

AN ABSTRACT OF THE THESIS OF

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The two major purposes of this study were: (1) to test the assumption that the IT Scale for Children (standard-ITSC) can be used as a measure of both appropriate sex role discrimination and sex role preference with preschool aged children, and (2) to extend previous studies in these areas by analyzing the relationship between sex role discrimination and preference, and a variety of variables shown to be important in understanding sex role development in young children. These variables included such characteristics as sex, age, IQ, pre-school program involvement and sibling status.

In attempting to test the assumption regarding the adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and sex role preference, all subjects were administered the ITSC three times; once using the standard-ITSC with the sex of the IT figure not designated, once using a modified-ITSC with the IT figure

replaced by a clear drawing of a little boy, and once using a modified-ITSC with the IT figure replaced by a clear drawing of a little girl.

The subjects of the present study were 38 children attending two preschool programs established by the Department of Family Life at Oregon State University. Essentially, subjects in these two preschool programs represented matched pairs based on the variables of age, sex, ordinal position, age of parents, length of parents' marriage, number of children in the family, religion and socioeconomic status of the family.

The instruments used to collect the data for the present study included the standard-ITSC and a modified-ITSC which was specifically designed for this study. The standard-ITSC was used as a measure of sex role preference, while the modified-ITSC was used as a measure of sex role discrimination. The Peabody Picture Vocabulary Test was used to estimate the subjects' IQ scores.

The analysis of variance approach was used to test three null hypotheses concerning the subjects' own sex role discrimination, opposite sex role discrimination and sex role preference scores. The paired-difference test was used to test two additional null hypotheses related to comparisons of the subjects' sex role discrimination and sex role preference scores.

The test of Hypothesis I, dealing with own sex role discrimination scores, revealed a significant interaction effect for sex X

preschool program, and indicated that subjects with same-sex teachers were slightly better than subjects with opposite-sex teachers, in their ability to make own sex role discriminations.

The findings associated with the tests of opposite sex role discrimination scores indicated that: (1) whether the subjects were grouped by sex or sex x age, girls were significantly better than boys in their ability to make opposite sex role discriminations, (2) while older girls were better than younger girls in their opposite sex role discrimination scores, the reverse was true for boys, and (3) older and younger girls differed in their ability to make opposite sex role discriminations to a greater degree than did older and younger boys.

The test of Hypothesis III, dealing with sex role preference scores, was perhaps the most productive of those in this group, in that three of the four main effects yielded significance, as did three of the sex interaction effects. Tests of the main effects indicated that boys, older subjects, and subjects with male teachers had significantly more appropriate sex role preference scores than did their opposite in these groupings. In addition, the significant interaction terms suggest the following: (1) whether the subjects were grouped by sex X age, IQ or preschool program, boys tended to have more appropriate sex role preference scores than girls, (2) while older boys tended to have more appropriate sex role preference scores than younger boys, this was not noticeable for girls, (3) while average girls tended to have more

appropriate sex role preference scores than rapid girls, there was only a minor difference between rapid and average boys, and (4) while boys with same-sex teachers had more appropriate sex role preference scores than boys with opposite-sex teachers, girls with same- or opposite-sex teachers did not differ appreciably from each other.

Results of the paired-difference test as applied to the two additional hypotheses in this study indicated that whether the subjects were grouped by sex, age, IQ, preschool program or sibling status: (1) replacing the IT figure with a clear drawing of a boy in testing, resulted in significantly higher, more masculine mean scores, and (2) replacing the IT figure with a clear drawing of a girl in testing, resulted in significantly lower, more feminine mean scores.

It was concluded that collectively these findings did little to resolve the controversy concerning the use of the standard-ITSC as a measure of both sex role discrimination and preference with preschool aged children. It appears that the findings could be used with equal facility to support and to question this assumption. Attempts were made to relate all specific findings to both theoretical positions and existing research findings in the area of sex role discrimination and preference in preschool aged children. Because of the complexity of the data and the analysis, definitive conclusions regarding the implications of the findings were not possible. In general, however, the results support the multi-dimensional nature of sex role development in

young children and strongly document the need for future researchers to include additional child and environmental variables in their studies. Possible interpretations of the findings and trends in the data were discussed, and sections dealing with limitations of the study and suggestions for future research were presented.

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TABLE OF CONTENTS

<u>Chapter</u>	<u>Page</u>
I. INTRODUCTION	1
Purpose of the Study	5
Definition of Terms	6
Assumptions	6
Hypotheses and Analysis	7
II. A REVIEW OF LITERATURE	9
Aspects of Sex Role Development	9
Sex Role Discrimination	13
Sex Role Preference	17
Sex Role Adoption	21
Sex Role Identification	27
Summary	33
The Controversy Concerning the Adequacy of the Standard-ITSC	35
Sibling Status and Sex Role Development	41
Sex Role Discrimination	42
Sex Role Preference	43
Sex Role Adoption	49
Sex Role Identification	50
Summary	51
Intelligence and Sex Role Development	52
Sex Role Preference	52
Sex Role Adoption and Identification	57
Mental Retardation and Sex Role Development	58
Summary	59
Teacher's Power and Sex Role Development	60
Theory	61
Parental Power and Sex Role Development	65
Paternal Power	65
Maternal Power	71
Teacher's Power and Sex Role Development	83
Summary	87

<u>Chapter</u>	<u>Page</u>
III. METHOD	91
Subjects	91
Description of the Total Sample	92
Sex	93
Age	93
IQ	94
Sibling Status A	96
Sibling Status B	96
Socioeconomic Status	97
Preschool Program I vs. Preschool Program II	99
Subjects	99
Age and Sex	100
IQ, Age of Parents, Length of Parents' Marriage	101
Ordinal Position, Number of Children in the Family, Religion and Socio-economic Status of the Family	102
Daily Program Schedule	105
Teachers	107
Qualifications	107
Educational Philosophy	108
Male vs. Female Teachers	112
Instruments	114
The IT Scale for Children (ITSC)	114
Scoring Procedures	117
Reliability	118
Validity	121
The Peabody Picture Vocabulary Test (PPVT)	122
Scoring Procedures	123
Reliability	124
Validity	124
Procedures	125
Establishment of Rapport	125
The Testing Room	126
Presentation of the ITSC	127
Presentation of the PPVT	128
IV. ANALYSIS OF DATA	131
Introduction	131

Chapter

Page

Hypothesis I	133
Hypothesis II	138
Hypothesis III	143
Hypothesis IV	148
Hypothesis V	150
Additional Findings	150
Controversy: Nature of the IT Figure	150
Identification of the Boy and Girl	
Figure Drawings in the Modified-	
ITSC	152
V. SUMMARY AND DISCUSSION	153
Summary	153
Hypotheses I, II and III	157
Comparison of Instructional Conditions	157
IT vs. Boy (Hypothesis IV)	157
IT vs. Girl (Hypothesis V)	157
Additional Findings	159
Controversy: Nature of the IT Figure	159
Identification of the Boy and Girl	
Figure Drawings in the Modified-	
ITSC	159
Discussion	159
Relationship of Findings to Previous	
Research	159
Own Sex Role Discrimination (Hypo-	
thesis I)	160
Opposite Sex Role Discrimination	
(Hypothesis II)	166
Sex Role Preference (Hypothesis III)	171
Comparison of Instructional Conditions	179
Additional Findings	180
Controversy Concerning the Adequacy of	
the Standard-ITSC	182
The Standard-ITSC as a Measure of	
Masculine Sex Role Discrimination	185
The Standard-ITSC as a Measure of	
Sex Role Preference	187
Summary	188
Limitations of the Study	189
Sample	189
Research Design	190

<u>Chapter</u>	<u>Page</u>
Control of the Treatment Variables	191
Instrument	192
Test Administrator	194
Suggestions for Further Research	194
 BIBLIOGRAPHY	 198
 APPENDIX A	 221
APPENDIX B	223
APPENDIX C	224
APPENDIX D	225

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Description of Subjects in the Total Sample by Age and Sex.	93
2. Description of Subjects in the Total Sample by IQ (PPVT).	95
3. Description of Subjects in the Total Sample by Sibling Status.	97
4. Description of Subjects in the Total Sample by Socioeconomic Class.	99
5. Description of the Subjects in Preschool Program I and II by Sex and Age.	100
6. T-Values of Differences Between the Means of Subjects in Preschool Program I and II on IQ, Father's Age, Mother's Age, and Length of Parents' Marriage.	102
7. Chi-Square Value of Subjects in Preschool Program I and II on Ordinal Position.	104
8. Chi-Square Value of Subjects in Preschool Program I and II on Number of Children in the Family.	104
9. Chi-Square Value of Subjects in Preschool Program I and II on Religion of the Family.	104
10. Chi-Square Value of Subjects in Preschool Program I and II on Socioeconomic Status of the Family.	105
11. Description of the Daily Program Schedule of Preschool Program I and II.	106
12. A Summary of the Analysis of Variance As Applied to the Own Sex Role Discrimination Scores of Subjects With Respect to the Variables of Sex, Age, IQ and Preschool Program.	135

<u>Table</u>	<u>Page</u>
13. A Summary of the Mean Values of the Own Sex Role Discrimination Scores of Subjects Grouped by Sex, Age, IQ, Preschool Program and Sibling Status.	136
14. A Summary of the Analysis of Variance As Applied to the Own Sex Role Discrimination Scores of Subjects With Respect to the Variable of Sibling Status.	137
15. A Ranking of the Mean Values of the Own Sex Role Discrimination Scores of Subjects With Respect to the Variable of Sibling Status A.	137
16. A Summary of the Analysis of Variance As Applied to the Opposite Sex Role Discrimination Scores of Subjects With Respect to the Variables of Sex, Age, IQ and Preschool Program.	139
17. A Summary of the Mean Values of the Opposite Sex Role Discrimination Scores of Subjects Grouped by Sex, Age, IQ, Preschool Program and Sibling Status.	140
18. A Summary of the Analysis of Variance As Applied to the Opposite Sex Role Discrimination Scores of Subjects With Respect to the Variable of Sibling Status.	142
19. A Ranking of the Mean Values of the Opposite Sex Role Discrimination Scores of Subjects With Respect to the Variable of Sibling Status A.	142
20. A Summary of the Analysis of Variance As Applied to the Sex Role Preference Scores of Subjects With Respect to the Variables of Sex, Age, IQ and Preschool Program.	144
21. A Summary of the Mean Values of the Sex Role Preference Scores of Subjects Grouped by Sex, Age, IQ, Preschool Program and Sibling Status.	145

TablePage

- | | | |
|-----|--|-----|
| 22. | A Summary of the Analysis of Variance As Applied to the Sex Role Preference Scores of Subjects With Respect to the Variable of Sibling Status. | 147 |
| 23. | A Ranking of the Mean Values of the Sex Role Preference Scores of Subjects With Respect to the Variable of Sibling Status A. | 147 |
| 24. | A Summary of the Comparisons Between the "IT" Instructional Condition and the "Little Boy" Instructional Condition Grouped by Sex, Age, IQ, Preschool Program and Sibling Status. | 149 |
| 25. | A Summary of the Comparisons Between the "IT" Instructional Condition and the "Little Girl" Instructional Condition Grouped by Sex, Age, IQ, Preschool Program and Sibling Status. | 151 |
| 26. | A Summary of the Results Obtained on the Subjects' Perception of the Nature of the IT Figure. | 152 |
| 27. | A Summary of the Significant Findings in Tests of Hypotheses I, II and III, and Some Important Trends Regarding Sibling Status. | 158 |

SEX ROLE DISCRIMINATION AND PREFERENCE IN PRESCHOOL AGED CHILDREN

CHAPTER I

INTRODUCTION

Almost without exception, current theoretical discussions or reviews of research on sex role preference in young children (Bieliaukas, 1965; Biller, 1970; Biller and Borstellmann, 1967; Kagan, 1964a; McCandless, 1967; Maccoby, 1966; Spencer, 1967) report results which have been obtained with the IT Scale for Children (Brown, 1956b). This test consists of pictures of toys, playmates and activities, some of which are considered masculine, while others are considered feminine. Test procedures require that the child choose from among the variety of pictures presented to him, those which the IT figure (presumed to be ambiguous with respect to sex) would like best. It is assumed that when the child makes his choices from among the pictures presented to him he is indirectly reflecting his preferred sex onto the IT figure. The IT Scale for Children (standard-ITSC), therefore, is a projective device, although an unusually straight-forward one.

More recently, however, through simple modifications in test

procedures, this same instrument has been used to assess sex role discrimination in young children (Hartrup and Zook, 1960; Schell and Silber, 1968). By simply referring to the IT figure as a "little boy" or a "little girl" in testing, these investigations observed the ability of young children to discriminate between symbols and representations associated with one sex or the other.

Among the most frequently cited results from studies using the standard-ITSC as a measure of sex role preference, have been those which document the fact that boys, from age three onward, choose masculine items more frequently and more consistently than girls of the same age choose feminine items. The consistently high (masculine) scores for boys and the typical increase in these scores after the age of three, have been interpreted as a strong preference for the male role and increased "masculinity" each year. On the other hand, girls tend to score in the mid-range of the scale and their scores are more variable than those of boys. Typically, they score lowest on the scale (more feminine) at approximately four years of age and then maintain this level or even score higher (more masculine) through the early elementary school years. Girls then, hit their peak of own sex role preference later than boys, are less intense in their preferences, and may even decline in their "femininity" during the early elementary school years.

A standard interpretation of these results for boys has been that

they develop appropriate sex role preferences earlier than girls. The explanation customarily has been they do so because of the greater prestige, power and attractiveness of the male role; because of the greater clarity in our culture about what is appropriate male behavior than what is appropriate female behavior; and because of the greater pressure put on boys than on girls to learn sex appropriate behavior. A standard interpretation of the results for girls has been that they score in the mid-range and are more variable because they, too, prefer masculine activities, as well as feminine ones, and are much less likely to experience punishment and much more likely to be reinforced for behaving like boys (Brown, 1956b; 1967; DeLucia, 1963; Hartley, 1959; Hartrup, Moore and Sager, 1963; Kagan, 1964a; Kobashigawa, 1959, 1966; Kobashigawa, Arakaki and Awagumi, 1966; Lynn, 1964).

Results obtained from the few studies undertaken using the standard-ITSC as a measure of sex role discrimination indicate that by three years of age boys and girls have already learned to make own and opposite sex role discriminations. Furthermore, it appears that four-year-olds are better than three-year-olds and girls are better than boys in making opposite sex role discriminations.

Despite the fact that these results on sex role discrimination and preference have been obtained in research with some consistency, questions are now being raised concerning the adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and

preference with young children. Studies have accumulated indicating that the IT figure may look more masculine than either feminine or neuter (Brown, 1962; Duryea, 1967; Hall and Keith, 1964; Hartrup and Zook, 1960; Kohlberg and Zigler, 1961; Lansky and McKay, 1963; Lefkowitz, 1962; Sher and Lansky, 1968). Other studies, however, have provided evidence in support of the assumption that the IT figure may indeed be ambiguous with respect to sex (DeLucia, 1963; Endsley, 1967; Handy, 1954; Hogan, 1957; Kobashigawa, 1959; Lowe, 1957; Schell and Silber, 1968). If, as some studies suggest, the IT figure does look more masculine than either feminine or neuter, results on sex role discrimination and preference obtained with the standard-ITSC are all highly suspect. For example, the masculine appearance of the IT figure may account for the predominantly high (masculine) scores obtained with the standard-ITSC in studies of sex role preference, especially among girls. Furthermore, in studies of sex role discrimination (Hartrup and Zook, 1960; Schell and Silber, 1968), although attempts were made to control the sex of the IT figure by referring to it as a "little boy" or a "little girl" in testing, subjects may still have perceived the IT figure as more masculine than either feminine or neuter; hence the finding that girls were better than boys in making opposite sex role discriminations.

The controversy concerning the adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and

preference, therefore, is in need of further investigation. The conflicting results obtained regarding the nature of the IT figure indicate the necessity for more research in this area, especially since the standard-ITSC continues to be used in studies of sex role discrimination and preference with young children (Biller, 1968a, b, 1969a, b; Epstein and Liverant, 1963; Mussen and Distler, 1959, 1960; Mussen and Rutherford, 1963).

Purpose of the Study

There were two major purposes in this study. First, this study attempted to test the assumption that the standard-ITSC can be used as a measure of both appropriate sex role discrimination and preference with preschool aged children. Second, this study attempted to extend previous studies by analyzing the relationship between sex role discrimination and preference, and a variety of variables shown to be important in understanding sex role development in young children. These variables included such characteristics as sex, age, IQ, preschool program involvement and sibling status.

In attempting to test the assumption that the standard-ITSC can be used as a measure of both appropriate sex role discrimination and sex role preference, all subjects were administered the ITSC three times; once using Brown's (1956b) standard-ITSC with the sex of the IT figure not designated; once using a modified-ITSC with the sex of the

IT figure replaced by a clear drawing of a little boy, and once using a modified-ITSC with the IT figure replaced by a clear drawing of a little girl.

Definition of Terms

The definition of terms as operationalized in this thesis included:

- (1) Sex role preference - as measured by the standard-ITSC, operationally defined in terms of preferential responses of children to sex-typed objects and activities found in the test (Brown, 1956a, b; 1957).
- (2) Sex role discrimination - as measured by the modified-ITSC, designed for this study, operationally defined in terms of the discrimination responses of children to sex-typed objects and activities associated with one sex or the other.

Assumptions

- (1) The standard-ITSC can be used as a measure of sex role preference with preschool aged children (Endsley, 1967; Hartrup and Zook, 1960; Schell and Silber, 1968).
- (2) The modified-ITSC, designed for this study, can be used as a measure of sex role discrimination with preschool aged children (DeLucia, 1963; Hartrup and Zook, 1960; Schell

and Silber, 1968).

Hypotheses and Analysis

The following hypotheses were tested in this study. With respect to the variables of sex, age, IQ, preschool program and sibling status:

- Hypothesis I: There will be no significant differences between the own sex role discrimination scores of the subjects.
- Hypothesis II: There will be no significant differences between the opposite sex role discrimination scores of the subjects.
- Hypothesis III: There will be no significant differences between the sex role preference scores of the subjects.
- Hypothesis IV: There will be no significant differences between the sex role preference ("IT" instructional condition) and sex role discrimination ("little boy" instructional condition) scores of the subjects.
- Hypothesis V: There will be no significant differences between the sex role preference ("IT" instructional condition) and sex role discrimination ("little girl" instructional condition) scores of the subjects.

