress
dolls, so the experimenter explained he wouldn't have to dress them
but only choose the clothes he would dress them in and powder the
dolls. To this he smiled and asked where the powder was. The
following day when told it was his turn he again said he didn't
want to go. However, when the experimenter took his hand he walked
without objection to the doll house. The girl, although a little
apprehensive, consented to have her turn on the second day.

The screen was used to allow for additional privacy to the
experimenter and subject during the testing situation and to provide
for an element of continuity between the block play situation and the
doll house experience. The screen had come to represent to the
subjects the experimental situation and they understood that they
were to wait to enter behind the screen until invited by the
experimenter.

The dolls were placed as near the subject as possible to
facilitate the subject's observation of them. They were arranged
so that the dolls' genitals were facing the subject so that the
subject's primary focus of attention was on the area under investi-
gation. With the dolls in this position, it was almost impossible
for most of the subjects to see over the dolls to observe the
remainder of the dolls' bodies, including their faces and hair.
Consequently, their only opportunity to view the total doll was
when the subject entered the doll house and sat down and again when
they rose to leave. This position of the dolls also made it easier
for the subject to powder the genital area of the dolls.

The clothes were placed near the dolls for convenience in
selection later in the interview. To the right side of both dolls, they were fairly inaccessible to the subject before it came time to use them. In this way the subject's attention was focused on the dolls until it came time to choose the clothes. The arrangement and frequent rearrangement of the placement of the clothes in relation to their proximity to the dolls was intended to control the subject's selection of clothes on the basis of proximity convenience. This appeared to serve its purposes as the subjects most frequently chose the clothes from the closest row, but with numerous variations.

The entire interview was structured to draw attention to the genital differences between the dolls and to discover the subject's understanding of the significance of these differences in as natural and convenient a manner as possible. Having the subject powder the genitals and the experimenter subsequently pointing to the genital areas of the dolls as each was referred to were direct attempts to draw attention to the genital areas of the dolls and to assure that the subjects noticed and observed these specific areas. The subjects were asked to select the clothes for the dolls on the assumption that they would be able to select sex-appropriate clothes for each doll if they recognized and understood their sex.

The questions which followed were to be an additional check of the subject's actual knowledge concerning the sex of the dolls. In requiring an explanation for the subject's selection of clothes, a check was possible to determine whether selection was made on the basis of a recognition of the dolls' sex or merely on whim or at random. If the subject did not recognize the sex of the dolls, his
selection of clothes would carry no sex significance. Therefore, a subject's selection of slacks for the male doll and dress for the female doll would not necessarily indicate a recognition of the dolls' sexes.

The dolls were merely powdered and not bathed and powdered because it was felt that for the boys and younger subjects bathing the dolls was too lengthy, tedious, and difficult a task. Recognition of the genital areas of the dolls was the major objective, and it was felt that this could be accomplished by simply powdering the dolls and that the bath was not essential to this recognition. Simply selecting the clothes to dress the dolls and placing them on the dolls was chosen over actually dressing them because dressing a doll requires fine muscle and eye-hand coordination not yet developed in the majority of the subjects. Also, dressing the dolls would cover the genital area and obstruct its further observation during subsequent discussion. Just powdering and choosing the clothes also shortened the task to accommodate the often short attention span of this age group at a teacher-assigned task.

Thus, the task was designed to draw maximum attention to the genital area of the dolls and to draw from the subjects in as natural and comfortable a manner as possible their recognition of the genital differences and understanding of its significance. The task was simplified as much as possible to allow for the varying degrees of physical and emotional maturity of the subjects. The structure of the situation was also designed to be as relaxed, pleasant, and comfortable as possible so that the subjects would feel free to volunteer their understandings of the genital differences of the dolls.
FINDINGS

The results of the testing failed to fully validate either of the hypotheses. Of the 20 subjects only four were able to identify the male and female dolls on the basis of their genital structure only. All four made it clear that they were distinguishing the dolls on the basis of their genitals, and three were able to talk specifically about this differentiation. They were very open and frank about the differences in the dolls. The fourth seemed uncomfortable in the experimental situation as he sat stiff and silent. Usually a very verbal child, he was unable to verbally express himself under these circumstances.