Hypothesis I, II and III were tested using the analysis of variance approach and F-values were generated for tests of sex, age, IQ, preschool program, sibling status comparisons and interaction effects. Hypotheses IV and V were tested using the paired-difference test and t-values were generated for tests of sex, age, IQ, preschool program and sibling status comparisons.

CHAPTER II

A REVIEW OF LITERATURE

The scope and complexity of the literature related to the problem of this thesis suggested organization of this review into five sections. The material in these sections attempted to: distinguish between four different aspects of sex role development; delimit the controversy concerning the adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and preference with young children; and, in turn, to summarize studies which have investigated the relationship between sibling status, intelligence, teacher's power and sex role development in young children.

Aspects of Sex Role Development

One of the major difficulties encountered in reviewing studies in the area of sex role development in young children has been the reluctance on the part of researchers to clearly define terms such as "sex role identification" or "sex role preference" which are used in their research reports. Although it has been a little over a decade since Lynn (1959) indicated the importance of distinguishing between four different aspects of sex role development--sex role discrimination, sex role preference, sex role adoption and sex role identification--many researchers have continued to use these terms interchangeably.

Several studies since 1953 have used measures of sex role adoption as indexes of sex role identification (Bronson, 1959; Lynn and Swarey, 1959, 1962; Milton, 1957; Sears, 1961; Tiller, 1957). A few studies may have confused measures of sex role discrimination with measures of sex role preference (Schell and Silber, 1968) and sex role identification (Donini, 1967; Weider and Noller, 1950). Far more prevalent, however, are those studies in which the measures of sex role preference have been confused with those of sex role identification (Angrilli, 1960; Barclay and Cusumano, 1967; Biller, 1968a, b; 1969a, b; DeLucia, 1963; Epstein and Liverant, 1963; Fritzgerald and Roberts, 1966; Mussen and Distler, 1959, 1960; Rosenberg and Sutton-Smith, 1964b; Sutton-Smith and Rosenberg, 1965).

Problems have arisen from such confusion and they not only make it difficult to obtain a clear understanding of the research in this field, but also, and perhaps more importantly, make it possible for numerous misinterpretations to arise regarding the relationship between sex role development and other aspects of the child's life. It is not surprising, therefore, that several researchers (Biller and Borstellmann, 1967) have expressed concern about the difficulties encountered in interpreting what often appear as contradictory results. An example of this difficulty can be seen clearly in studies focused upon understanding the relationship between father absence and the boy's sex role development (Biller, 1968a, b; 1969a, b; 1970). Interested in this area of study, Barclay and Cusumano (1967) administered two tests of

"masculinity" to groups of matched father absent and father present adolescent males. Analysis of data revealed that on one test, father present and father absent males did not differ in their degree of masculinity. On the second test, however, father absent boys made significantly lower masculine scores than father present boys. Such results appear contradictory upon first reading, but Biller (1968a, b), aware of Lynn's (1959) distinctions between different aspects of sex role development, interpreted these results as indicative of the conflict in sex role development that father absent boys experience. While there are no differences between the sex role preference scores of father absent and father present boys, results suggested that there are differences in sex role identification scores, due to maternal dominance, in father absent homes. Because of social pressure placed upon these boys to conform to the masculine sex role, father absent boys may have developed strong masculine sex role preferences. Such social pressure, however, may not have been of sufficient strength to counter the powerful effects of a dominant maternal figure. Several other studies have also provided evidence in support of this theoretical position (Biller, 1966; Carlsmith, 1964; D'Andrade, 1962; Greenstein, 1966; McCord, McCord and Thurber, 1964; Miller, 1960; Leichty, 1960; Phelan, 1964).

The major implication emerging from this discussion on sex role development in young children, therefore, is quite clear. The

suggestion made by Lynn (1959) regarding the importance of distinguishing between different aspects of sex role development is, at this time, not only important, but also necessary if a more valid understanding of sex role development in young children is to be obtained. Among most individuals the dimensions of sex role discrimination, preference, adoption and identification may all be positively related, but for some individuals there may be discrepancies. For example, a boy may have a feminine sex role identification, but make a masculine sex role adoption, just as a girl may actually prefer masculine activities, but because of social pressure behave in a feminine manner. Recently, two researchers have recognized the importance of these distinctions in research (Biller, 1968a, b, 1969a, b; Ward, 1969).

The present section of this review of literature, therefore, focuses upon defining the four different aspects of sex role development suggested by Lynn (1959). In addition, instruments used to measure these different aspects of sex role development are reviewed. This basic framework will then be used to examine studies summarized in other sections pertinent to this review of literature. Although the present study focused upon only two aspects of sex role development--sex role discrimination and sex role preference--a review of literature including studies related to sex role adoption and sex role identification is also presented. This was done not only because studies in this area of research provided much information for the formulation of

specific hypotheses relevant to this study, but also because they identified areas in which other research might be undertaken.

Sex Role Discrimination

Sex role discrimination refers to an individual's relative awareness of the cultural prescriptions and proscriptions of the masculine and feminine sex role (Billler and Borstellman, 1967). This concept designates an awareness of socially defined symbols and representations associated with one sex or the other. Studies that have attempted to systematically measure sex role discrimination in young children are relatively few. Of those that have been done, however, results indicate that the period between two to three years of age appears particularly important in children's discriminative awareness of themselves as males or females (Brown, 1958; Hartrup and Zook, 1960; Linton, 1942; Miller, 1946; Rabban, 1950; Schell and Silber, 1968). By three years of age boys and girls have already learned to make own and opposite sex role discriminations (Schell and Silber, 1968). Age and sex differences, however, are also present. For example, four-year-olds are better than three-year-olds, and girls are better than boys in making opposite sex role discriminations.

With young children two to five years of age the standard-ITSC has been used as a measure of sex role discrimination (Hartrup and Zook, 1960; Reed and Asbjornson, 1968; Schell and Silber, 1968). The

test consists of pictures of toys, playmates and activities, some of which are considered masculine and some of which are considered feminine. When it is used as a sex role preference test, the child is asked to choose from the variety of pictures presented to him, those which the IT figure (presumed to be ambiguous with respect to sex) would like best. As a sex role discrimination test, however, through the simple modification of referring to the IT figure as a "little boy" or a "little girl" in testing, the child is asked to choose from the variety of pictures presented to him, those which a "little boy" or a "little girl" would like best. The frequency with which the child correctly discriminates between those objects considered feminine or masculine represents his degree of appropriate sex role discrimination. Similar techniques devised by Hartley (Hartley and Hardesty, 1962, 1964) and Landreth (1963) have also been used with older children (four to eleven years). These tests consist of pictures of a large number of activities which represent sampled aspects of play and recreation, peer contacts, participation in parental activities, domestic chores, intrafamily relationships and cultural activities associated with one sex or the other. In these tests the child is asked to indicate which pictures represent activities of boys and girls, or men and women (Hartley, 1960a, b, 1964; Hartley and Hardesty, 1962, 1964; Hartley and Klein, 1959; Landreth, 1963).

Another instrument that has been used recently to assess

children's awareness of masculinity and femininity is Machover's (1949) Draw-A-Person Test. This test was originally designed to measure sex role identification as interpreted in Freudian terms. Use of the instrument in its original form was not satisfactory in that it did not produce evidence of stability and predictable shifts in identification figures of children (Brown and Tolar, 1957; Swenson, 1957). Subsequently, revisions have been suggested which allow use of the test as a measure of sex role discrimination (Biller, Singer and Fullerton, 1969; Donini, 1967; Haworth and Norvington, 1961; Rabin and Limuaco, 1959; Weider and Noller, 1950). Concerned with the degree of sexual differentiation between the male and female figures drawn, and the degree of maleness and femaleness indicated by the drawings, scales have been devised to provide an index of sex role differentiation and sex role discrimination for young children.

Aside from these picture discrimination and drawing tests, a group of studies have used structured interview situations to study children's awareness of sex roles. One of the most interesting interview techniques used, is Hartley's (Hartley, 1960a; Hartley and Hardesty, 1964) Open-Ended Query Technique. In the interview situation the child is asked:

Suppose you met a person from Mars who knew nothing about the way we live here, and that person asks you to tell him about girls (boys) in this world. What would you say girls (boys) need to be able to know and do?

The children's responses are recorded and later rated by several judges as to the degree of awareness of masculine and feminine roles they project. Other studies have devised interview questionnaires to provide information concerning young children's perception of parental roles (Finch, 1955; Gardner, 1947; Hartley, 1959, 1960a; James, 1967; Tasch, 1952). The most detailed of these techniques for use with preschool aged children has been devised by James (1967). Her questionnaire included 45 questions regarding activities that mothers and fathers perform in their daily lives. These questions were categorized according to six parental activities categories. These categories included: (1) household activity, (2) economic role activity, (3) child care and training activity, (4) play as intellectual development activity, (5) social role activity, and (6) discipline and manners role activity. In the interview situation children were asked to name the parent they thought performed each of the specific activities. As was predicted, preschool aged children associated the social role category (taking the child downtown, or walking the child), the play as intellectual development role category (father reading books to the child or playing together with toys) and the economic role category as representative of the father's role, while the categories of discipline and manners, child care and training, and household activities were more descriptive of the mother's role. These results supported earlier findings on young children's differential perceptions of parental roles

(Finch, 1955; Gardner, 1947; Hartley, 1959, 1960a; Tasch, 1952).

Sex Role Preference

While sex role discrimination refers to an individual's relative awareness of the cultural prescriptions and proscriptions of the masculine or feminine role, sex role preference refers to the individual's relative desire to adhere to such cultural prescriptions and proscriptions (Biller and Borstellmann, 1967). This concept designates a preferential set toward symbols or representations of sex role that are socially defined. There is a direct implication of discrimination in such behavior, and a preference for a given role which varies in strength from individual to individual. The individual, therefore, must have at least some awareness regarding which of two roles he wishes to pursue.

Most of the studies done in the area of sex role development have focused upon this aspect of the developmental process (Brown, 1957; DeLucia, 1963; Fritzgerald and Roberts, 1966; Hall and Keith, 1964; Handy, 1954; Hogan, 1957; Lowe, 1957; Rosenberg and Sutton-Smith, 1959, 1964b; Schell and Silber, 1968; Sutton-Smith and Rosenberg, 1960; Walker, 1964; Ward, 1968, 1969). Results indicate that the year from three to four appear to be particularly important for the development of appropriate sex role preferences in young children. By four years of age both boys and girls show distinct masculine or

feminine sex role preferences. Age and sex differences, however, are present. From three onward, boys choose masculine items more frequently and consistently than girls of the same age choose feminine items. The consistently high (masculine) scores for boys and the typical increase in these scores after the age of three, have been interpreted as a strong preference for the male role and increased "masculinity" each year. On the other hand, girls tend to score in the mid-range of the scale and their scores are more variable than those of boys. Typically, they score lowest on the scale (more feminine) at approximately four years of age and then maintain this level or even score higher (more masculine) through the early elementary school years. Girls then, hit their peak of own sex role preference later than boys, are less intense in their preference, and may even decline in their "femininity" during the early elementary school years.

The concept of sex role preference referred to above, calls for an exposure of the individual to a choice situation in which there is a clear masculine or feminine alternative available. Rabban (1950), a pioneer in the careful measurement of sex role behavior with pre-school and school age children, selected toys by first visiting department stores and checking advertisements. After making up a list of toys, he had school age children and graduate students rate them as to their masculinity and femininity. The eight toys most consistently

selected as masculine (steamroller, dump truck, auto racer, fire truck, soldiers, cement mixer, knife, and gun) and eight most consistently selected as feminine (baby doll, doll buggy, high chair, bathi-nette, doll dishes, bed, purse and necklace) made up what he called a measure of "sex role identification"--although it seems more suitable to call it a sex role preference test.

Presently, Rabban's (1950) Toy Preference Test is rarely used in research with young children. Problems inherent in its direct choice technique have led researchers to question its value as a sex role preference test. It seems very likely that in the presence of an adult test administrator, certain social pressures may influence the child's performance on such a test, leading him to choose, not on the basis of his own preferences, but on the basis of what he knows to be conventionally correct. What is being measured if this is the case then, would be sex role discrimination rather than sex role preference.

Aware of this difficulty, Brown (1956a, b, 1957) revised Rabban's (1950) Toy Preference Test, by including a few more items taken from Terman's test of masculinity and femininity (Terman, 1925; Terman and Miles, 1936) and slightly changing its administration procedures. Through Brown's (1956a, b) effort this test has become the most widely used sex role preference test today. Presently, it is called the IT Scale for Children (standard-ITSC). Unlike Rabban (1950), Brown (1956a) used an indirect choice technique in his test

procedures, allowing children to choose items in the test for an IT figure, presumed to be ambiguous with respect to sex. It is assumed that when the child makes his choices from among the items presented to him, he is indirectly reflecting his preferred sex onto the IT figure. Many other methods for assessing sex role preference through picture and toy choices have recently been developed along similar lines (Anastasiow, 1965; DeLucia, 1963; Fauls and Smith, 1956; Lefkowitz, 1962).

Inherent in the above mentioned approaches to assessing sex role preference is the assumption that masculinity and femininity are polar opposites. Supposedly, the more boys differ from girls in their sex role preferences, the more masculine they are. Rosenberg and Sutton-Smith (Rosenberg and Sutton-Smith, 1959, 1960, 1964b; Sutton-Smith, 1965; Sutton-Smith and Rosenberg, 1963), however, have more recently developed a Game Preference Test by which preadolescent boys and girls can be measured on both femininity and masculinity-- masculine games being those almost always selected by boys, and feminine games those almost always selected by girls. The child's preferences are compared with both same-sex and opposite-sex norms. With this independent scoring technique, masculinity and femininity scores are not merely the converse of one another. Studies that have used this instrument in their research are numerous (Fritzgerald and Roberts, 1966; Sutton-Smith, Rosenberg and Morgan, 1963;

Sutton-Smith and Rosenberg, 1960, 1963; Walker, 1964).

Some other examples of scales which essentially seem to be techniques for measuring sex role preference in adolescents and adults include the Terman-Miles Attitude Inventory (Angrilli, 1960; Milton, 1957; Sutton-Smith and Rosenberg, 1961; Terman, 1925; Terman and Miles, 1936), the Minnesota Multiphasic Inventory (Altus, 1958; Milton, 1957; Mitchell and Wilson, 1967; Steimel, 1960; Sutton-Smith and Rosenberg, 1965), the Strong Vocational Interest Blank (Engel, 1960; Steimel, 1960; Stewart, 1959; Rosenberg and Sutton-Smith, 1964a) and the California Psychological Inventory (Barclay and Cusumano, 1967; Gough, 1952, 1957; Lansky, 1960, 1964; Moulton, Burnstein, Liberty and Altucher, 1966; Mussen and Rutherford, 1963; Payne and Mussen, 1956; Sears, 1961; Webb, 1963).

Sex Role Adoption

Sex role adoption refers to a complex pattern of publically observable behaviors, often taking place in the framework of social interaction (Biller and Borstellmann, 1967). An individual's sex role adoption relates to how masculine and/or feminine members of society view his behavior. In contrast to sex role preference, sex role adoption seems a function more of general behavioral imitation, only some of which involves intentional awareness, whereas sex role preference clearly involves cognitive choice. Biller and Borstellmann (1967)

indicate that a particularly important period for the development of sex role adoption appears to be during the third through the fifth years, though certainly, components of adoption can be developed even in the second year and continue to evolve even in adulthood.

Sex role adoption appears to have many facets. For a boy's adoption of masculinity to be assessed, his relative aggressiveness, assertiveness, competitiveness, independence, activity directed toward physical prowess, and mastery of his environment have been taken into account. For a girl's adoption of femininity, however, such behaviors as passivity, dependency and conformity have been assessed.

Research indicates that, indeed, it is difficult to find a sound study of preschool or school aged children in which the behaviors of aggressiveness, assertiveness, competitiveness and independence are not found more frequently among boys than among girls (Bandura, 1962; Bandura, Ross and Ross, 1961, 1963a, b; Biller, 1968a, b, 1969a, b; Dawe, 1934; Gordon and Smith, 1965; Hattwick, 1937; Maccoby and Wilson, 1957; Muste and Scharpe, 1947; McKee and Leader, 1955; Santock, 1970; Sears, Whiting, Nowlis and Sears, 1953; Walters, Pearce and Dahms, 1957). This difference is also present in the make believe themes children tell to dolls or to pictures (Bach, 1945, 1946; Pintler, Phillips and Sears, 1946; Sears, 1951, 1953, 1959), and in children's differential perceptions of adult males and females. If children are asked which parent is more dangerous

or punitive, both boys and girls agree that the father is more threatening, punitive and fearful (Droppleman and Schaefer, 1963; Emmerich, 1959a, b, 1961, 1962; Finch, 1955; Gardner, 1947; Kagan, 1956; Kagan and Lempkin, 1960). Moreover, adults also regard men as more aggressive, assertive and competent than women (Bennett and Cohen, 1959; Child, Potter and Levine, 1946; Jenkins and Russell, 1958) and parents hold differential standards regarding aggression, assertiveness and independence for their children, expecting these behaviors more from boys than from girls (Aberle & Naegele, 1952; Goodenough, 1957; Kohn, 1959; Rothbart and Maccoby, 1966; Sears, Maccoby and Levin, 1957; Tasch, 1952).

A second class of behaviors associated with sex role adoption is the correlated attributes of dependency, passivity and conformity. Girls are allowed greater license to express these behaviors, whereas boys and men are pressured to inhibit them (Kagan, 1964a). The data on sex differences in passivity, dependency and conformity are less consistent than those for aggression, assertiveness, competitiveness and independence, but there are more studies reporting greater dependency, conformity and passivity for females than for males at all ages (Barry, Bacon and Child, 1957; Kagan and Moss, 1962; Koch, 1955; Lindzey and Goldberg, 1953; McCandless, Bilous, and Bennett, 1961; Rychack and Legeski, 1967; Sears, Whiting, Nowlis, and Sears, 1953; Siegal, Stolz, Hitchcock, and Adamson, 1959; Vance and McCall,

1934). Moreover, affiliative and nurturant behaviors are generally regarded as more appropriate for females than for males, and a majority of investigations of overt behavior or story telling responses reveal more frequent occurrence of affiliative and nurturant behavior among girls (Goodenough, 1957; Honzik, 1951; Lansky, Crandall, Kagan and Baker, 1961; Lindzey and Goldberg, 1953; Terman and Miles, 1936; Winker, 1949). Correspondingly, children view women as more nurturant than men, and adult women see themselves as more nurturant than their male counterparts (Bennett and Cohen, 1959; Child, Potter and Levine, 1946; Emmerich, 1959a, b, 1962; Kagan, Hoskin and Watson, 1961).