Of the four subjects who were able to distinguish the sex of the dolls, only three selected the appropriate clothes for them. The fourth subject chose a dress for the male doll and male slacks for the female doll. Anything less than a uniform response on this item cannot be accepted as fully validating the hypothesis that the subjects can select appropriate clothes for the male and female dolls. The wide variety of selections by those subjects who did not recognize the sex difference between the dolls shows an apparent absence of sex significance attached to male slacks and dresses when they are associated with dolls perceived as the same sex.

Two of the four who recognized the genital differences between the dolls did so almost immediately on seeing the dolls. As they entered the doll house and sat down, they first pointed to the genitals of the dolls one at a time and verbalized the sex of each
doll. The third subject first commented, "They're the same," making the differentiation only after sitting down and powdering the dolls' genitals. Indication of the awareness of the fourth came only when he pointed at the dolls' genitals as a reason for his clothes selection. The first three seemed comfortable and free in discussing the genital differences with the experimenter. However, the fourth, normally most verbal, was inhibited by some unseen, undefinable barrier which, nevertheless, is easily understood. The definite and overt responses of the four leave little doubt that each was aware of the sex differences of the dolls and that this awareness was based on an understanding of the genital differences.

Those who gave no indication of recognizing any sex difference between the dolls appeared to the experimenter to be completely impervious to the existence of any difference between the dolls. As they sat facing the genitals of the dolls, unavoidably viewing them during the entire interview, all possessed blank, matter-of-fact expressions absent of any light of wonderment or questioning. During the interview as they powdered the dolls' genitals and selected the clothes, the same expression persisted. Then when the experimenter pointed a third time to the genitals of each doll and asked the subject why he had selected those particular clothes for that doll, the subjects looked first at the experimenter and then at the dolls and back at the experimenter with one of two responses. The most common, 15, was a look which seemed to say, "Just because, Why should there by any other reason?" The second response was to supply the experimenter with a specific reason almost as though that was what they felt was expected of them. The diversity in clothes choices
and the absence of any sex differentiating responses by any in this group supports the assumption that these subjects were unable to distinguish the male and female dolls on the basis of genital cues only.

The individual responses of the subjects were as follows.

Girl, 4-1: chose dresses for both dolls. Her reason was, "Cause this one's the twin sister to it," indicating the female doll was the twin of the male doll.

Girl, 4-2: remarked as she entered the doll house, "This is a little boy," and she pointed to the male doll. When the experimenter asked her how she could tell she replied, "Cause look," and pointed directly to the male genital of the doll. Then she turned to the female doll and exclaimed, "This is a little girl," and pointed directly to the doll's genital. After powdering the dolls she chose a dress for the male doll and male slacks for the female doll.

Girl, 3-9: selected dresses for both. Her reply as to why she chose those particular clothes for the male doll was, "Cause I think she's cute," and for the female doll, "Cause I think she's cute, too."

Boy, 3-7: selected a dress for the male doll and male slacks for the female doll. He took great care in powdering the genitals of the dolls; but when asked the reason for his choice of clothes for the dolls, he replied frankly, "I don't know."

Boy, 3-0: chose dresses for both dolls. He had no special reason for his selection.

Boy, 4-0: chose dresses for both. He had no special reason for his choice.

Girl, 3-8: selected a dress for the male doll and male slacks
for the female doll. Her reply to why she made that particular selection was, "Just because."

Girl, 4-2: chose a dress for the male doll and male slacks for the female doll. She had no special reason for her selection.

Boy, 3-8: pointed immediately to the genitals of the female doll and exclaimed, "This is a little girl," and then pointed to the genitals of the male doll and remarked, "This is a little boy." He smiled and laughed a little and repeated his statements, "A little girl. A little boy," several times as though it were a new game he had just discovered. When asked which clothes he wanted to put on the male doll, he replied, "Boy's clothes," and chose the male slacks. In response to the same question with regard to the female doll, he replied, "Girl clothes," and chose a dress.

Girl, 3-6: chose male slacks for the male doll and a dress for the female doll. Her answer when asked her reason for her choice was a blank expression which appeared to mirror total unawareness.

Girl, 4-10: selected dresses for both dolls. She had no special reason for her selection.