Because of the complexity and range of behaviors used to describe masculinity and femininity of adoption among young children, there has been some difficulty in systematically measuring sex role adoption. Several studies (Bandura, Ross and Ross, 1961, 1963a, b; Hattwick, 1937; Koch, 1955, 1956; Lansky, Crandall, Kagan and Baker, 1961; Sears, Rau and Alpert, 1965; Sears, Whiting, Nowlis and Sears, 1953) have used simple point scale ratings of masculinity and femininity, whether self, teacher or experimenter administered. Peer ratings have also been employed in a few studies (Biller, 1968a, b, 1969a, b; Gray, 1957; Freedheim, 1960). Most studies, however, have made their assessment in terms of amount of time children spend in displaying sex-typed behaviors during doll play situations or in the school

classroom (Bach, 1945, 1946; Dawe, 1934; Gordon and Smith, 1965; Jersild and Markey, 1935; Lynn and Swarey, 1959, 1962; McCandless, Bilous and Bennett, 1961; Muste and Scharpe, 1947; Pintler, Phillips and Sears, 1946; Santock, 1970; Sears, 1951, 1959; Sears, Pintler and Sears, 1946; Sears, Rau and Alpert, 1965; Vance and McCall, 1934; Walters, Pearce and Dahms, 1957). A particularly promising method has recently been developed by Freeheim (1960). He had first- and fifth-grade teachers select the boys they perceived as most and least masculine in their classes. The teachers then filled out a rating scale for each member in their classes. Five items--"is active and energetic", "likes sports and active games", "leads other children", "makes own decisions", "stands up for his rights"--were found to consistently characterize high masculinity as perceived by the teachers. Three items--"prefers table games", "is timid around others", and "prefers to stay by himself"--were found associated with low masculinity.

An additional set of sex-typed responses related to sex role adoption, although less clearly sex-typed than aggression or dependency, have included the development of skills at problems requiring analysis (primarily involving spacial and mechanical reasoning, science, and mathematics). Particularly well documented is the fact that problems requiring skills in analysis and reasoning are viewed as more appropriate for boys than for girls (Bennett and Cruikshank, 1942; Bing, 1963; Carlsmith, 1964; Crandall and Rabson, 1960;

Heilman, 1933; Hertzberg and Lempkin, 1954; McDavid, 1959; Mellone, 1955; Milton, 1957; Nelson and Maccoby, 1966; Rosenberg and Sutton-Smith, 1964c; Tyler, 1947). Attempts to measure such abilities among young children have used a variety of achievement and aptitude tests (Carlsmith, 1964; Hertzberg and Lempkin, 1954; Milton, 1957; Nelson and Maccoby, 1966; Rosenberg and Sutton-Smith, 1964c) or observations of children's abilities in experimental problem-solving situations (Bennett and Cruikshank, 1942; Crandall and Rabson, 1960; McDavid, 1959; Milton, 1957).

Still another means researchers have used to assess sex role adoption in young children have been through experimental studies of imitation (Bandura and Huston, 1961; Bandura, Ross and Ross, 1961, 1963a, b; Grusec and Mischel, 1966; Hetherington, 1965, 1967; Hetherington and Frankie, 1967; Mischel, 1966; Mischel and Grusec, 1966; Mussen and Parker, 1965; Sarnoff, 1951). In these studies pre-school and school aged subjects are placed in an experimental situation with the purpose of observing models (or parents) of both sexes perform specific behaviors or undertake several problem-solving tasks. After several minutes of observation, the subject is left alone in the experimental situation or asked to carry out the specific tasks observed. The frequency with which the subject enacts the behaviors of the models (of either sex) observed represents the subjects degree of imitation. Results obtained from these studies are quite complex and

indicate that the degree of imitation is not only dependent upon the sex of the model or subject, but also upon the degree to which the model is perceived as more "powerful". Power, in these studies, is most frequently defined as the degree to which a model is both rewarding (nuturant) and threatening (punitive and punishing) to the child.

Sex Role Identification

Sex role identification refers to the actual incorporation of a socially defined role of a given sex and to the unconscious responses characteristic of that role (Lynn, 1959). It refers to the more latent or covert aspects of sex role development. Much has been written criticizing the vague use of the concept of identification; questioning its utility as a research concept (Bronfenbrenner, 1960; Sanford, 1955). Bronfenbrenner (1960) and Freedheim (1960) moreover, stressed the difficulty of operationally defining this concept. It is not surprising, therefore, that many theorists and investigators have confused or equated "sex role identification" with other aspects of sex role development.

At this point one may ask why is there a need to distinguish between sex role identification and other aspects of sex role development. As indicated previously, in most individuals we would expect all aspects of sex role development to be generally consistent with one another. In addition, it would be predicted that if a boy or a girl is

aware of himself or herself as a boy or a girl, such awareness would predispose, though not compel him (or her), to develop a masculine or feminine sex role preference and sex role adoption, respectively.

However, as has been noted in studies of the effects of father's absence upon young children (Biller, 1970), for some individuals experience in the second and third years of life, as compared to those of later years are inconsistent and/or conflict producing. For example, a boy may be exposed only to females who encourage passivity and dependency in the first three years of life, while later there is much social pressure for him to behave in a masculine manner. Demands for such masculine behavior may not become apparent to the boy until he is a preadolescent, or even an adolescent--but in any case, under such conditions an individual's sex role preference and/or even sex role adoption may differ from his underlying sex role identification. Where a relatively feminine identification exists, the strength and consistency of later familial and social experiences may lead to the relative absence of easily observable indications of feminine sex role identification, often making it a latent aspect of behavior (Biller and Borstellmann, 1967).

Even where there is general consistency between aspects of sex role development, there may be relative differences. For instance, a girl may have an extremely strong feminine sex role preference and only a moderately feminine sex role adoption. How such behavior

patterns develop, however, is still relatively unknown and provokes many interesting and researchable questions.

Sex role identification then, may be a necessary concept, but very difficult to operationalize. Whereas sex role preference and adoption can be ascertained by very direct methods, sex role identification may not be easily observable in many individuals due to a variety of learning experiences, defensive operations and adherence to social expectations. Thus, special indirect or projective situations must be used in which the individual may express his sex role identification less constrained by social and conscious self-expectations. Such is a rationale behind the development of the Frank Drawing Test (Frank and Rosen, 1949), which attempts to assess the masculinity and femininity of subjects' elaborations of incomplete line figures (for example, angles are considered masculine, curved lines feminine). This has been found to be a useful technique with adolescents and adults, especially when sex role preference scores are taken into account and contrasted with sex role identification scores (D'Andrade, 1962; Lansky, 1960, 1964; Lansky, Crandall, Kagan and Baker, 1961; Miller and Swanson, 1960). Other indirect projective devices that have been used with children five years upward are the Blacky Tests (Cava and Rausch, 1952; King and King, 1964; Leichty, 1960), and the Thematic Apperception Test (Bieri and Lobeck, 1959; Bronson, 1959; Greenstein, 1966; Lindzey and Goldberg, 1953; McClelland, 1968;

Mussen, 1961). With children five-years-old or younger structured doll play situations have been devised (Lynn and Swarey, 1959, 1962; Sears, 1953). The amount of time a child spends using a father or mother doll provides an index of sex role identification.

Human figure drawings appear to be another possible way of assessing sex role identification. In many studies (Bieliukas, 1960; Biller, 1968a, b, 1969; Biller and Borstellmann, 1965; Biller, Singer and Fullerton, 1969; Brown and Tolar, 1957; Fisher, 1960, 1961, 1968; Haworth and Norvington, 1969; Lynn and Swarey, 1959, 1962; Tiller, 1957) the sex of the first figure drawn has been conceived as a measure of sex role identification. However, it should be noted that although most children and adults draw the same sex figure first, this is consistent with, but does not constitute proof of, such an assumption. Clinical experience (Machover, 1949) and research investigations (Biller and Borstellman, 1965; Lefkowitz, 1962; Phelan, 1964) do suggest that the sex of the first figure drawn taps aspects of sex role development. Brown and Tolar (1957), however, report studies that provide equivocal results.

Another method most recently used to assess sex role identification among adolescents and adults has been Witkin's Rod and Frame Test (Witkin, Dyke, Faterson, Goodenough and Karp, 1962). In the experimental test situation the subject is placed in a darkened room facing a luminous rod which is surrounded by a luminous frame. The

rod and frame can be tilted independently of one another, but the subject sees them both initially in a tilted position. The task of the subject is to adjust the rod to a position perceived as vertical. For certain individuals, adjustment of the rod is such that it is tilted toward the angle of tilt of the surrounding frame, suggesting that the perception of the vertical is more strongly influenced by the surrounding field provided by the frame. These individuals have been characterized as "field-dependent" and show personality traits indicating a "passive" orientation to life. They are persons in need of support in decision making, are accepting of authority, and have a less analytical attitude toward their perceptual world. In contrast to these individuals, however, other individuals are able to adjust the rod to the "true" vertical with minimal error. These persons have been characterized as "field-independent" and show personality traits indicating an "active" orientation to life. They show less need for support in decision making, are independent, and have an analytical attitude toward their perceptual world. Reasoning that the characteristics of a field-dependent person is closely related to personality traits more common among females, and a field-independent person related to personality traits more common among males, Bieri (1960) and Barclay and Cusumano (1967) in their studies used this test as a measure of sex role identification. Findings revealed that this test did differentiate between males and females as predicted.

By far the most widely used technique for assessing identification in school age and older subjects, however, has been the use of a variety of psychological inventories to get at parent-child similarity scores. Measuring identification in this manner is based on the assumption that if the subject "identifies" with a model, he would incorporate some of the characteristics that the model possesses (Kagan, 1958; Kagan and Phillips, 1964). Of importance, however, is the awareness that different researchers have used different methods in assessing the degree of similarity between parents and their children. This obviously influences the results they obtain. In some cases, parents gave responses to one or another psychological scale in the usual manner and then responded to the scale as they thought their children might--"similarity as perceived by parents" (Cass, 1952); in other cases parents and children gave separate responses to one or another psychological scale in the usual manner and were compared--"actual similarity" (Payne and Mussen, 1956); and in still other situations friends of parents and teachers of children responded to the same psychological scale as they thought the parents and children might--"similarity as perceived by others" (Hetherington, 1965, 1967). In most studies, however, children responded to a psychological scale in the usual manner, and then responded to the same scale as they thought their parents might--"similarity as perceived by children" (Aldous and Kell, 1961; Baxter, Lerner and Miller, 1965; Bieri and

Ratzberg, 1953; Block and Turula, 1963; Carlson, 1963; Chang and Block, 1960; Gray, 1957, 1959; Gray and Klaus, 1956; Sopchack, 1952). Some of the more common psychological scales used to assess parent-child similarity have been the Adjective Check List (Chang and Block, 1960; Heilburn, 1963, 1964a, b, c, 1965a, b, c; Stewart, 1958), the Minnesota Multiphasic Inventory (Bieri and Ratzberg, 1953; Sopchack, 1952; Vogel and Lauterbach, 1963), the Edward's Personal Preference Schedule (Heilburn, 1963, 1964a, b, c; 1965a, b, c), adapted forms of Osgood's (Osgood, Succi and Tannenbaum, 1957) Semantic Differential (Baxter, Lerner and Miller, 1965; Bieri, 1960; Fritzgerald and Roberts, 1966; Gray, 1959; Lazowick, 1955), the Strong Vocational Inventory (Cava and Raush, 1952) and the California Psychological Inventory (Payne and Mussen, 1956).

Summary

This section of the review of literature has focused upon distinguishing between four different aspects of sex role development in young children: sex role discrimination, sex role preference, sex role adoption and sex role identification. Research findings relating to each aspect of sex role development and the instruments used to measure them were also summarized.

Sex role discrimination refers to the individual's relative awareness of the socially defined symbols and representations associated

with one sex or the other. Sex role preference refers to the individual's desire to adhere to these socially defined symbols and representations. Sex role adoption refers to the actual overt behavior of the individual relative to a given sex role. Sex role identification refers to the actual incorporation of the role of a given sex and to the unconscious responses characteristic of such a role.

Lynn (1959) assumed that these aspects of sex role development are all positively related to one another. Low positive, but significant relationships have usually been found between sex role preference and sex role adoption (Biller and Borstellmann, 1965; Freedheim, 1960; Gough, 1966; Mussen, 1961; Sears, Rau and Alpert, 1965; Terman and Miles, 1936). The same has been true of sex role preference and sex role identification (Biller and Borstellmann, 1965; Lefkowitz, 1962; Miller and Swanson, 1960). The low order of these correlations suggest the multi-dimensionality of sex role development in young children. In studies relating to the effects of father absence on children's sex role development, however, discrepancies between sex role preference, sex role adoption and sex role identification have been reported (Barclay and Cusumano, 1967; Biller, 1968a, b, 1969a, b, 1970; Hetherington, 1966). Unfortunately, there has been little systematic investigation regarding the interrelationships of sex role discrimination, sex role preference, sex role adoption and sex role identification, and what variables are responsible for variations in

patterings among individuals.

The Controversy Concerning the Adequacy
of the Standard-ITSC

As mentioned previously, the most widely used instrument for assessing sex role preference in young children has been Brown's (1956a, b, 1957) IT Scale for Children (standard-ITSC). The test consists of pictures of toys, playmates and activities some of which are considered masculine and some of which are considered feminine. Test procedure required that the child choose from among the variety of pictures presented to him, those which the IT figure (presumed to be ambiguous with respect to sex) would like best. It is assumed that when the child makes his choices from among the pictures presented to him, he is indirectly reflecting his preferred sex onto the IT figure, thus revealing his own sex role preference. More recently, however, through simple modifications in test procedures, the same instrument has been used to assess sex role discrimination in young children (Hartrup and Zook, 1960; Schell and Silber, 1968). By simply referring to the IT figure as a "little boy" or a "little girl" in testing, these investigations observed the ability of three- and four-year-old children to discriminate between symbols and representations associated with one sex or the other.

Presently, however, questions are being raised concerning the

adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and preference with young children. Studies have accumulated indicating the IT figure to look more masculine than either feminine or neuter to the subjects. Lefkowitz (1962) in studying sex role development in five- to seven-year-old children devised a Game and Activities Test to assess their sex role preferences. Results obtained contradicted Brown's (1956b) original findings, and showed clearly that girls had as much preference for feminine items as boys had for masculine ones. In interpreting these findings, Lefkowitz (1962) suggested that despite efforts made by Brown (1956a) to depict the IT figure as sexually neuter, a majority of both boys and girls saw the IT figure as more masculine than either feminine or neuter. Evidence in support of this suggestion has come from a variety of research studies.

Hartrup and Zook (1960), studying three- and four-year-olds, administered the standard-ITSC under two instructional conditions. These instructional conditions included presenting the standard-ITSC to the subjects (both boys and girls) when the IT figure was simply called "IT"; to boys when the IT figure was called a "little boy", and to girls when the IT figure was called a "little girl". Findings indicated that the scores of the subjects were quite sensitive to the variations in instructional conditions. For girls, statistically significant scores in a "more feminine" direction were recorded when

the IT figure was called a "little girl", than when IT was simply called "IT". Boys, however, did not show any statistically significant changes toward a "more masculine" direction when IT was called a "little boy". Similar results were obtained in a more recent study with five-year-old boys and girls (Sher and Lansky, 1968). Hartrup and Zook (1960) interpreted their results as suggestive of the presence of masculine cues in the IT figure.

Another study by Lansky and McKay (1963) also provided evidence contrary to the findings of Brown (1957) and others (Handy, 1954; Hartrup and Zook, 1960; Hogan, 1957; Lowe, 1957; Hall and Keith, 1964; Kobashigawa, 1959). Recognizing the possible masculine stimulus effects in the IT figure, Lansky and McKay (1963) eliminated this effect by having five-year-old children complete the standard-ITSC for a child named "IT", whose picture was concealed in an envelope. Findings obtained revealed that girls made significantly more feminine choices than boys made masculine choices. The meaning of these results are not clear, but Lansky and McKay (1963) reasoned that the subjects in their study reflected their sex role preferences more accurately with the concealed-IT figure. Duryea (1967) in replicating this study obtained similar results.

Rau (Sher and Lansky, 1968) in criticizing these studies, however, suggested that the concealed-IT figure may have been seen as more feminine than either masculine or neuter by the subjects, thus

producing such conflicting results. Subsequent research with five-year-old children (Sher and Lansky, 1968) indicated that when boys and girls were asked whether the concealed-IT figure was a boy or a girl, boys called the concealed-IT figure a boy and girls called the concealed-IT figure a girl. No feminine bias, therefore, was found in the concealed-IT figure. Other findings reported by Sher and Lansky (1968) supporting the position regarding the masculine character of the IT figure included: (1) boys' sex role preference scores were not more masculine than girls' were feminine; (2) the variability of girls' sex role preference scores was not larger than the variability of boys' sex role preference scores; (3) the majority of both boys and girls said the IT figure was a boy when asked; and (4) a large number of girls changed their sex-attribution of the concealed-IT figure to a boy when the concealed-IT figure was removed from the envelope and shown to them.

If it is the case that the IT figure is actually more masculine to children than either feminine or neuter, it is not unusual that predominantly high masculine scores were obtained with the standard-ITSC in studies of sex role preference, especially among girls. Hartrup and Zook (1960) and Schell and Silber (1968), although aware of these findings still utilized the IT figure in their research on sex role discrimination. Although attempts were made to control the sex of the IT figure by referring to the figure as a "little boy" or a "little

girl", subjects may still have perceived the IT figure as more masculine than either feminine or neuter, hence Schell and Silber's (1968) finding that girls were better than boys in making opposite sex role discriminations.

One of the major purposes of the present study, therefore, was to test the assumption that the standard-ITSC can be used as a measure of both appropriate sex role discrimination and sex role preference with preschool aged children. In attempting to test this assumption, all subjects were administered the ITSC three times; once using Brown's (1956b) standard-ITSC with the sex of the IT figure not designated, once using a modified-ITSC with the IT figure replaced by a clear drawing of a little boy, and once using a modified-ITSC with the IT figure replaced by a clear drawing of a little girl. Analysis of data included comparisons between the sex role discrimination (modified-ITSC) and sex role preference (standard-ITSC) scores of subjects obtained under these three instructional conditions. Furthermore, age and sex differences under each of these instructional conditions were analyzed.

Important to note at this point, however, is the fact that while studies have accumulated indicating the IT figure to look more masculine than either feminine or neuter, other studies (Hall and Keith, 1964; Handy, 1954; Hartrup and Zook, 1960; Hogan, 1967; Kobashigawa, 1959; Lowe, 1957) have provided evidence in support of the

original position held by Brown (1957). Rosenberg and Sutton-Smith (1961, 1963) with children six to eleven years of age, obtained results indicating that while boys continued to increase in their preference for masculine games during these years, girls showed evidence of a backward trend toward increased preference for masculine games.

Rabban (1950), DeLucia (1963) and Ward (1968) using Toy Preference Tests with children three to eleven years of age, reported similar findings. Other important studies by Handy (1954) and Kobashigawa (1959), using the standard-ITSC, but replacing the IT figure with another figure judged to be more sexually ambiguous (e.g. a "somebody figure", or a baby without sex differentiated characteristics) obtained results comparable to Brown's (1956b, 1957).

Of most importance, however, are studies which contradict research findings indicating the presence of masculine cues in the IT figure. Schell and Silber (1968), replicating the study by Hartrup and Zook (1960), obtained contrary results. In their study they found that both boys and girls made more masculine and feminine scores, respectively when the IT figure was called a "little boy" and a "little girl", than when the IT figure was simply called "IT". Such results, therefore, undermined the basis from which Hartrup and Zook (1960) drew their conclusions regarding the masculinity of the IT figure. Furthermore, Endsley (1967), in criticizing the study done by Lansky and McKay (1963), pointed out that the contradictory findings obtained

by Lansky and McKay (1963) with their concealed-IT figure, may have resulted from problems in research design. The researchers' failure to counterbalance their treatments, or more generally the inappropriateness of employing a "within S's design" to determine the existence of a masculine bias in the IT figure, was suggested. Replicating the study done by Lansky and McKay (1963), Endsley (1967) used a "between S's design" in his research. Results obtained provided evidence in support of the position taken earlier by Brown (1956b, 1957). Even with the concealed-IT figure Endsley (1967) found that boys had more masculine preferences than girls had feminine preferences. He concluded, therefore, that there was no evidence in support of the view that a masculine bias characterizes the IT figure.

The controversy concerning the adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and preference, therefore, is in need of further investigation, especially since it continues to be used in research with young children (Billler, 1968a, b, 1969a, b; Epstein and Liverant, 1963; Mussen and Distler, 1959, 1960; Mussen and Rutherford, 1963).

Sibling Status and Sex Role Development

Research focused upon investigating the relationship between sibling status and sex role development are just beginning to emerge in the literature. To date only one study has been undertaken with

preschool aged children (Schell and Silber, 1968). Several studies have used young adults as subjects (Heilburn and Fromme, 1965; Rosenberg and Sutton-Smith, 1964a; Sutton-Smith, Roberts and Rosenberg, 1964). Most studies, however, have used preadolescents as research subjects (Brim, 1958; Brown, 1956b; Fauls and Smith, 1956; Koch, 1955, 1956; Sutton-Smith and Rosenberg, 1965).

Concerning studies focused upon investigating the relationship between sibling status and different aspects of sex role development, only one study has attempted to explore the relationship between sibling status and sex role discrimination (Schell and Silber, 1968). There are few studies present exploring the relationship between sibling status and sex role adoption (Brim, 1958; Koch, 1955, 1956), and sex role identification (Heilburn and Fromme, 1965). Most research investigations, however, have centered upon delineating the relationship between sibling status and sex role preference (Brown, 1956b; Rosenberg and Sutton-Smith, 1964a, 1968; Schell and Silber, 1968; Sutton-Smith, Roberts and Rosenberg, 1964; Sutton-Smith and Rosenberg, 1965).

Sex Role Discrimination

Schell and Silber's (1968) study represents the only investigation found in the literature regarding the relationship between sibling status and sex role discrimination in young children. Comparing

three- and four-year-old only-children with children having opposite- and/or opposite-and-same-sex siblings, they found that children with opposite- and/or opposite- and same-sex siblings were more aware of sex role discriminations appropriate for their own- and opposite-sex. The standard-ITSC, with modifications in instructions, was used as a measure of sex role discrimination. In interpreting these results, the authors pointed to the theory that having opposite- and same-sex siblings within the family provided a contrast to the child whereby the learning of his own sex role is facilitated, while having an opposite-sex sibling served as a salient model for instructing the child in opposite sex role discriminations. The author's failure to distinguish between subjects with same-sex siblings, opposite-sex siblings, and same- and opposite-sex siblings (mixed), however, may have influenced their results. Furthermore, whether subjects with opposite-sex siblings had siblings who were older or younger than they was not made. As will be seen in the following discussion, the importance of making these distinctions in studying sex role development in young children is quite necessary.

Sex Role Preference

Most investigations centered upon studying the relationship between sibling status and sex role development have focused upon delineating the relationship between sibling status and sex role

preference. Studies utilizing only-children in their sample report conflicting results. Fauls and Smith (1956) focusing upon the sex role preferences of five-year-old children, hypothesized that children with older-like-sex siblings will prefer appropriate sex role play materials and activities significantly more often than children without siblings. Findings obtained, through use of a Picture Preference Test, designed for the study, revealed results contrary to the hypothesized relationship. Instead, only-children preferred appropriate sex role play materials and activities more often than children with older-like-sex siblings. In interpreting these results, Fauls and Smith (1956) suggested that the previous notion regarding the influence of an older-like-sex sibling upon young children may be overrated. The greater availability of the parent of the same-sex in families with only-children, and the greater concern of parents about teaching their only-child appropriate social behaviors, suggest a facilitation of appropriate sex role preferences among only-children.

A study reported by Rosenberg and Sutton-Smith (1964a), with children nine to twelve years of age, however, provided evidence in support of Fauls and Smith's (1956) original hypothesis. Using their Game Preference Test as a measure of sex role preference, they found only-boys to be more feminine in their sex role preferences than children in all other sibling status groupings. Furthermore, only-girls were found to be more masculine in their preferences than all other sibling status groupings. They interpreted these results as

suggestive of the theory that in only-child families, the availability of the opposite-sex parent, as a sex role love-object, is more abundant than in families where there are two or more children. Such availability may lead only-children to develop more cross-sex role preferences than children in families with siblings. When extending their study to subjects twenty years of age, however, Sutton-Smith and Rosenberg (1965) obtained still different results. In this study the M-F scale of the MMPI was used as an index of sex role preference. Results obtained indicated that only-boys had less feminine sex role preferences than only-boys ten years of age, and only-girls had less masculine sex role preferences than only-girls ten years of age. Also, these only-children had less appropriate sex role preferences than boys and girls with same-sex siblings. Age differences were interpreted as indicative of the social pressure placed upon twenty-year-olds to conform to appropriate sex role patterns, which is less severe at the younger age levels. Sibling status differences, however, were interpreted as suggestive of: (1) the influence of the greater availability of same-sex models in families with same-sex siblings; (2) the influence of the greater availability of opposite-sex models in families with opposite-sex siblings; and (3) the influence of the greater availability of the opposite-sex parent in only-child families.

Studies focused primarily upon understanding the relationship

between children with same-sex siblings and opposite-sex siblings and sex role preference also provide interesting results. Findings in this area reveal much more consistent results. Generally, it has been found that children with opposite-sex siblings have less appropriate sex role preferences than children with same-sex siblings (Brown, 1956b; Rosenberg and Sutton-Smith, 1968; Sutton-Smith, Roberts and Rosenberg, 1964; Sutton-Smith and Rosenberg, 1965). Girls, however, have been found to be less consistent in their sex role preferences than boys. Studies with preadolescents have used Brown's (1956a) standard-ITSC and Rosenberg and Sutton-Smith's (1959, 1960, 1961) Game and Preference Test to assess sex role preference. With young adults, the Strong Vocational Interest Inventory and the M-F scales of the MMPI and the California Psychological Inventory have been employed. In interpreting these results, researchers have pointed to the influence of the greater availability of same-sex models and opposite-sex models in families with same-sex siblings and opposite-sex siblings, respectively.

It should be pointed out, however, that whether a child has a same-sex sibling or opposite-sex sibling in his family does not account for all the variance present in the results obtained concerning sex role preference. Whether the opposite-sex sibling is older or younger than the child seems to be a very important variable to consider. A few studies with preadolescents and adults indicate that children with

opposite-sex siblings who are older than they, have less appropriate sex role preference scores than children with opposite-sex siblings who are younger than they (Brown, 1956b; Rosenberg and Sutton-Smith, 1964a; Sutton-Smith and Rosenberg, 1965). Thus, girls with older brothers are less feminine (and more masculine) in their sex role preferences than girls with younger brothers; and boys with older sisters are less masculine (and more feminine) in their sex role preferences than boys with younger sisters.

Parson's (Parson and Bales, 1955) role theory has been used to interpret these findings. According to this theory, given two other persons with whom one interacts and who differ in power over the actor (i. e., differ in the degree to which they control rewards and punishments for the actor), one would predict that the actor would adopt more of the characteristics of the powerful, as contrasted with the less powerful other person. This follows from the fact that it is more important for the actor to predict the behavior of the powerful figure, that he is motivated more strongly to take his role, that the rewards and punishments are more impressive and the learning consequently better. Interaction between two figures of unequal power should also yield parallel results. There would be a greater assimilation of the role of the other into the actor's role for the less powerful figure, for the same reasons above. Thus, the power of the older-opposite-sex sibling in the interactional relationship between siblings

of different age levels leads the younger sibling to emulate the older-opposite-sex sibling as a model.

This interactional relationship between siblings, however, is not a one-sided affair. It does not imply that the more powerful figure need not take the role of the other, or assimilate to a lesser degree elements from the other's role. The less powerful figure has always some control over rewards and punishments, requiring that his reactions be considered. A younger sibling with an older-opposite-sex sibling, therefore, can influence the sex role development of the older-opposite-sex sibling. This has been borne out in two research investigations which compared the sex role preference scores of subjects having younger-opposite-sex siblings with subjects having same-sex siblings. Such comparisons among preadolescents and young adults revealed that subjects with younger-opposite-sex siblings had less appropriate sex role preferences than subjects with same-sex siblings (Rosenberg and Sutton-Smith, 1964a; Sutton-Smith and Rosenberg, 1965).

Finally, it should be made clear that the studies reviewed here have primarily focused upon research with one- and two-child families. Only one investigation could be found reporting results applicable to children in three-child families (Rosenberg and Sutton-Smith, 1964a). Results obtained are preliminary in nature, but suggest the need for a more comprehensive theory of sex role development.

Employing their Game Preference Test, with nine- to twelve-year-old children, Rosenberg and Sutton-Smith (1964a) found that boys with two sisters and girls with two brothers expressed more appropriate sex role preferences than boys with one sister and girls with one brother. The authors, while aware of the preliminary nature of their results, suggested that clinically, these findings can be interpreted as indicative of the reaction on the part of these children to a sex role inadequacy by a compensatory heightening of their own sex role preferences.

Sex Role Adoption

There is a dearth of studies concerning the relationship between sibling status and sex role adoption. Brim's (1958) study, which involved a re-analysis of Helen Koch's (1955, 1956) data on the personality traits of five- and six-year-old children remains the only investigation found in this area. Using rating scales to evaluate the masculine or feminine adoption of these children, Brim (1958) found that boys with sisters, particularly older sisters, tended to be more feminine in their behavioral traits than boys with brothers. Furthermore, girls with brothers, particularly older brothers, tended to be more masculine in their behavioral traits than girls with sisters. In this study masculinity of adoption referred to such behavioral traits as aggressiveness, competitiveness, ambition and

tenacity. Femininity of adoption, however, referred to such behavioral traits as affectionateness, obedience, kindness and friendliness.

Brim (1958) concluded that his findings supported the role theory of sex role development previously summarized. He was quick to point out, however, that his findings were subject to the strict limitations of two-child families. Not only do Fauls and Smith (1956) in their study on sex role discrimination demonstrate this limitation with regard to one-child families, but also a more recent study by Rosenberg and Sutton-Smith (1964a) on sex role preference demonstrates this limitation with three-child families.

Sex Role Identification

The scarcity of studies in the area concerning the relationship between sibling status and sex role identification, also witnesses the fact that research in this area of sex role development is just beginning to emerge. Only one study was found bearing upon this relationship. Heilburn and Fromme (1965) using college age students as subjects, obtained results indicating that only-children (boys and girls) showed higher identifications with their mothers than any other sibling status groupings studied. Identification in this study was defined as the subjects' perceived similarity between themselves and their parents, obtained by administering to the subjects an Adjective Check List. Heilburn and Fromme (1965) suggested that these results

pointed to the notion that being the first- and only-child in a family was associated with an enhanced identification with the mother. The greater maternal nurturance in such family situations, or the temporary experience of having an exclusive maternal model may have promoted an early and continuing identification for the child.

Summary

The review of research concerning the relationship between sibling status and sex role development indicates the necessity for more research in this area. While most studies have focused upon the relationship between sibling status and sex role preference, there is need for more research in all other areas of sex role development. Furthermore, only one study was found using preschool aged children as subjects.

The scarcity of research in this area provided the major impetus for a study in this area and in the present study an attempt was made to investigate the relationship between different sibling status groupings and sex role discrimination and preference in preschool aged children. Analysis of data included comparisons of sex role discrimination and preference scores of preschool aged children in the following sibling status groupings (Sibling Status A): (1) children with a same-sex sibling, (2) children with an opposite-sex sibling, (3) children with both same- and opposite-sex siblings (mixed) and

(4) children with no siblings. Furthermore, as studies have suggested, a comparison of sex role discrimination and preference scores of preschool aged children with an opposite-sex sibling who were older or younger than they was undertaken (Sibling Status B/A₂ and B/A₃).

Intelligence and Sex Role Development

Presently, very little is known concerning the relationship between intelligence and sex role development in young children. There is some suggestion that this relationship is a positive one (Billier, 1968a; Kohlberg and Zigler, 1966; Lefkowitz, 1962). Other studies, however, have reported low negative correlations between general intelligence and sex role development (Gough, 1949; Terman and Miles, 1936). Some of the inconsistencies among these findings may be attributed to different measures of masculinity-femininity applied. However, Kohlberg (1966) and Kohlberg and Zigler (1966) suggested that such varying relationships may be due to the fact that the relationship between intelligence and sex role development is age-specific, i. e. intelligence affects sex role development in different ways at different ages, rather than in an absolute manner.

Sex Role Preference

Kohlberg (1966) suggested that at the younger ages IQ appears to be positively correlated with appropriateness of sex role development

in young children. While there are no studies available which center upon the relationship between IQ and sex role discrimination to provide evidence in support of this position, the few studies undertaken in the area of sex role preference provide some support.

For boys, four and five years of age, Kohlberg and Zigler (1966), using a Picture-Preference Test, Brown's (1956a) standard-ITSC, and a rating scale to evaluate children's preferences for a male vs. a female experimenter, found that bright (Binet IQ) boys were more masculine in their sex role preferences, and preferred the male experimenter more often than average boys. Biller (1968a) studying boys of similar ages, found comparable results. For girls, however, findings are less clear cut. Kohlberg and Zigler (1966) reported that bright girls were more feminine in their sex role preferences (standard-ITSC, Picture Preference Test) than average girls. In evaluating the girls' preferences for a male vs. a female experimenter, however, bright girls were found to prefer the male experimenter more than the female experimenter. For average girls, the converse was true.

Studies with children five to ten years of age provide further interesting results. While Kohlberg and Zigler (1966) found bright boys, six years of age, more masculine in their sex role preferences than average boys of the same age, both bright and average boys increased in their masculine sex role preferences until seven years of age, when no difference between bright and average boys occurred.

Bright and average boys had completely masculine sex role preference scores from seven to ten years of age. Findings obtained by evaluating boys' preferences for a male vs. a female experimenter, however, provided contrasting results. Kohlberg and Zigler (1966) found that between five to seven years of age, bright boys seem to shift in their preferences toward a female experimenter, while average boys shifted in their preferences toward a male experimenter. Moss and Kagan (1958) in an earlier study, with similar age boys, provided evidence in support of this developmental trend. In their study they found that among boys, IQ (Binet) was positively correlated with an interest in opposite-sex games and activities; that is bright boys five to seven years of age were interested in games and activities considered more feminine than average boys. From ages seven to ten years, however, Kohlberg and Zigler (1966) noted that another interesting shift in preference took place. Average boys now moved back toward a preference for a female experimenter, something bright boys had done some two years earlier. During the same period, however, bright boys appear to move away from a preference for a female experimenter toward a preference for a male experimenter. It is not surprising, therefore, that Lefkowitz (1962) in an earlier study with boys seven to ten years of age, found IQ (CTMM), to be positively correlated with appropriate sex role preferences in boys.

Findings concerning girls are also quite intriguing. Kohlberg

and Zigler (1966) reported that from five to six years of age bright girls appeared to decline in their feminine sex role preferences to a more masculine one, than increased in their sex role preferences, from ages six to ten, to a more feminine one. Average girls, however, increased in their feminine sex role preferences from five to seven, then declined in their feminine sex role preferences, as bright girls had done two years earlier. In evaluating girls' preferences for a female vs. a male experimenter, however, Kohlberg and Zigler (1966) found that although bright girls maintained their preferences for a male experimenter until seven years of age, from seven to ten years of age, they gradually shifted in their preferences toward a more "neutral" position. In contrast average girls increased in their preferences for a male experimenter from six to ten years of age, just as bright girls had done two years earlier. It is not surprising, therefore, that Lefkowitz (1962) in an earlier study with girls seven to ten years of age, found no relationship between IQ and sex role preference in girls.

In interpreting these results, Kohlberg and Zigler (1966) and Kohlberg (1966) suggested that while the results appear quite confusing upon first reading, further analysis provided important information regarding the relationship between intelligence and sex role preferences among children four to ten years of age. In almost every case, IQ differences were interpreted as indicating bright children to be more

advanced in terms of age trends found among average children. Further research is necessary to provide more evidence in support of this theory.