Girl, 4-8: remarked as she first entered the doll house, "They're the same." After she sat down and powdered the dolls, she remarked, "A boy and a girl." Asked which one the male doll was (phrased, "Which one is this?" and pointing to the male doll's genital) she replied, "It's the boy." In reply to the same question regarding the female doll, she said, "It's the girl." Her response to the question of why each doll was the specified sex was simply, "Cause," in both cases. She chose male slacks for the male doll and a dress for the female doll.
Boy, 4-9: told the experimenter he did not want to go to the doll house. He was the same subject who resisted going into the block play situation. However, he did not resist going with the experimenter when she took his hand and began walking towards the doll house. Once in the doll house he appeared relaxed and seemed to enjoy the experience. He chose male slacks for both dolls with no special reason for his choice. When asked if one of the dolls was a boy or if both were girls, he replied, "Both girls."

Girl, 4-1: although hesitant and uneasy in the block play situation, she came to the doll house without hesitation and appeared at ease in the experimental situation. She chose male slacks for both dolls with no special reason for her selection. She also replied that both dolls were, "Girls."

Girl, 4-8: chose dresses for both dolls, "So they can be twins." She replied that the dolls were, "Both girls."

Boy, 3-7: chose male slacks for the male doll and a dress for the female doll. He had no special reason for his selection and replied both dolls were, "Girls." He was primarily interested in powdering the dolls with no special recognition of or interest in their genitals.

Boy, 4-0: sat rigid and silent. He did not want to powder the dolls but watched intently as the experimenter did. He chose male slacks for the male doll and a dress for the female doll. When asked if he had a special reason for choosing the slacks for the male doll he nodded and pointed to the doll's genital. He followed the same pattern for the female doll. Asked if one was a boy he answered, "Yes." Then quizzed as to which one was the boy he turned
his head away and said, "I don't know," apparently unable to communicate further on the topic, although he seemed to know, on the basis of genital identification.

Boy, 4-1: selected a dress for the male doll and male slacks for the female doll. He had no special reason for his selection; but he said, "I think they're both girl dolls."

Boy, 3-8: was a little shy and hesitant as he first entered the doll house. He stood during the explanation of the dolls being new and sat down only upon the second invitation. When he was asked what to do with the dolls after they had a bath, he nodded that he knew yet he held back and did not take the can of powder when first offered. After a brief pause he took the powder can in his hand and sat as though in deep thought. He finally smiled and said, "I'm going to put some powder on its face," and pointed to the face of the male doll. He then powdered the stomach and then the face of the male doll. Next he powdered the genital of the male doll and rubbed the powder in. The female doll then received a generous amount of powder. He turned to the experimenter and remarked, "And it's real powder too." He chose a dress for the male doll and male slacks for the female doll. His reason for the selection was simply, "Cause." Pointing to the genital of the female doll, the experimenter asked, "Is this one's bottom like Wendy's?" (Wendy was his new baby sister.) He replied, "Yes," The experimenter then asked the same question of the male doll in connection with his genitals. He hesitated and appeared a little confused and finally answered, "No. Mine's like this (pointing to the female doll's genital). And Wendy's and Kurt's and Mommy's and Daddy's and everybody's." As he left the doll house
he hesitated, smiling and said, "I'm going to tell mother you have real powder," He said that he thought that both dolls were boys.

Boy, 3-0: sat silent during the entire interview. He did not want to powder the dolls but watched intently as the experimenter did. He chose the clothes without hesitation on an impulse rather than due to any premeditation. He selected a dress for the male doll and male slacks for the female doll. He did not appear to recognize any difference in the dolls. His answer as to the reason for his choice was a shrug of his shoulders in both instances. When he was asked if one of the dolls was a boy or were they both girls, he shrugged his shoulders and shook his head back-and-forth indicating he did not know.

In examining the available data on the subjects in connection with their responses of awareness or lack of awareness of the genital differences between the dolls, only the factor of sex of the subject appears not to influence the probability of awareness in this particular sample. An equal number of each sex, two, expressed an awareness of the genital difference while the other eight of each subsample of 10 seemed unaware of any distinction of significance between the dolls.

The factor of age, however, appears to exert an influence on the child's awareness of the genital cue of sex differences between the dolls. A considerably higher proportion of four-year-olds, one in four, expressed an awareness of the genital difference. The three-year-old group compares with a ratio of one in eight. These two comparative relationships suggest an emerging awareness of genital cues and their significance in distinguishing the sexes. The relatively
Figure 1. Relationship between the proportional numbers of each age group who expressed a recognition of the genital difference between the dolls.
small number of four-year-olds indicating a knowledge of the importance of the genital structure in distinguishing the sexes intimates that for the major portion of this sample this insight is yet to emerge. Nevertheless, the knowledge expressed by the one three-year-old and the three four-year-olds indicates that this concept of sex difference is within the mental capacity of at least some of this age group; but, for most of this sample, such an awareness is yet to come. It also alludes to the importance of other factors besides age which influence the development and appearance of this understanding.