While intelligence and sex role preference appears to be positively correlated during four and five years of age, especially among boys, Kohlberg (1966) further hypothesized that during adolescence, intelligence may be positively correlated with femininity in boys and masculinity in girls. The reason given for such a shift in the relationship between intelligence and sex role development is the fact that during these years, developmental advances toward greater heterosexual interests arise. Support for this position has come primarily from studies focused upon intelligence and sex role preference in adolescents. Research concerning other aspects of sex role development are nil. Gough (1949) in studying 17- and 18-year-old high school students found low negative correlations between sex role preferences (MMPI) and IQ (Otis). This supported Terman and Miles' (1936) earlier finding that bright adolescent boys and girls showed less appropriate sex role preferences (Terman-Miles Attitude Inventory) than average adolescent boys and girls. Furthermore, Campbell (1939) in his study of children's interest in the opposite sex, found a moderate positive correlation between IQ (Binet) and interest in the opposite sex among 16-year-old boys and girls.

Sex Role Adoption and Identification

Of the few studies focusing upon the relationship between IQ and sex role adoption and identification, further interesting results are present. While Kohlberg and Zigler (1966) and Biller (1968a) found IQ to be positively related to masculinity of adoption (i. e. degree of imitation of the male model, and degree of aggressiveness, assertiveness, competence, and independence) and identification (Draw-A-Person Test) among four- and five-year-old boys, Kohlberg and Zigler (1966) found this not to be true of girls. Bright girls, four to five years of age imitated the male model more and were more attached to their fathers than their mothers. For average girls the converse was true.

Of the developmental trends concerning children six to ten years of age, Kohlberg and Zigler (1966) indicated that from six to seven years of age bright boys shifted in their imitations of the female model and became more attached to their mothers than their fathers. Average boys, however, increased in their imitations of a male model and became more attached to their fathers. At approximately ages eight to ten, bright and average boys shifted in their imitations and attachments to a more neutral position.

For girls, six to ten years of age, findings revealed that bright girls imitated the male model more and were more attached to their

fathers than average girls. This lasted until seven years of age. Following this period, both bright and average girls shifted in their imitations and attachments to a more neutral position; bright girls reaching a neutral position more rapidly than average girls.

Mental Retardation and Sex Role Development

Other studies of interest, providing information regarding the importance of intelligence and sex role development among children, have utilized mentally retarded children as subjects. Although none of the studies center upon the relationship between intelligence and sex role discrimination, several studies are present concerning other aspects of sex role development.

Biller and Borstellman (1965) and Clark (1963a, b) reported positive relationships between IQ and appropriate sex role preferences (standard-ITSC) among mentally retarded children. Fisher (1960, 1961) also indicated the presence of a positive relationship between IQ and appropriate sex role identification (Draw-A-Person Test) among such children. Studies of sex role adoption, however, reveal conflicting results. Biller and Borstellman (1965) showed that adoption of masculinity (i. e. aggressiveness, assertiveness, competence and independence) was positively related to IQ among mentally retarded boys and girls. In all these studies the instrument used to measure IQ was not described.

Summary

Studies focused upon investigating the relationship between intelligence and sex role development are quite sparse. Of the relatively few studies reviewed, all provided information suggesting the presence of important relationships between intelligence and sex role development. Despite this fact, however, only a few studies have recognized the importance of this variable in research. In a most recent review of research on sex role development among pre-adolescents, only one paragraph was spent discussing this topic (Biller and Borstellmann, 1967).

To date investigations have not explored the relationship between intelligence and sex role discrimination in young children. Studies centered upon the relationship between intelligence and sex role preference, adoption and identification, are present, but clearly indicate a need for more research. Furthermore, only one study reported results applicable to children four years of age. No study has yet focused upon children three years of age.

The need for additional research concerning the relationship between intelligence and sex role development provided the impetus for the present study. In this study an attempt was made to explore the relationship between intelligence and sex role discrimination and preference among three- and four-year-old children. The Peabody Picture Vocabulary Test (PPVT), a measure which provides an estimate of a

child's verbal intelligence through measuring his receptive vocabulary was used to do this (Dunn, 1965). Analysis of data included comparisons of sex role discrimination and preference scores of "rapid" and "average" learners, as measured by the PPVT.

Teacher's Power and Sex Role Development

Studies focusing upon understanding the relationship between teacher's power and sex role development in young children are quite sparse. Most studies related to this topic have focused upon delineating the relationship between parents and their children's sex role development. A review of literature pertinent to the study of the relationship between teacher's power and sex role development in young children, therefore, will include a summary of the theories and research findings concerned with the relationship between parents and their children's sex role development. This section of the review of literature will be divided into three parts. Part one will briefly present theories that have been posited concerning sex role development in young children, with an emphasis placed upon role theory; part two will summarize research studies focused upon understanding the relationship between parental power and sex role development in children; and part three will focus upon reviewing the few studies present concerning the relationship between teacher's power and sex role development in young children.

Theory

Major hypotheses pertaining to sex role development in young children have been derived from theories of identification. Such theories attempt to account for more than sex role development, however, the purpose here is to discuss briefly, hypotheses relating primarily to sex role development in children in an attempt to specify possible familial antecedents.

Most theories of identification agree that identification is based on a process or processes whereby the child, through imitation, modeling or introjection, acquires traits or characteristics similar to his parents. Although there is agreement in the defining characteristics of identification, the various theories diverge in their emphasis on the relative importance of motivational and learning conditions leading to identification. Three variables have frequently been hypothesized in different theories as affecting identification: parental nurturance, parental punitiveness and parental power.

Some learning theorists (Mower, 1950; Bronfenbrenner, 1960) tend to interpret identification as a process based on the child's desire to reproduce the behavior of an affectionate and rewarding parent. This theory holds that a person with whom the child identifies, in a sense of loving and respecting him, facilitates sex role identification. It is the child's perception of his parent as warm and nurturant that is the major factor in sex role identification. This type of identification

is often referred to as "anaclitic identification". Considerable evidence has accumulated in support of this theory of identification (Aldous and Kell, 1961; Bandura and Huston, 1961; Bandura and Walters, 1963; Bronson, 1959; Carlson, 1963; Gray and Klaus, 1956; Helper, 1955; Hill, 1967; Jourard, 1957; Mussen, 1961; Mussen and Parker, 1965; Mussen and Rutherford, 1963; Payne and Mussen, 1953; Sears, Mccoby and Levin, 1957).

In contrast to learning theory, traditional psychoanalytic theory (Freud, 1933, 1949) has stressed "defensive identification" or "identification with the aggressor" as the primary condition leading to identification. This process involves the acquisition of behaviors of a punitive and aggressive parent, and is based on an anticipation of punishment and threat from such a parent. Early studies which support this theory of identification have come from clinical case studies, anecdotal evidences and naturalistic observations (Bettleheim, 1943; Balint, 1945). More recently, however, evidences from experimental studies have accumulated (Baxter, Lerner and Miller, 1965; Eron, Walder, Toglio and Lefkowitz, 1963; Gordon and Smith, 1965; Levin and Sears, 1956; Sears, Rau and Alpert, 1965).

A third and more comprehensive theory of identification also exists in the literature. Such a theory has often been referred to as "role theory" or the "power-oriented theory" (Parson and Bales, 1955). This theory is a logical extension of both psychoanalytic and

learning theories. It argues that the child identifies with a parent, not solely because such a parent is both warm and nurturant, or because such a parent is both punitive and threatening, but because such a parent is more "powerful". Power, as originally defined by this theory, refers to the degree to which a parent is both an effective rewarder and an effective punisher. More recently, however, the term has been applied in research to a parent who is both nurturant and punitive, more dominant in the family situation, more controlling of the resources valued by the child, and more disciplining and warm toward the child.

In elaborating this theory Brim (1958) suggests that given two other persons with whom one interacts and who differ in power over the actor, i. e. differ in the degree to which they control the rewards and punishments for the actor, one would predict that the actor would adopt more of the characteristics of the powerful, as contrasted to the less powerful other person. This follows from the fact that it is more important for the actor to predict the behavior of the powerful figure, that he is motivated more strongly to take his role, that the rewards and punishments are more impressive and the learning consequently better. Interaction between two figures of unequal power should also give parallel results, namely, that there would be greater assimilation of the role of the other into the actor's role for the less powerful figure, for the same reasons above.

Assuming that Brim's (1958) argument is valid, we would predict that in a family situation where the father is vastly more powerful than the mother, the children in such a family situation would be more apt to adopt role characteristics of the more powerful father, than the less powerful mother. In this case, the powerful father figure would likely facilitate appropriate sex role development in boys, while leading girls to adopt inappropriate sex role characteristics. If the mother is vastly more powerful than the father, however, the converse would most likely occur. Boys would adopt sex role characteristics inappropriate for their own sex, while the girls' sex role development would be appropriately facilitated. Furthermore, in one-parent family situations, where there are basically two figures of unequal power (i. e. the parent vs. the child), parallel results should be expected. Namely, there would be a greater assimilation of the role of the only, more powerful parent into the role of the less powerful child. If the only, more powerful parent is the father, boys' sex role development would likely be facilitated, while girls' sex role development impeded. If the only, more powerful parent is the mother, however, the converse would most likely occur. Boys would adopt sex role characteristics inappropriate for their own sex, while girls' sex role development would be appropriately facilitated.

Numerous research findings in support of this role theory of sex role development have been reported in the literature. Most studies,

however, have centered upon the relationship between parental power and their children's sex role preference, adoption and identification. Studies in the area of sex role discrimination could not be found. Furthermore, most investigations have used boys as research subjects and girls have been relatively neglected.

Parental Power and Sex Role Development

Paternal Power

Boys. Research focused upon studying the relationship between paternal power and sex role preference in boys consistently indicate that paternal power is positively correlated with masculine sex role preferences in boys. Hetherington (1965, 1967), studying boys, four to eleven years of age, reported that boys who had high masculine sex role preference scores, as compared with boys who had low masculine sex role preference scores, had fathers who were more dominant in decision making, and were more nurturant and warm. In these studies, the standard-ITSC was used to assess boys' sex role preferences, while observations of parents in a structured parental interaction situation (developed by Farina, 1960) provided information regarding paternal power. In earlier studies with kindergarten aged boys, Mussen and Distler (1959, 1960), using a doll play session and mother's interviews to obtain data regarding paternal power, reported

comparable results. Boys who had high masculine standard-ITSC scores, not only perceived their fathers as more nurturant and punitive, but also had fathers who were rated by their mothers as more rewarding, affectionate and influential in the child rearing practices and disciplinary actions with regard to the child's behavior. Mussen and Rutherford (1963), employing six- to seven-year-old boys, and Lefkowitz (1962), studying boys eight to ten years of age, obtained similar results.

Among all the studies reviewed, however, Biller's (1968a, 1969b) studies with boys four to six years of age, and Freedheim's (1960) study with boys seven to ten years of age remain the most complete. In these studies paternal power was assessed through child interviews in areas of decision making, nurturance, limit setting and competence. Also, paternal dominance was measured through observations of parents in Farina's (1960) Structured Interaction Situation. Results obtained indicated that both paternal power and dominance were significantly related to masculine sex role preferences in boys. The standard-ITSC, as well as a Game Preference Test, were used as measures of sex role preference.

To date, only one study is available which utilizes adolescents and college age boys as subjects. Moulton, Burnstein, Liberty and Altucher (1966), employing a structured interview technique to obtain information regarding paternal power, and the M-F scale of the

California Psychological Inventory to assess sex role preference, reported that adolescent boys high in masculine sex role preferences, as compared with boys low in masculine sex role preferences, perceived their fathers as more warm and affectionate, as well as the dominant disciplinarian in the family.

Concerning studies focused upon investigating the relationship between paternal power and sex role adoption in boys, results obtained also indicate a positive correlation between paternal power and masculinity of adoption in boys. Biller (1968a, 1969b), using teacher and peer ratings to assess masculinity of adoption in boys, four to six years of age, and child interviews to assess boys' perception of paternal power, supported this general conclusion. Boys rated high in aggressiveness, assertiveness, competitiveness and independence, as compared with boys rated low in such traits, perceived their fathers as more nurturant, competent, limit setting, dominant and effective decision makers. Similar studies by Freedheim (1960) and Freedheim and Borstellmann (1967) with boys seven to ten years of age, reported comparable results. Nelson and Maccoby (1966), using the College Board Aptitude Test to assess adolescent boys' masculinity of adoption, and a social history questionnaire to measure paternal power, also found that boys who were very close to their fathers and who reported being exclusively punished by him, had high math and low verbal scores. The significance of this finding can be seen in the fact

that on such aptitude tests boys are more often found to have high math and low verbal scores, while girls have low math and high verbal scores. In an extensive review of research on sex role identity, Kagan (1964a) indicated that such sex-typed responses are related to masculinity of adoption and is well documented in research (Carlsmith, 1964; Hertzberg and Lempkin, 1954; Milton, 1957; Rosenberg and Sutton-Smith, 1964a).

The final group of studies focused upon investigating the relationship between paternal power and sex role adoption in boys, have come from studies using degree of parental imitation in experimental situations, as measures of sex role adoption (Hetherington, 1965, 1967; Hetherington and Frankie, 1967). In these studies paternal power was assessed by means of observations of parents in structured interaction situations. The findings indicated clearly that boys, four to eleven years of age, imitated their fathers more when their fathers were rated high in dominance and nurturance.

Research investigations focused upon the relationship between paternal power and sex role identification in boys are relatively few. Those that have been done, however, also support the position the paternal power is directly related to appropriate sex role identification in boys. Hetherington (1965, 1967) points out that boys, four to eleven years of age, who were highly identified with their fathers had fathers who were higher in dominance and nurturance, than fathers of

boys not highly identified with their fathers. Observations of parents in a structured interaction situation provided information on paternal power, while father-son similarity scores on an Adjective Check List, as rated by friends of parents and teachers of boys, represented their measure of identification. Biller (1968a, 1969b), using the Draw-A-Person Test to assess boys' sex role identification and child interviews to assess paternal power obtained similar results. Boys four to six years of age, who had high masculine sex role identification scores, as compared with boys who had low masculine sex role identification scores, had fathers who were more nurturant, competent, limit setting, dominant and effective decision makers.

Studying adolescents, Elder (1963) and Heilburn (1965b) reported similar results. Adolescents who perceived their fathers as supportive, warm and nurturant, as well as strong and limit setting, were more highly identified with their fathers, than adolescents who perceived their fathers as having less of these characteristics. Elder (1963) assessed identification by means of a questionnaire interview, while Heilburn (1965b) used father-son similarity scores, as perceived by the subjects on an Adjective Check List, as a measure of identification. In both studies paternal power was assessed by means of interviews with the subjects.

Studies on boys, therefore, provide overwhelming support for the role theory of identification. There is a significant and positive

relationship between paternal power and masculine sex role development in boys.

Girls. Relatively very little is known concerning the relationship between paternal power and sex role development in girls. Compared to studies done with boys, studies using girls as subjects are rare. The few studies undertaken, however, support the general conclusion that paternal power is positively correlated with inappropriate sex role development in girls. Hetherington (1965, 1967) in his study with girls, four to eleven years of age, found that girls with slightly less feminine sex role preference scores, as compared to girls with more feminine sex role preference scores, had fathers who were rated as more dominant and nurturant in a structured interaction situation. In these same studies the relationship between paternal power and sex role adoption in girls was also investigated. An experimental imitation situation with fathers and mothers provided an index of sex role adoption. Results obtained indicated that girls imitated their fathers more frequently when their fathers were rated as high in dominance and nurturance. A similar study by Hetherington and Frankie (1967) with girls, four to six years of age also provided similar results.

Investigations concerning the relationship between paternal power and sex role identification in girls are few, but these studies also support the conclusion that paternal power is positively related to

cross-sex identification in girls. Leonard (1966) reviewing case studies of girls from families where the father was perceived as strong and domineering--someone to be feared and admired--led such girls to reject their mothers as models of identification, and identified with their fathers instead. Such girls were said to be cared for by their fathers as young children; being fed, dressed and disciplined by him. More systematic studies with young children also support this general conclusion. Hetherington (1965, 1967), with girls four to eleven years of age, found them to be highly identified with their fathers when they had fathers who were rated more dominant and nurturant than fathers of girls who evidenced less intense identification. In these studies identification was defined as father-daughter similarity scores on an Adjective Check List, as rated by friends of parents and teachers of children.

Studies focused upon the relationship between paternal power and sex role development in girls, therefore, are quite sparse. Although the few studies mentioned support the role theory of identification, more research is necessary before such a general conclusion can be made.

Maternal Power

Boys. Many studies are present indicating that when the mother is the more powerful figure in the family, boys' sex role development

appears impeded. Hetherington (1965, 1967) studying boys, four to eleven years of age, found that boys with low masculine sex role preference scores, as compared with boys high in masculine sex role preference scores, had mothers who were rated as more dominant and nurturant in a structured parental interaction situation. In these studies the standard-ITSC was used as a measure of sex role preference. Lefkowitz (1962) found similar results with boys eight to ten years of age. Using parental interviews to obtain information regarding maternal power, and a Game Preference Test to assess sex role preference, he reported that boys with low masculine sex role preference scores had mothers who were more nurturant, as well as the primary disciplinary agent in the family than mothers of boys with high masculine sex role preference scores. In earlier studies Levy (1943) noted that in homes where the mother was overprotective of the child, the mother played a domineering role in the family, while the father generally played a very submissive or ineffectual role. Levy (1943) found that in such homes, boys showed less interest or skills in athletics. Their activities were primarily verbal and passive in nature, and in general quite "unmasculine". One study using adolescents as subjects reported similar results. Bieri and Ratzberg (1963) found that adolescent boys whose mothers took the role of primary decision maker, and the final arbiter of discipline, had lower masculine sex role preference scores than boys in families where the

father was such. The M-F scale of the MMPI and adolescent interviews were used to obtain information regarding the adolescent boys' sex role preferences and maternal power, respectively.