The influence of siblings on the development of an awareness of the significance of genital cues in assigning sex to the dolls was considered carefully. Because all the subjects except one were from homes with at least one other sibling, the import of being an only child on this awareness of the importance of genital cues in distinguishing the sexes could not be dependably evaluated. However, of the five subjects with no opposite-sex siblings, none of them displayed an awareness of the genital differences between the dolls. All four who exhibited an expressed awareness were from homes containing siblings of both sexes. This finding appears to show a connection between being raised with same-sex siblings as opposed to being raised with at least one sibling of the opposite sex and the emergence of an awareness of the significance of genital differences in classifying the sexes. It was also interesting to note that of the three children from homes containing only two children, one of each sex, two of them were expressly aware of the presence and significance of the genital differences of the dolls. It is possible, that in this structure of family, the awareness of the genital difference is
Figure 2. Effect of opposite-sex siblings in the subjects' family on recognition of the genital differences of the dolls.
more pronounced than in larger families containing both sexes.

Another sibling interaction which it was felt might have some bearing on genital significance and awareness was the presence of a new baby in the home. In both cases the baby was of opposite sex to the subject. However, neither subject displayed any awareness of the genital differences between the dolls and their significance in distinguishing the sexes. This factor for these subjects, therefore, does not appear to elicit greater awareness of the genital differences between the sexes.

In an attempt to assess the possible effects of sibling order on awareness, the sample was divided into two groups: those who have opposite-sex siblings adjacent to them in birth order and those who lack this characteristic. Of the six subjects lacking an opposite-sex sibling adjacent to them in birth order, none displayed an awareness of the genital difference of the dolls. This factor appears to be related to the absence of genital cue awareness in this sample.

In summary, four of the 20 subjects demonstrated an awareness of the genital differences between the male and female dolls and their significance in differentiating the sexes. Two of these four were boys and two girls, consequently casting doubt on the influence of sex on such an awareness for this sample. However, age of the subject appears to be significant with one-fourth of the four-year-olds expressing this awareness and one-eighth of the three-year-olds. Increased age seems to also increase the probability of the possession of an awareness of the significance of genital cues on distinguishing the sex of the dolls.
The presence of opposite-sex siblings in the home appears to favor the emergence of an awareness of the presence and significance of genital variations between a male and female doll. Conversely, absence of opposite-sex siblings is correlated with an absence of such an awareness in this sample. An opposite-sex sibling adjacent in birth order is an additional factor which seems to improve the probability of the possession of this awareness of genital cue significance. A family of two children of opposite-sex appears to be an important influence in genital cue awareness for this sample.
DISCUSSION OF FINDINGS

Contrary to the original hypothesis, most of the selected subjects were unable to identify the male and female dolls on the basis of genital structure. Originally, it was felt that the opportunities for casual observation of the genital structure of both boys and girls, made possible by the open toileting situation of their classroom, would aid in the identification of maleness or femaleness on the basis of genital structures of the dolls. However, as a result of the findings, it appears to the author that the very naturalness of the toileting situation may be a significant factor relating to the finding that most of the subjects displayed no awareness of any sex differences between the dolls. It seems possible that because no attention is focused on the genital differences of the subjects, that because toileting is treated casually as a natural, expected happening, the result is that the children place no more significance on their genital differences than do their teachers. Viewing the toileting experience of these children from this perspective, the findings may be more consistent with our expectations.

This explanation of the subjects' relative inability to identify the sex of the dolls on the basis of the genital cues only was supported by a comment made to the author by a local Head Start teacher. She made the observation that the children in her classroom of similar age were very much aware of the sex of the male doll in their room and also why it was male. She felt that one reason
was that her children toileted in separate, isolated facilities and were, as a consequence, more curious as to the reason why they were separated to toilet. Thus they learned to place greater significance on the genital differences between the sexes.

If the naturalness of the open toileting situation does not stimulate recognition of the genital differences of the sexes in this age range of children, what effect does toileting in separate, isolated facilities have on the development of this recognition? Would the children's awareness of the genital differences of the sexes be greater or less? What effect would the restriction of one sex at the open toilets at a time have on the children's awareness? These are questions raised by this study, but left unanswered.

The use of dolls to discover the subjects' awareness of the genital differences of the sexes removes this recognition from the actual situation of differences in humans to inanimate objects generally regarded as belonging to the female sex. None of the neuter dolls in the classroom of these subjects carry any designation of the masculine sex. Most of the clothes provided for the dolls are dresses which gives the indirect implication that the dolls are girls. None of these subjects had previous experience with dolls of specific sex due to genital differences. The only clues with which they may have been previously familiar in designating a doll as male were hair style and masculine clothes. When these cues are held constant, dolls are generally termed girls. This assumption was supported by the responses of the last eight subjects to the question, "Is one doll a boy or are they both girls?" Five of the eight responding answered, "Both girls," the sixth replied, "Both boys," the seventh
was aware of the genital differences between the dolls, and the eighth didn't know. This previous bias of the subjects that "dolls are girls" may have been a factor in shadowing their recognition of any difference in sex between the dolls, and the findings of this study may not provide an indication of their awareness of sexuality among humans.

Entering the experimental situation with a predetermined conception that dolls are girls may have been a significant reason why the subjects in general made no effort to classify the dolls by their sex. Even though they recognized that the dolls were different in genital structure, they may have felt no inclination to rationalize these differences in terms of an actual sex difference between the dolls.

It is possible that if the genitals of the dolls were related to the genitals of a person, preferably within their family, with whom the subject is familiar that a greater awareness of the genital differences between the sexes may appear, or that at least a more accurate assessment of the subjects' knowledge and understanding of the genital difference of the sexes might be revealed. This type of approach would still place the test situation out of the actual human situation, which is too sensitive for this age group to test directly; yet it would still contain a high degree of relationship between the situation where the knowledge was learned and the situation under which that knowledge was tested. This type of approach was explored by the author when the ninth male subject was tested. An attempt was made to relate the genitals of the female doll to those of his new baby sister and the genitals of the male doll to his own. The
confused reluctance of his response in relating the genitals of the male doll to his own caused the author to feel that relating the doll's genitals to the subject's own was perhaps a little too sensitive and immediate. Relating the male doll's genitals to those of the subject's brother probably would have elicited a more relaxed, nondefensive response. However, the greater insight into the subject's understanding of the genital structure of the sexes led the author to believe that this method might have provided more detailed and complete results.

The use of clothing as a secondary symbol proved to be of minimal value in this study. This may be due to the clothing worn by the subjects in their classroom situation. All of the girls have worn a shirt and slacks outfit to the classroom at one time or another. Although some of the girls wear dresses regularly and others occasionally, the usual form of dress for these subjects, both boys and girls, is a shirt and slacks. Also, their boots, coats, and gloves vary only slightly, if at all, with the sex of the children. Therefore, in this situation clothes are not a reliable cue for determining the sex of a person. An added factor which tends to minimize clothing as a sex cue is that the female teachers wear a shirt and slacks in the classroom.

The position of the clothes on the table in relation to the dolls did not appear to be a factor in determining the subjects' selection of clothes for the dolls. Although the experimenter frequently changed the placement of the clothes on the table in relation to the dolls, the most common choice of clothes for both dolls, by those who seemed unaware of the genital differences, was
a dress. This response did not vary with the arrangement of the clothes.

The findings of this study revealed that sex is not a significant factor in predicting recognition of the genital differences of the male and female dolls for this sample. In contrast, Kreitler and Kreitler (1966) found that for their sample boys were better informed about their sex organs than were the girls; and Katcher (1955) concluded from his study that young girls excelled boys in discriminating genital cues.

In general the findings of this study are in agreement with those of Dillon (1934). Age of the subjects appeared as a factor influencing recognition of the genital difference of the sexes in both studies. Dillon indicated that some of her subjects in the older group were able to discriminate between the sexes on the basis of physical differences (Dillon, 1934). A higher portion of four-year-olds than three-year-olds (two to one) in this study expressed a knowledge and awareness of the genital differences between the sexes. Dillon's (1934) conclusion that the children studied from ages 2-3 to 5-2 show very little evidence of any recognition of sexual differences is supported by this study.
The purpose of this study was to discover whether the preschool child who has toileted with boys and girls in an open situation for at least four weeks would recognize the genital differences between a male and a female doll and use this knowledge to select the type of clothes appropriate for these dolls.