Most studies regarding the relationship between maternal power and sex role preferences in boys have concentrated on boys whose fathers have been absent from the home during their early years of life. These studies reason that the absence of the father not only affects the behavior of the child directly, but influences the mother in the direction of greater overprotectiveness, dominance and control over the child. The effect of this tendency seems to be especially critical for male children. In a most recent study with preschool aged boys, Santock (1970) found that father absent boys made less masculine sex role preference scores on a Picture Preference Test than father present boys. Similar results were obtained in studies using pre-adolescent boys as subjects (Biller, 1968b, 1969a; Hetherington, 1966). In these studies Brown's (1956a) standard-ITSC was used as an index of sex role preference. Furthermore, studies with adolescents (Altus, 1958; Steimel, 1960) also provide comparable results. The M-F scale of the MMPI was used as a measure of sex role preference in these studies.

Investigations focused upon the relationship between maternal power and sex role adoption in boys, further suggest that maternal power is positively related to feminine sex role adoption in boys.

Kagan (1958b) in a study of preadolescent boys found that boys rated low in aggression by their teachers, perceived their mothers as the "boss" at home. Hetherington (1965, 1967) and Hetherington and Frankie (1967), studying boys, four to eleven years of age, found that in an experimental imitation situation boys who imitated their mothers' behaviors more often came from homes in which the mother was the more dominant and nurturant figure. Maternal power, in these studies, was assessed through observations of parents in a structured interaction situation. Hoffman (1961) in an earlier study, interviewed boys eight to ten years of age, and had teachers rate the boys' classroom behaviors. Results obtained revealed that boys whose mothers were warm and the dominant disciplinarian in the family were rated as being withdrawn, dependent and less aggressive. In a study with adolescent boys, Bandura and Walters (1959) concluded that boys who were rated as highly dependent on others, had mothers who were restrictive, punishing, controlling and nurturant of their sons' behavior. In this study, information regarding maternal power and the adolescent boys' sex role adoption were obtained through interviews with parents. Nelson and Maccoby (1966) also found that adolescent boys who reported having been a "mamma's boy" and exclusively punished by her on a social history questionnaire, had high verbal and low math scores on the College Board Aptitude Test. Such aptitude patterning was interpreted as reflective of a feminine sex role adoption.

Most studies focused upon understanding the relationship between maternal power and sex role adoption in boys, however, have come from studies centering upon the relationship between father absence and sex role adoption. As previously indicated, maternal overprotection, dominance and control over the children is a phenomenon frequently encountered in such family situations. In a pioneering investigation of the doll play activity of three- to five-year-old father absent and father present children, Sears, Pintler and Sears (1946) and Sears (1951) found that father absent boys generally manifested less doll play aggression than father present boys. More recently, a study with four-year-old children (Santock, 1970) provided evidence in support of these results. Additional findings, however, also indicated that father absent boys displayed more dependent behaviors than father present boys in such doll play situations.

Using similar procedures to study boys six to ten years of age, Bach (1946) also found father absent boys to be less aggressive than father present boys, and noted that "the father absent boys produced an idealistic feminine fantasy picture of the father when compared to control children who elaborated their fathers' aggressive tendencies" (Bach, 1946, p. 79). Stoltz and associates (1954) reported that four- to eight-year-old boys, who for approximately two years of their lives had been separated from their fathers due to military obligations, were generally regarded as "sissies" by their fathers upon their fathers'

return. Their study also revealed that these boys were less assertively aggressive and independent in peer relations than father present boys, and were often observed as being overly submissive. In a more recent study by Stephens (1962) social workers were asked to rate the behaviors of father absent and father present boys. Findings obtained indicated that father absent boys were more often rated as "effeminate" in their behaviors than father present boys. Carlsmith (1964) in studying adolescent father absent and father present boys, found that boys who were separated from their fathers during their early childhood years had higher verbal and lower math scores on the College Board Aptitude Test. He interpreted these results as indicative of a feminine sex role adoption in father absent boys.

There is a group of studies with children from Norwegian families that indicate the presence of conflict in sex role development among father absent boys. Gronsett (1957), Tiller (1957), and Lynn and Swarey (1959) studied Norwegian children, eight to nine years of age, whose fathers were sailors absent at least nine months of the year and a matched group of children who had not been separated from their fathers. Interviews with mothers and response in doll play situations indicated that father absent boys, as compared with father present boys, displayed more "compensatory masculinity" (at times behaving in an exaggerated masculine manner, at other times behaving in a highly feminine manner). These behaviors were interpreted as

reflective of a conflict in sex role development among father absent boys.

In reference to studies centered upon understanding the relationship between maternal power and sex role identification among boys, results also suggest that maternal power is positively related to cross-sex identification in boys. Sears (1953), interviewing mothers of pre-school and kindergarten children, found boys who took the mother's role in a structured doll play situation, had mothers who were high in warmth and restrictive of their child's motility outside the home.

Hetherington (1965, 1967), in studies of children four to eleven years of age, also found that boys whose mothers were observed as being more dominant and nurturant in a structured parental interaction situation, had higher mother-son similarity scores, as rated on an Adjective Check List by friends of parents and teachers of children. Hoffman (1961) interviewing boys eight to ten years of age, found that boys who chose their mothers as models of identification, described their mothers as more warm, dominant and disciplining than their fathers.

Studies using adolescent boys as subjects also provide evidence in support of this conclusion. Vogel and Lauterbach (1963) found that adolescent boys who had more loving and controlling mothers had high mother-son similarity scores on the MMPI. In this study maternal power was determined by administering a parent behavior questionnaire. More recent studies by Heilburn and Hall (1964) and Heilburn

(1965b) provided similar findings with college age boys.

Other studies focused upon the relationship between maternal power and sex role identification in boys have been cross-cultural in nature. Burton and Whiting (1961), Bacon, Child and Barry (1963) and D'Andrade (1966) in their studies pointed to the high degree of sex role conflict among boys in societies where mothers had exclusive contact with the child during the early years of life.

Bacon, Barry and Child (1963) studying forty-eight, mostly pre-literate societies, for which ethnographers had collected sufficient information to permit ratings on criminal behavior (theft and personal crime), found that in these societies, the rate of crime was positively correlated with the extent to which mothers had exclusive contact with their child during the first years of life. They interpreted this rise in crime rate as partly indicative of a boy's defense against a strong maternal identification established during the early years of life.

D'Andrade (1966) studying male initiation rites at puberty in these same societies, found that such initiation rites occurred most frequently in societies with prolonged exclusive mother-son sleeping arrangements. They interpreted the function of initiation ceremonies in these societies as an attempt by males to resolve the feminine sex role identification created by the early and exclusive mother-son relationship.

In an earlier intriguing study, Burton and Whiting (1961)

reasoned that in the societies studied by Bacon, Barry and Child (1963) and D'Andrade (1966), since men have strong feminine sex role identities, established by the early and exclusive mother-son relationships, such societies should provide them with some means of acting out, symbolically at least, the feminine sex role. A study of the customs of such societies revealed that, indeed, in societies where the rules of residence were matrilocal and where the boy sleeps and interacts almost exclusively with his mother and other females during the first years of life, a custom called couvade was present. The couvade is a custom which calls the husband to retire to his bed on the birth of his offspring and to act as though he had gone through child birth. Burton and Whiting (1961) interpreted this custom as symbolic of the underlying feminine identification of men in these maternal dominated societies.

The cross-cultural studies just summarized above are quite reminiscent of the studies done on sex role development with boys from lower class families in our society. There are numerous observations of the high incidence of maternal dominance in lower class families, even when the father is present (Dai, 1953; Kardiner and Oversky, 1951; Kvaracus and Miller, 1959; Miller, 1958; Rohrer and Edmonson, 1960). In such families, girls are said to be preferred and the status of males is generally lower (Kardiner and Oversky, 1951). It is not surprising, therefore, that studies of sex role

development among lower class boys indicate that while such boys are just as masculine or even more masculine in their sex role preferences and adoption than middle class boys, there is an underlying feminine sex role identification among them (Barclay and Cusumano, 1967; Biller, 1968b, 1969a; D'Andrade, 1962; McCord, McCord and Thurber, 1963; Miller, 1958).

Finally, studies regarding the relationship between father absence and sex role identification among boys, present evidence in support of the conclusion that maternal power is positively related to cross-sex identification. Biller (1968a) using the Draw-A-Person Test as a measure of sex role identification in kindergarten age children reported that father absent boys as compared with father present boys were significantly less likely to draw the male figure first, or clearly differentiated between their male and female drawings. They interpreted this as reflecting a feminine sex role identification among father absent boys caused by the exclusive mother-child relationship during the early years of life. Phelan (1964), in a similar study with school aged boys found comparable results.

Using the Frank Drawing Test (Frank and Rosen, 1949) as a measure of sex role identification with boys five to fourteen years of age, D'Andrade (1962) concluded that father absent boys were more feminine in their sex role identification than father present boys. Barclay and Cusumano (1967), studying adolescent father absent and

father present boys, using Witkin's Rod and Frame Test (Witkin, Dyke, Fatherson, Goodenough and Karp, 1962), found that father absent boys were more "field-dependent" than father present boys. They conceptualized that "field-dependence" represented a dimension reflective of an underlying feminine sex role identification, while "field-independence" represented a dimension reflective of an underlying masculine sex role identification.

Therefore, studies with boys again provide strong evidence in support of the role theory of identification. There is a positive relationship between maternal power and inappropriate sex role development in boys and maternal power appears to impede masculine sex role development in boys.

Girls. As with studies centered upon the relationship between paternal power and sex role development in girls, investigations focused upon understanding the relationship between maternal power and sex role development in girls are relatively few. In reference to studies of sex role preference, Hetherington (1965, 1967) reported that girls four to eleven years of age, who had slightly more feminine sex role preference scores, as measured by the standard-ITSC, had mothers who were rated as more dominant and nurturant in a structured parental interaction situation, than girls with less feminine sex role preference scores. This difference, however, did not reach statistical significance.

In these same studies and another (Hetherington and Frankie, 1967), information regarding the relationship between maternal power and sex role adoption was also provided. These studies indicated that girls who imitated their mothers more often in an experimental imitation situation had mothers who were more dominant and nurturant than were mothers of girls who were imitated less.

A few other studies are present providing evidence in support of the relationship between maternal power and sex role adoption in girls. In one investigation, Bing (1963) using preadolescent girls as subjects, found that girls who had high verbal and low numerical scores on the Primary Mental Abilities Test, also had mothers who were more helpful, as well as intrusive in their suggestions and criticisms of their daughters' abilities. As indicated previously, such aptitude patterning among girls is related to feminine sex role adoption. In most studies, however, the phenomenon of father absence and its relationship to the girl's sex role adoption have been used as supporting evidence regarding maternal power. Gronsett (1957), Tiller (1957), and Lynn and Swarey (1959), in studies with Norwegian father absent and father present girls, eight to nine years of age, found father absent, as compared with father present girls, displayed more dependent behaviors in a projective doll play test. They reasoned that the exclusive mother-daughter relationship, caused by the father's absence facilitated such dependency in father absent preadolescent

girls.

In reference to studies focused upon delineating the relationship between maternal power and sex role identification in girls, few studies also provided support for the conclusion that maternal power is positively correlated with appropriate sex role identification in girls. Hetherington (1965, 1967) found that girls, four to eleven years of age, with high mother-daughter similarity scores, as rated on an Adjective Check List, had mothers who were observed as more dominant and nurturant in a structured parental interaction situation. Hoffman (1961) studying girls seven to eleven years of age, found that girls who preferred their mothers as models of identification, had mothers who were more warm and disciplining than mothers of girls who preferred their mothers less. In a most recent study with college age girls, Doherty (1970), provided evidence in support of these findings.

Studies focused upon the relationship between maternal power and sex role development in girls are quite sparse. Although the few studies reviewed provide evidence in support of the role theory of identification, still more research is necessary before such a general conclusion can be made.

Teacher's Power and Sex Role Development

As previously noted, investigations focused upon understanding

the relationship between teacher's power and sex role development in young children are relatively few. Only two studies (McFarland, 1966; Steele, 1968) available in the literature relate directly to this topic. Both studies used preadolescent boys as subjects for their investigations. Also both studies focused upon sex role preferences among these boys. No study has yet been undertaken with preschool aged children. Furthermore, there are no studies available focusing upon aspects of sex role development, other than sex role preference in young children.

Results obtained from the two studies (McFarland, 1966; Steele, 1968) referred to above, revealed that when comparing the sex role preference scores of boys with male vs. female teachers in a pretest-posttest situation, boys with male teachers showed greater gains in masculine sex role preferences over an eight month period than boys with female teachers. In these studies the standard-ITSC was used as a measure of sex role preference. These findings were interpreted as providing supporting evidence for the importance of the male figure in sex role development in preadolescent boys. Further analysis of the data, however, revealed that these results could also be interpreted from the point of view of role theory (Parsons and Bales, 1955). In groups where boys had male teachers, such male teachers were the persons primarily responsible for the planning and executing of an educational program for boys at this age level. In executing this

planned educational program, it seems quite reasonable to assume that these male teachers emerged as the primary controllers of the rewards and punishments necessary to facilitate such a program. This being the case, such male teachers also emerged as the more "powerful" adult figure in the teacher-child interactional relationship. In groups where boys had female teachers, however, the converse was true.

According to role theory (Parsons and Bales, 1955; Brim, 1958), in an interactional situation where there are two persons of unequal power, the less powerful would be more apt to adopt the role characteristics of the more powerful person. The reason why this phenomenon occurs has already been discussed several times previously. It is not at all surprising, therefore, that the two studies just summarized above, obtained results revealing that boys with male teachers showed greater gains in masculine sex role preferences than boys with female teachers. It could be reasoned that the relative power of the male teachers in such groups facilitated sex role development in boys, while the relative power of the female teachers disrupted appropriate sex role development in boys.

Other studies undertaken which provide information regarding the relationship between teacher's power and sex role development in young children have come from experimental studies of imitation. In these studies children are usually placed in experimental situations

in which they interact with or observe experimenters perform specific behaviors or undertake simple tasks. The experimenters in these situations are either male or female, and display behaviors designated as either rewarding (nurturant), punitive (punishing and threatening), rewarding and punitive (powerful) or non-reinforcing. Results obtained from studies of this kind indicate that when subjects are left alone in the experimental situation or asked to perform a specific task they had previously encountered, they imitated the behaviors and actions of the experimenter designated as more "powerful" than any other experimenter designations (Grusec and Mischel, 1966; Hartrup, 1958; Mischel and Grusec, 1966; Rosenblith, 1959).

In a most impressive study by Bandura, Ross and Ross (1963a), children were placed in one of two experimental situations in an attempt to test different theories of identificatory learning. In one experimental condition, an adult assumed the role of the controller of the highly rewarding resources, including such things as attractive play materials, appetizing foods and high status objects. Another adult in the situation was the recipient of these resources, while the child, a participant observer, was essentially ignored. In a second experimental condition, one adult controlled the rewarding resources, but this time, the child was the recipient of these resources, while the other adult was assigned a subordinate and powerless role. An adult male and female served as adult models in each of the

experimental conditions. For half of the boys and half of the girls, the male model controlled and dispensed the rewarding resources. For the remaining children, a female model dispensed the positive resources. Following the experimental situation, adult models exhibited divergent patterns of behavior in the presence of the child, and measures were obtained on the degree to which the children subsequently patterned their behaviors after the model. Results of this experiment revealed that in the two experimental conditions children tended to imitate the behaviors of an adult in possession of the controlling and rewarding resources (the more powerful adult), rather than the competitor for rewards or the less powerful adult model. Furthermore, power inversions on the part of male and female models produced cross-sex imitation among boys and girls. This study provided impressive evidence in support of the role theory of identification.

Summary

A review of literature regarding the relationship between teacher's power and sex role development in young children revealed that research in this area is quite sparse. Most studies related to this topic have focused upon delineating the relationship between parents and their children's sex role development. A review of literature pertinent to the study of the relationship between teacher's power and sex role development, therefore, included a summary of theories and

research findings concerned with the relationship between parents and their children's sex role development.

This section of the review of literature was divided into three major parts. Part one focused upon briefly presenting the major theories that have been posited concerning sex role development in young children. An emphasis on role theory was made. The theory argues that a child identifies with a parent not solely because such a parent is both warm and nurturant, or because such a parent is both punitive and threatening, but because such a parent is more "powerful". Power, as defined by this theory, referred to the degree to which a parent was both an effective rewarder and an effective punisher.

Part two dealt with research studies focused upon delineating the relationship between parental power and sex role development in their children. Results of the studies provided overwhelming support for the role theory of identification, particularly among boys. While paternal power seems to be positively correlated with appropriate sex role development in boys, maternal power seems to disrupt appropriate sex role development in boys. For girls, however, although studies reviewed support the role theory of identification, the sparceness of research using girls as subjects forbids general acceptance of such a position at this point.

Finally, part three summarized the few studies undertaken in the

area concerned with the relationship between teacher's power and sex role development in young children. To date no study has yet been undertaken with preschool aged children. Most of the studies reviewed came from the related area involving experimental studies of imitation. In these studies the variables of sex and relative power of the experimenter models were manipulated. Results obtained provided support for the role theory of identification.

The paucity of studies done in the area concerned with the relationship between teacher's power and different aspects of sex role development in young children, and the absence of such studies in research with preschool aged children, therefore, was an impetus for a study in this area. In the present study an attempt was made to explore the relationship between two different preschool programs and sex role discrimination and preference in preschool aged children, using an ex post facto research design. One preschool program (Preschool Program I) involved male head and assistant teachers with both male and female student participants. In this preschool program the male head and assistant teachers were persons primarily responsible for the planning and execution of an educational program designed for children at this age level. In executing this planned program, it was assumed that the male head and assistant teachers emerged as the primary controllers of the rewards and punishments necessary to facilitate such a program. This being the case, according to role

theory, the male teachers emerged as the more "powerful" adult figures in this preschool program. Female student participants were present, but their involvement in the program was quite limited; consisting primarily of a three-hour preschool participation experience, once a week.

The second preschool program (Preschool Program II), however, involved female head and assistant teachers with all female student participants. In this preschool program the female head and assistant teachers were persons primarily responsible for the planning and execution of an educational program designed for children at this age level. In executing this planned program, it was assumed that the female head and assistant teachers emerged as the primary controllers of the rewards and punishments necessary to facilitate the program. This being the case, according to role theory, the female teachers emerged as the more "powerful" adult figures in this preschool program. The presence of all female student participants only added to the relative dominance of the female head and assistant teachers in this preschool program.

An analysis of data including comparisons of sex role discrimination and preference scores of preschool aged children in these two different preschool programs were undertaken.