Two hypotheses were formed:

1. The preschool child who has toileted in an open situation with both sexes for at least four weeks can identify male and female dolls on the basis of genital structure.

2. The preschool child can select appropriate clothes for male and female dolls on the basis of genital structure as the dominant cue as to sexuality.

Twenty children, 10 boys and 10 girls, between the ages of three and five were selected for testing because they all attended the same classroom and were familiar with the experimenter. Preceding the actual collection of data a pilot study was conducted on a similar but separate classroom of children to test the proposed research design.

The subjects were informed, as a group, of the general content and procedure of the experimental situation to follow. A solid screen was placed in a corner of the classroom for the purpose of separating but not isolating those behind it from the remainder of
the room. Each child was invited by the experimenter to go with her behind the screen to play with some blocks. The subjects' task was merely to place six blocks in a box just large enough to contain them, making any design with the figured shapes on the blocks they desired. The experience was simple, and planned to assure success for each child.

Following this experience the same screen was placed around the doll house area of the room for the same purpose as before. A male and female doll varying only in their genital structure were placed nude on a table behind the screen. Beside them were placed four sets of doll clothes, two sets of dresses and two sets of a shirt and male pants or slacks. Each subject was again invited individually to go with the experimenter behind the screen. Seated facing the genitals of the dolls the subject was told that the dolls had just had a bath and they, the subject, could powder the dolls' bottoms. After the subject completed the assignment, he was asked to choose from the clothes which ones he would put on each doll if he were to dress them. The experimenter pointed to the genital of each doll as the subject made his selection. Again pointing to the genitals of the dolls one at a time, the experimenter asked the subject his reason for his clothes selection.

The findings revealed that four, two boys and two girls, of the 20 subjects were able to identify the sex of each doll on the basis of their genital structure. The other 16 subjects seemed unaware of any significant differences between the dolls. Clothing appeared as only a minimal secondary symbol of sex, perhaps partially due to the similarity of patterns of dress of these children in the classroom. Age appeared to be a significant factor influencing recognition of
the genital differences as one-fourth of the four-year-olds pointed out the sex differences on the basis of genital structure and only one-eighth of the three-year-olds were able to do so. Sex did not appear to be a significant influencing factor as equal numbers of each sex made the required categorization. The presence of an opposite-sex sibling in the subject's home seemed to influence the probability of the recognition of the genital differences as all of the subjects who made the differentiation were from families with siblings of both sexes.

Conclusions

1. Preschool children appear generally to be unable to identify sexuality on the basis of genital structure.

2. Age is a significant factor influencing the child's discrimination of sexual differences.

3. The opportunity for observation and discovery of differences between the sexes through the presence of opposite-sex siblings in the home appears to be influential on the child's development of sexual awareness.

Recommendations for Future Studies

As a result of this study the following suggestions for future studies are made:

1. A similar study of the preschool child's ability to distinguish sex differences on the basis of genital structure, using a sample of kindergarten age, would help to make more clear the influence of maturation and age.
2. A replication of this study using the same neutral corner of the classroom for both the block play situation and the collection of data using the dolls would eliminate some of the feminine connotation surrounding the test situation, and more easily elicit the participation of male subjects in the sample.

3. A further study, relating the genitals of the dolls to the genitals of persons with whom the subject is familiar, preferably to members of the subject's immediate family, might help to indicate more clearly the child's awareness of human sexuality.

4. A similar study using a sample of preschool children who have toileted under different conditions, in a group situation, or from a different cultural or social class group might help to answer some questions raised by this study.
LITERATURE CITED


Sears, Pauline. 1953. Child-rearing factors related to playing of sex-typed roles. (Original not seen; abstracted in American Psychologist 8:431.)

Sears, Robert R. 1953. Preliminary report on a study of identification. (Original not seen; abstracted in American Psychologist 8:431.)

VITA
Genan Taylor Anderson
Candidate for the Degree of
Master of Science

Thesis: The Preschool Child's Awareness of Body Structure in Sexual Differences

Major Field: Child Development

Biographical Information:


Education: Attended elementary school in Hyde Park, Utah; graduated from Sky View High School in 1965; received the Bachelor of Science degree from Utah State University, with a composite major in child development and elementary education, in 1969; completed requirements for the Master of Science degree in child development at Utah State University in 1969.

Professional Experience: 1968-69, graduate teaching instructor in the child development laboratories of Utah State University.