CHAPTER III

METHOD

Subjects

Thirty-eight children attending two preschool programs established by the Department of Family Life at Oregon State University acted as subjects for the present study. Originally, 40 children, 20 boys and 20 girls, were selected from a sample of 121 children (60 boys and 61 girls) whose parents had applied for their children's enrollments in either one of the two preschool programs. Variables considered in the selection of subjects for enrollment in these two preschool programs included the subjects' age, sex, ordinal position, age of parents, length of parents' marriage, number of children in the family, religion and socioeconomic status of the family. Matched-pairs of subjects were selected according to these variables and then one of each pair was randomly assigned to one of the two preschool programs, with the second of each pair being assigned to the other preschool program. During the course of the year, however, two subjects (girls), one from each preschool program were withdrawn, leaving a total of 38 subjects for the present study. A description of the total sample of subjects, and of subjects in each preschool program are summarized in the following sections. Also included in these descriptions are the IQ scores and sibling status of the subjects;

variables pertinent to the present study. Inspection of the data in the following tables verifies that the loss of the two subjects did not disrupt the comparability of the groups.

Information regarding the subjects' age, sex, ordinal position, age of parents, number of children in the family, religion and socio-economic status of the family were obtained from a questionnaire filled out by parents upon application for enrollment of their child in one of the two preschool programs (see Appendix A). IQ scores of subjects were obtained by administering to all subjects the Peabody Picture Vocabulary Test (Dunn, 1965) and to determine the socio-economic status of the families from which the subjects came, Hollingshead's (1957) "Two Factor Index of Social Position" was used. These instruments are described in more detail in the following sections.

Description of the Total Sample

The 38 subjects who comprised the total sample for this study were divided into sex, age, IQ and sibling status comparison groupings for analysis. A description of the subjects in these comparison groupings are summarized in Tables 1, 2, and 3 and are described in the following paragraphs.

Sex

Of the 38 subjects, 20 were boys and 18 were girls, both ranging in ages from three years-seven months to four years-five months. The mean age for the total sample, as well as for both boys and girls was four years (see Table 1).

Table 1. Description of Subjects in the Total Sample by Sex and Age.

Characteristic	N	Mean Age (years/months)
Sex		
Boys	20	4-0
Girls	18	4-0
Total	38	4-0
Age		
Older	19	4-3
Younger	19	3-8
Sex X Age		
Older Boys	10	4-3
Older Girls	9	4-3
Younger Boys	10	3-8
Younger Girls	9	3-8

Age

These subjects were also divided into "older" and "younger" age groupings. Nineteen subjects ranging in ages from four years-one month to four years-five months comprised the older group in this study, while 19 subjects ranging in ages from three years-seven months to four years comprised the younger group. In both older and

younger age groupings, ten subjects were boys and nine subjects were girls. The mean age of both boys and girls in the older group was four years-three months, and in the younger group, three years-eight months (Table 1). A more detailed description of individual subjects by age and sex can be found in Appendix B.

IQ

Subjects were further divided into two different IQ groupings. The Peabody Picture Vocabulary Test (PPVT), an instrument which provides an estimate of preschool aged children's verbal intelligence through measuring their receptive vocabularies, was used (Dunn, 1965). A more detailed description of the test is provided in the "Instruments" section of this chapter.

All subjects had IQ scores ranging from 94.00 to 136.00, with a mean IQ score of 112.93. Twenty-four of the subjects with IQ scores ranging from 110.00 to 136.00 were designated as "rapid learners", while subjects with IQ scores ranging from 94.00 to 109.50 were designated as "average learners". The mean IQ score for rapid learners was 118.74, while the average learners had a mean IQ score of 103.11 (Table 2).

Of the 24 rapid learners, 12 were boys and 12 were girls. The mean IQ scores for both boys and girls in this group were 120.38 and 117.04, respectively. Furthermore, of the 24 rapid learners, 12

were older subjects and 12 were younger subjects, with mean IQ scores of 116.63 and 120.79, respectively (Table 2).

Table 2. Description of Subjects in the Total Sample by IQ (PPVT).

Characteristics	N	Mean IQ
Rapid Learners	24	118.74
Boys	12	120.38
Girls	12	117.04
Older	12	116.63
Younger	12	120.79
Average Learners	14	103.11
Boys	8	103.13
Girls	6	103.08
Older	7	103.64
Younger	7	102.71
Total Sample	38	112.93

Of the 14 subjects designated as average learners, eight were boys and six were girls. The mean IQ scores for both boys and girls in this group were 103.13 and 103.08, respectively. Furthermore, of the 14 average learners, seven were older subjects, and seven were younger subjects, with mean IQ scores of 103.64 and 102.71, respectively (Table 2). A more detailed description of individual subjects by IQ scores can be found in Appendix C.

Sibling Status A

The subjects of the total sample were also divided into different sibling status groupings (Table 3) for analysis. Thirteen subjects had a sibling of the same-sex, ten had a sibling of the opposite-sex, ten had siblings of both the opposite and same-sex (mixed) and five had no siblings in the family.

Sibling Status B

Subjects with an opposite-sex sibling (i. e. subjects with primarily an opposite-sex sibling and mixed-sex siblings) were further divided into four sibling status groupings (Table 3). Of the ten subjects with primarily an opposite-sex sibling, five had an opposite-sex sibling who were older than they, and five had an opposite sex sibling who were younger than they (Sibling Status B/A₂). Furthermore, of the ten subjects with mixed sex siblings, eight had an opposite-sex sibling who were older than they, and two had an opposite-sex sibling who were younger than they (Sibling Status B/A₃). As noted in the review of literature, such distinctions in studying sex role development in young children is quite necessary.

Table 3. Description of Subjects in the Total Sample by Sibling Status.

Characteristic	N
Sibling Status A	
Same-Sex Sibling	13
Opposite-Sex Sibling	10
Mixed-Sex Siblings	10
No Siblings	5
Total	38
Sibling Status B	
Sibling Status B/A ₂ (Opposite-Sex Sibling)	
Older Opposite-Sex Sibling	5
Younger Opposite-Sex Sibling	5
Sibling Status B/A ₃ (Mixed-Sex Siblings)	
Older Opposite-Sex Sibling	8
Younger Opposite-Sex Sibling	2
Total	20

Socioeconomic Status

Finally, subjects of the present study were comprised of children from families of specific socioeconomic backgrounds. A number of studies in the area of sex role development in young children have indicated the importance of considering this variable in research (Hall and Keith, 1964; Lansky and McKay, 1963; Rabban, 1950; Sher and Lansky, 1968). Most studies, however, have failed to control this variable in research. Hollingshead's (1957) "Two Factor Index of Social Position" was used to determine the socioeconomic status of

the families from which the subjects of the present study came. In developing this Index, Hollingshead (1957) assumed: (1) the existence of a status structure in society; (2) that positions within the social structure are determined by two characteristics; and (3) that characteristics symbolic of status may be scaled. The two factors used by Hollingshead (1957) were occupation and education. Levels of occupation and education were given a scale score ranging from one to seven, and were multiplied by factor weights of seven and four for occupation and education, respectively. The two products were then added and yielded a socioeconomic status score, ranging from a low of 11 to a high of 77. Socioeconomic status may be grouped into five classes (Hollingshead, 1957, p. 10).

<u>Socioeconomic Class</u>	<u>Range of Computed Scores</u>
I (Upper)	11-17
II	18-27
III	28-43
IV	44-60
V (Lower)	61-77

By following Hollingshead's (1957) schema, the subjects in the present study were distributed among the following socioeconomic class positions as summarized in Table 4.

Table 4. Description of Subjects in the Total Sample by Socio-economic Class.

Socioeconomic Class	N
I (Upper)	17
II	15
III	6
IV	0
V (Lower)	0
Total	38

Preschool Program I vs. Preschool Program II

Subjects

Of the 38 subjects who comprised the total sample, 19 attended Preschool Program I and 19 attended Preschool Program II. As indicated previously, subjects in the two preschool programs were matched as nearly as possible according to the variables of age, sex, ordinal position, age of parents, length of parents' marriage, number of children in the family, religion and socioeconomic status of the family. Furthermore, IQ scores of subjects in each preschool program were obtained by administering to all subjects the Peabody Picture Vocabulary Test (Dunn, 1965). A description of the subjects in each preschool program according to these variables are summarized in Tables 5, 6, 7, 8, 9 and 10, and are described in the following paragraphs.

Age and Sex

Ten boys and nine girls comprised the sample of subjects in each preschool program. As seen in Table 5, there are no differences between the mean ages of subjects in both preschool programs. The mean age for all subjects in Preschool Program I and II, as well as for boys and girls in these two programs is four years.

Table 5. Description of Subjects in Preschool Program I and II by Sex and Age.

Characteristic	N	Mean Age (years/months)
Preschool Program I	19	4-0
Boys	10	4-0
Girls	9	4-0
Older	10	4-3
Younger	9	3-8
Preschool Program II	19	4-0
Boys	10	4-0
Girls	9	4-0
Older	9	4-3
Younger	10	3-8

Subjects in both preschool programs were further divided into older and younger age groupings. In Preschool Program I, ten subjects comprised the older group and nine subjects comprised the younger group. In Preschool Program II, nine subjects comprised the older group, while ten subjects comprised the younger group. As

seen in Table 5 there are no differences between the mean ages of subjects in either older or younger age groupings of both preschool programs. In both preschool programs the mean age for the older age group was four years-three months, while the younger age group had a mean age of three years-eight months. A more detailed description of individual subjects by age, sex and preschool program can be found in Appendix B.

IQ, Age of Parents, and Length of Parents' Marriage

Subjects in Preschool Program I and II were also matched according to the variables of IQ, age of parents, and length of parents' marriage. The Student's t-test was used to test the difference between the means of subjects in both preschool programs on these variables. This statistic is defined as measuring the difference between the group means, which in turn is divided by the standard error of the difference between the means. A value larger than that which is expected by chance is considered significant (Downie and Heath, 1959, p. 125). The formula for the t-test is:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s_{D-x}}$$

As seen in Table 6 the t-values of the differences between the means of the subjects in Preschool Program I and II on IQ, father's age,

mother's age, and length of parents' marriage indicate that no differences exist between the subjects in Preschool Program I and II on these variables. Subjects in Preschool Program I and II, therefore, are nearly equally matched on these variables.

Table 6. T-Values of Differences Between Means of Subjects in Preschool Program I and II on IQ, Father's Age, Mother's Age, and Length of Parents' Marriage.

Characteristic	N	Preschool Program I	N	Preschool Program II	-T- ^a Value
IQ					
Rapid Learners	12	117.75	12	119.67	-.71
Average Learners	7	104.50	7	101.43	1.48
Total Sample	19	112.87	19	113.53	-.21
Father's Age	19	31.21	19	30.11	.59
Mother's Age	19	29.21	19	28.10	.62
Length of Parents' Marriage	19	7.58	19	7.74	-.80

^a None of the t-values are significant.

Ordinal Position, Number of Children in the Family, Religion and Socioeconomic Status of the Family

Subjects in both preschool programs were also matched according to the variables of ordinal position, number of children in the family, religion and socioeconomic status of the family. The chi-square test was used to test the independence of subjects in Preschool Program I and II on these variables. This statistic, while making no

assumption about the shape of the distribution of the sample, furnishes a technique for comparing the difference between conditions or events on the basis of chance occurrence. The general formula for the chi-square test according to Downie and Heath (1959, p. 147) is:

$$X^2 = \sum \frac{(O - E)^2}{E}$$

The formula dictates that one take each observed frequency (O), subtract it from the corresponding expected frequency (E), square the difference, and divide the result by the expected frequency (E). The sum of these is chi-square. A chi-square value of 5.911 or greater with two degrees of freedom ($p = .05$) indicates a significant difference between the subjects in Preschool Program I and II on the variables of ordinal position and number of children in the family. A chi-square value of 3.841 or greater with one degree of freedom ($p = .05$) indicates a significant difference between the subjects in Preschool Program I and II on the variables of religion and socioeconomic status of the family. As seen in Tables 7, 8, 9 and 10, none of the chi-square values obtained approached these values. Subjects in the two preschool programs, therefore, were nearly equally matched on ordinal position, number of children in the family, religion and socioeconomic status of the family.

Table 7. Chi-square Value of Subjects in Preschool Program I and II On Ordinal Position.

Preschool Program	Ordinal Position [†]				Total
	1st	2nd	3rd	4th	
I	7	8	3	1	19
II	5	8	5	1	19
Total	12	16	8	2	38

[†]Categories 3rd and 4th were combined for analysis
 $X^2 = .7332$, $p > .05$; d.f. = 2

Table 8. Chi-square Value of Subjects in Preschool Program I and II on Number of Children in the Family.

Preschool Program	Number of Children in Family [†]					Total
	1	2	3	4	5	
I	2	9	6	1	1	19
II	3	10	5	1	0	19
Total	5	19	11	2	1	38

[†]Categories 3, 4, and 5 were combined for analysis.
 $X^2 = .5384$, $p > .05$; d.f. = 2

Table 9. Chi-square Value of Subjects in Preschool Program I and II on Religion of the Family.

Preschool Program	Religion of Family [†]			Total
	Protestant	Catholic	None	
I	14	4	1	19
II	14	3	2	19
Total	28	7	3	38

[†]Catholic and None categories were combined for analysis.
 $X^2 = 0$; $p > .05$; d.f. = 1

Table 10. Chi-square Value of Subjects in Preschool Program I and II on Socioeconomic Status of the Family.

Preschool Program	Socioeconomic Status ⁺					Total
	I (Upper)	II	III	IV	V (Lower)	
I	8	8	3	0	0	19
II	9	7	3	0	0	19
Total	17	15	6	0	0	38

⁺ Categories II and III were combined for analysis
 $X^2 = .1066$, $p > .05$; d.f. = 1.

Daily Program Schedule

The daily schedule of Preschool Program I and Preschool Program II remained essentially the same throughout the nursery school year. The basic outline of the routines of these two programs are summarized in Table 11.

As summarized in Table 11 in both preschool programs there was a balance of indoor and outdoor activities; both active and quiet play; and structured and unstructured activities. Furthermore, subjects enrolled in these two preschool programs used the same play materials and equipment for their laboratory preschool experience.

It is important to indicate, however, that several major differences between the two preschool programs occurred. Preschool Program I was an afternoon program, while Preschool Program II was a morning program. Furthermore, Preschool Program II included a

lunch program while Preschool Program I had no meals, except when juice and crackers were served. More importantly, however, individual variations in the activities undertaken by the children and planned for them by their teachers also occurred. These variations in programming depended on a variety of factors, some of which included the needs and desires of individual children, the personalities of adults involved in the teaching situation, and the physical and weather conditions of the day.

Table 11. Description of the Daily Program Schedule of Preschool Program I and II.

Preschool Program I		Preschool Program II	
Time	Activity	Time	Activity
1:15-1:30	Arrival of Children Health Inspection	8:45- 9:00	Arrival of Children Health Inspection
1:30-2:20	Indoor Free Play	9:00- 9:40	Indoor Free Play
2:20-2:30	Clean-Up; Toileting	9:40- 9:50	Clean-Up; Toileting
2:30-2:45	Music	9:50-10:05	Music
2:45-2:55	Juice and Crackers	10:05-10:15	Juice and Crackers
2:55-3:30	Outdoor Free Play	10:15-10:50	Outdoor Free Play
3:30-3:35	Clean-up	10:50-11:00	Clean-Up; Toileting
3:35-3:45	Story	11:00-11:15	Story
3:45-4:00	Departure	11:15-11:45	Lunch
		11:45-12:00	Departure

While a control of such variables in the two preschool programs would have been difficult, if not impossible to overcome, no attempt was made to control these variations. It was felt that employing such stringent controls would have had a deleterious effect upon the natural functioning of the preschool programs, as well as upon the subjects who participated in them. The researcher of the present study, therefore, is well aware of the severe limitations placed upon him in interpreting the results obtained, due to the lack of such controls. It should be indicated, however, that an initial attempt was made to control the basic teaching philosophy of the teachers involved in the preschool programs. This will be discussed later in the following paragraphs. Even then, however, variations in carrying out this basic philosophy in the actual preschool setting may have occurred as a result of individual differences in personalities.

Teachers

Qualifications

Two qualified nursery school teachers in each preschool program, a head and an assistant teacher, were primarily responsible for planning and executing an ongoing educational program for subjects enrolled in each preschool program. These teachers had their master's degree in Child Development and Nursery School Education,

or were in the final stages of completing their requirements for such a degree. Also, all teachers had prior experience in working with preschool aged children in a laboratory preschool setting.

Aside from the two qualified nursery school teachers in each preschool program, other adults were also present in the laboratory classroom. These adults were primarily college students who were enrolled in a preschool laboratory participation course offered by the Department of Family Life at Oregon State University. For all students this course offered their first participation experience with children in a laboratory preschool setting. Students enrolled in this course, therefore, participated in the preschool programs with the primary purpose of gaining some experience in interacting with children at the preschool age level. Their involvement in the program was quite limited, consisting of a three-hour participation experience, once a week. On occasions, these students planned special curriculum projects (e.g. science and art projects) for the subjects in each preschool program. These projects, however, were always planned and executed under the supervision of a head or an assistant teacher in each preschool program. Approximately five different student participants were present daily in each preschool program.

Educational Philosophy

Aside from similarities found in general daily programming and

teacher qualifications, the educational philosophy of head and assistant teachers in both preschool programs were also quite similar. Head and assistant teachers took a "developmental approach" toward understanding children and planned their educational programs accordingly. While it is not the purpose of this thesis to expound at length about this approach toward education, several principles of this educational philosophy will be briefly discussed. Gardner (1964) discusses this approach at length in his book, Development in Early Childhood: The Preschool Years.

First, according to this educational approach, development is seen as proceeding in an orderly fashion. From conception to maturity development is a continuous process progressing in an orderly sequence of stages that are regular and predictable. Each stage of development is an outgrowth of the one preceding it, and each stage, in turn, provides a foundation for those to follow. Many examples of this stage-by-stage progression in each aspect of development can be found in the research literature. To name a few, Bridges' (1932) study on the development of emotions, Piaget's (1953) work on the development of intelligence; Erickson's (1953) study of psycho-social development; Bayley's (1935) investigations on physical-motor development; and above all Gesell's (Gesell and Armatruda, 1947) work on children's motor, personal-social, language, and adaptive behavior, provide considerable evidence in support of this position. More

importantly, however, the orderly and systematic nature of development has important implications for teachers in planning programs for children at the preschool age level. Implicit in this developmental approach is a consideration of the child's readiness to engage in activities provided for him in a laboratory preschool setting. In planning an educational program for young children, therefore, teachers must be cognizant of the stage at which the child is, before activities planned in such programs can provide for "optimum" development.

Second, development is a total process. While aware of the fact that the rate of development of an individual is not constant, and the fact that different parts, systems and actions systems within an individual have their own specific patterns and sequences of development, ultimately a consideration of the child's total development is necessary in providing for optimum development. For example, physical growth proceeds unevenly, with rapid spurts of infant development, followed by a much slower growth during the preschool years. While the visible physical growth becomes slower, important changes take place in motor development, the development of language, mental, social and emotional "maturity". Also during the time when a child is making dramatic progress in standing, walking and running, there may, for a time, be a period of "motor specialization" in which language development is pushed into the background. Later when the

motor skills necessary for walking and running become well practiced and nearly automatic, different aspects of development--including language--become more prominent. A teacher in planning an educational program for children, therefore, must consider these developmental trends, if such a program is to provide for optimum development. It should be indicated, however, that while the rate of various aspects of development proceeds unevenly and at different times, this does not mean that a child, for example in the period of "motor specialization" is in need of only motor experiences. While motor activities gain prominence during this period, other aspects of development are still in progress, though at a much slower rate. A teacher of young children, therefore, must provide for the child's total development, if "optimum" development is to occur. Activities involving social, emotional, intellectual, aesthetic, as well as physical-motor experiences are still necessary.

Finally, there are individual differences in development. Each child proceeds through the stages of development according to his own timetable. Observations of a group of three- and four-year-old children inevitably reveals great differences in abilities and interests among them. Some are ahead in certain aspects of development, while others are behind. Teachers of preschool children, therefore, must be conscious of individual children in the group. The program planned must be flexible enough to accommodate such individual needs, interests

and abilities. The fact that the present preschool programs had two qualified nursery school teachers in each group, plus approximately five student participants daily, allowed for such individual differences in development.

Important to note here, however, is the fact that while head and assistant teachers in both preschool programs took a "developmental approach" toward understanding children and planned their programs accordingly, variations in carrying out this basic philosophy in the actual preschool setting may have occurred as a result of individual differences in personalities of the teachers. This aspect of the preschool programs was left uncontrolled. As indicated previously, the researcher of the present study is well aware of the severe limitations this places upon him in interpreting the results obtained, due to such lack of controls.

Male vs. Female Teachers

Finally, as has been mentioned previously, one of the major differences in the two preschool programs under consideration was the variable of sex and power of teachers in Preschool Program I and Preschool Program II. Preschool Program I involved male head and assistant teachers with both male and female student participants. In this preschool program the male head and assistant teachers were the persons primarily responsible for the planning and execution of an

educational program designed for half of the subjects in this study. In executing this planned program, it was assumed that the male head and assistant teachers were the primary controllers of the rewards and punishments necessary to facilitate the program. This being the case, according to role theory (Parsons and Bales, 1955), such male head and assistant teachers emerged as the more "powerful" adult figures in the teacher-child interactional relationship. Female participants were present, but their involvement in the program was quite limited, consisting primarily of a three-hour preschool participation experience, once a week.

Preschool Program II, however, involved primarily female head and assistant teachers, with all female student participants. In this preschool program the female head and assistant teachers were the persons primarily responsible for the planning and execution of an educational program designed for half of the subjects in this study. In executing this planned program, it was again assumed that the female head and assistant teachers were the primary controllers of the rewards and punishments necessary to facilitate the program. This being the case, according to role theory, such female head and assistant teachers emerged as the more "powerful" adult figures in the teacher-child interactional relationship. The presence of all female student participants only added to the relative dominance of female head and assistant teachers in this preschool program.

Instruments

Two instruments were used to collect the data for the present study. These included: The IT Scale for Children (Brown, 1956a) and the Peabody Picture Vocabulary Test (Dunn, 1965).

The It Scale for Children (ITSC)

The standard-ITSC, as previously noted, was developed by Brown (1956b) as a projective sex role preference test. The test consists of 36 picture cards, three by four inches, depicting various objects, figures and activities commonly associated with the masculine or feminine roles in our culture. The projective element in the standard-ITSC is a child-figure referred to as "IT", which is used to facilitate the child's expression of his or her own sex role preference. The IT figure was intentionally drawn so that it would be ambiguous and relatively unstructured as to sexual identity. Each subject, rather than being asked to choose directly, is asked to make choices from among the pictures presented, which the IT figure would like best. There are three major sections that comprise the test:

The Toy Preference Section, made up of four sets of four pictures, with two pictures in each set depicting masculine (e. g. tractor and rifle) objects and two pictures depicting feminine (e. g. doll and dishes) objects to which the child responds by having the IT figure

make a total of eight choices.

The Eight Paired Pictures Section, made up of eight pairs of pictures of masculine and feminine alternatives (e. g. Indian Chief and Indian Princess; Cosmetic Articles and Shaving Articles) to which the child responds by having the IT figure choose the one of each pair that the IT would rather be, have or want.

The Four-Child Figures Section, made up of pictures of four children; a girl, a girlish boy (boy dressed as a girl), a boyish girl (girl dressed as boy) and a boy, to which the child responds by having the IT figure choose the one IT would rather be.

More recently, however, through simple modifications in test procedures, the standard-ITSC has been used as a sex role discrimination test. By referring to the IT figure as a "little boy" or a "little girl" in testing, Hartrup and Zook (1960) and Schell and Silber (1968) studied the ability of young children to make discriminations between various objects, figures and activities associated with one sex or the other.

As summarized in Chapter II, however, questions are presently being raised concerning the adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and preference in young children. Studies have accumulated indicating the IT figure to look more masculine than either feminine or neuter (Lansky and McKay, 1963; Lefkowitz, 1962; Sher and Lansky, 1968). Other

studies, however, have also provided evidence in support of the fact that the IT figure is indeed ambiguous with respect to sex (Endsley, 1967; Schell and Silber, 1968; Reed and Asbjornsen, 1968). The controversy concerning the adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and preference, therefore, still continues.

However, if it is the case that the IT figure is indeed more masculine than either feminine or neuter to subjects, results on sex role discrimination and preference, obtained with the standard-ITSC are quite questionable. Although Hartrup and Zook (1960) and Schell and Silber (1968) attempted to control the sex of the IT figure by referring to the figure as a "little boy" or a "little girl", subjects may still have perceived the IT figure to look more masculine than either feminine or neuter, thus producing a masculine bias in their results.

In the present study, therefore, further modifications in the standard-ITSC were undertaken to control for such masculine bias, if indeed it does exist. In addition to utilizing the standard-ITSC as a measure of sex role preference, this study modified the test by using in place of the IT figure a clear drawing of a boy and a girl for testing. This modified-ITSC was used as a measure of sex role discrimination in the present study.

Scoring Procedures

According to Brown's (1956b) original scoring procedures, masculine choices in discrimination and preference were given a weighted score, the weight varying with each section of the test. Feminine choices in discrimination and preference, however, were given a score of zero. For example, in the Toy Preference Section, each discrimination or preference for a masculine item was given a score of one, while each discrimination or preference for a feminine item was given a score of zero. The total range of scores in the standard-ITSC was from zero (exclusively feminine discrimination or preference score) to 84 (an exclusively masculine discrimination or preference score). A score of 42 represented a relatively intermediate discrimination or preference between masculine and feminine sex roles. Deviations above and below the score of 42 was in the direction of greater masculine or feminine sex role discrimination or preference, respectively.

In the present study, Brown's (1956b) original scoring procedures were utilized only in an analysis of the comparison between subjects' sex role preference scores, as measured by the standard-ITSC and sex role discrimination scores, as measured by the modified-ITSC (i. e. Hypotheses IV and V). In reference to analyses of data concerned with all other aspects of this study (Hypotheses I,

II, and III), however, different scoring procedures were used. In these cases, appropriate sex role discriminations or preferences (whether masculine or feminine), instead of masculine choices, were given a weighted score. Inappropriate sex role discriminations or preferences were given scores of zero. Thus, in the Toy Preference Section of the test, each appropriate sex role discrimination or preference was given a score of one, while each inappropriate sex role discrimination or preference was given a score of zero. The total range of scores in the ITSC under these modified scoring procedures was the same as in Brown's (1956b) original scoring procedures. A score of zero in the modified scoring procedures, however, represented an exclusively inappropriate sex role discrimination or preference score, while a score of 84 represented an exclusively appropriate sex role discrimination or preference score. This change in scoring procedures was undertaken to make the data in the present study more meaningful.

Reliability

Reliability coefficients obtained through the test-retest method for the standard-ITSC have been relatively high. The reliability of a research instrument refers to the extent to which repeated applications of the same test to the same population, under the same conditions, yield the same results. In all cases the Pearson-product-moment

correlation method was used to calculate these reliability coefficients. Intervals between testings varied from one to two months. Brown (1956b) reported reliability coefficients of 0.69 for boys and 0.82 for girls five to six years of age. Hartrup and Zook (1960) reported coefficients of 0.66 for boys and 0.71 for girls three to five years of age, while Borstellmann (1961) reported coefficients of 0.64 for boys and 0.80 for girls of the same age. Borstellmann (1961) also indicated that his findings showed there was no evidence that the sex of the experimenter produced any consistent effect in either increasing or decreasing sex appropriate responses in three- and five-year-old boys and girls.

Since major modifications in the standard-ITSC were undertaken for part of the present study, these coefficients alone could not be used as measures of reliability. Reliability coefficients had to be obtained for the modified-ITSC. This reliability study was carried out during the spring quarter of the school year 1969-1970. Twenty subjects, ten boys and ten girls, similar to the present sample were utilized. A description of these subjects by sex, age, socioeconomic status and sex role discrimination scores are summarized in Appendix D. The test-retest method with approximately a week-and-a-half interval between the testings was used to obtain the reliability coefficients. The decision to allow a week-and-a-half to pass before re-testing was based upon factors of memory and learning of the subjects.

The length of time between the testings kept memory at a minimum. Since during the initial testing no indication was given to the subjects concerning the correctness of their responses, the possibility of learning was also kept at a minimum.

The Pearson-product-moment correlation method was used to calculate the reliability coefficients for the modified-ITSC (i. e. when the IT figure was replaced by a clear drawing of a boy and a girl for testing). Also separate reliability coefficients were obtained for both boys and girls. The formula for obtaining a reliability coefficient with the Pearson-product-moment correlation method according to Downie and Heath (1959, p. 122) is:

$$r = \frac{\Sigma xy}{\sqrt{(\Sigma x^2)(\Sigma y^2)}}$$

Where r refers to the correlation coefficient, and Σxy refers to the sum of the products of the deviations of each of the compared tests. The figures, $\sqrt{(\Sigma x^2)(\Sigma y^2)}$, refer to the sum of the squares of the deviations of the items within each of the variables. A correlation between two variables does not indicate any causal relationship between them, although the two variables may vary together perfectly, $r = 1.00$, or may vary in perfect opposition, $r = -1.00$. If a correlation of zero is obtained, this may be considered as no relationship between the two variables.

The obtained reliability coefficient for the modified-ITSC when a clear drawing of a boy replaced the ambiguous IT figure was 0.927 for boys and girls combined. For boys and girls taken separately, however, the reliability coefficients were 0.900 and 0.932, respectively. The obtained reliability coefficient for the modified-ITSC when a clear drawing of a girl replaced the IT figure was 0.933 for boys and girls combined. For boys and girls taken separately, however, the coefficients were 0.931 and 0.935, respectively.

Validity

Since no criterion measures were present to obtain a validity coefficient for the standard-ITSC, what Brown (1956b) termed as "operational" validity was used. In constructing the standard-ITSC as a measure of sex role preference, Brown (1956b) took into consideration the previous work of Terman (1925), Benjamin (1932) and Rabban (1950). The selection of items included in Brown's (1956b) standard-ITSC were thus based on contrasting behavior patterns socially identified with male and female roles. The kinds of objects and activities typical for boys in contrast to girls and vice versa, along with the more obvious differences between adult masculine and feminine roles to which the child is continually exposed, formed the content of the standard-ITSC. In our culture, for example, boys normally play with trucks and trains, wear shirts and trousers and grow up to use shaving

articles; whereas girls typically play with dolls and dishes, wear dresses and grow up to use cosmetics. Preferences for such male or female items are assumed to be indicative of preference for aspects of masculine and feminine roles. Similarly, a boy who expresses a desire to be a girl, or a girl to be a boy, indicates a corresponding opposite-sex role preference.

The Peabody Picture Vocabulary Test (PPVT)

The Peabody Picture Vocabulary Test (PPVT) was designed to provide an estimate of a subject's verbal intelligence through measuring his receptive vocabulary (Dunn, 1965).

The test consists of 150 plates, with four pictures on each plate, depicting words commonly known among children at various age levels. The picture illustrations are in clear, bold, line drawings; free from fine detail and figure ground problems. The test can be given to any English speaking resident of the United States between two years-six months and eighteen years, who is able to hear words, see the drawings and has the facility to indicate "yes" or "no" in a manner which communicates. In the present study subjects were merely asked to point to one of the four pictures on each plate, when the examiner said the test word.

The PPVT has a number of advantages. Among these are the following: (1) the test has high interest value and therefore is a good

rapport establisher; (2) extensive specialized preparation is not needed for its administration; the examiner need only know the correct pronunciation of each of the test words; (3) it is quickly given in 10 to 15 minutes; (4) scoring is completely objective and quickly accomplished in one or two minutes; (5) it is completely untimed and thus is a power rather than a speed test; (6) no oral response is required; (7) alternatives of the test (Form A and Form B) are provided to facilitate repeated measures; (8) the test covers a wide age range; and (9) a detailed manual accompanies the instrument with directions for administering and scoring; tables showing age, standard scores, and percentile norms; general information on test construction, standardization, reliability and validity.

Scoring Procedures

The total raw score represents the number of correct responses made by the subject. To arrive at the total raw score, the number of errors is subtracted from the number of the last item presented, or the ceiling item. The raw score can then be converted into three types of derived scores: (1) an age equivalent, or mental age score; (2) a standard equivalent or an intelligence quotient; and (3) a percentile equivalent score. For the present study, the subject's intelligence quotient (IQ) was used for analysis.

Reliability

Alternative form reliability coefficients for the PPVT were obtained by calculating Pearson-product-moment correlations on raw scores of the standardization subjects for Form A and B at each age level. Not less than three and not more than seven days elapsed between the test administrations. Only white children residing in and around Nashville, Tennessee, were included in the reliability study. The number of subjects used in this study was 4,012, ranging in ages from two years-six months to eighteen years. The number of subjects at each age level ranged from 92 to 350.

Reliability coefficients obtained from this study ranged from a low of 0.67 at the six year level to a high of 0.84 at the 17-and 18-year old levels, with a median of 0.77. Coefficients obtained for subjects three years-six months, four years, and four years-six months were 0.81, 0.77 and 0.72, respectively.

Validity

"Congruent" validity, or the extent to which the PPVT scores compared with scores on other vocabulary and intelligence tests, has been assessed by comparing the PPVT with the Binet and Wechsler scales. PPVT mental age scores were correlated with the '37 Binet mental age scores over a range of 0.64 to 0.87 with a median of 0.71.

On the '60 Binet the mental age correlations ranged from 0.82 to 0.86 with a median of 0.83. PPVT IQ's have correlated with the '37 Binet IQ's over a range of 0.43 to 0.92 with a median of 0.71. "Congruent" validity data involving the PPVT and Wechsler are reasonably comparable to those using the Binet. In terms of comparability the PPVT and Wechsler IQ values appear to be very similar to each other. In general the PPVT IQ's were more positively correlated with the Wechsler than the Binet IQ's.

Procedures

Establishment of Rapport

In order to obtain reliable results from the instruments, time was spent in establishing rapport with the subjects before testing began. Participation in the preschool programs from which the subject came occurred at least two weeks prior to testing. Consequently at the time of testing all subjects were willing to participate in the study.

In approaching the subjects for participation in the study, the researcher said:

(Child's name), I brought some pictures of toys and children to school today, would you like me to show them to you?

Would you like to see them now?

Although most subjects responded willingly when first approached, several subjects, because of their involvement in some other activity in the preschool program refused to participate when first asked. For these subjects the researcher said:

Oh, you're busy now. Maybe later on.

Subjects were approached three times before help from the head or assistant teachers in the preschool programs was sought.

The Testing Room

A small room adjoining, but separate from the preschool classroom was used to test all subjects in the study. The room contained a low table and two chairs for the child and the researcher. The room was well lit, with windows facing away from the preschool classroom. The researcher was fortunate in having such a room close enough, yet separate from the preschool proper for testing. Activities in the classroom provided no distraction to the subjects. All subjects remained intent throughout the test period.

Only one subject and the researcher were present in the room during the test period. The subjects were seated in a chair at a child size table with the researcher to the right of him. In the center of the table, in front of both the subject and the researcher were placed the research instruments.

Presentation of the ITSC

In the present study the ITSC was administered to each child three times. Once using Brown's (1956b) original instructions, with the IT figure whose sex was not designated (standard-ITSC), once with the IT figure replaced by a clear drawing of a boy, and once with the IT figure replaced by a clear drawing of a girl (modified-ITSC). The only modification in test instructions when the modified-ITSC was presented to the subjects was the substitution of the words "little boy" or "little girl" for the word "IT", found in the original instructions of the standard-ITSC. In every case the standard-ITSC was presented first in order to avoid contaminating the IT figure with either boy or girl connotations. The modified-ITSC of the "boy" or "girl" first presentations were then randomly varied.

Collection of data with the standard-and modified-ITSC occurred four weeks prior to the end of the school year, during the preschool programs' free play sessions. All subjects had experienced approximately eight months of instruction under one of the two established preschool programs previously described. The decision to collect the data at this time was based on an ex post facto research design to explore the relationship between the two preschool programs and sex role discrimination and preference in preschool aged children. Approximate testing time per subject was 10 to 15 minutes. Approximately

one week was used to test all subjects.

Presentation of the PPVT

Form A and Form B of the Peabody Picture Vocabulary Test (PPVT) were administered to all subjects by both a male and a female researcher. If subjects were first administered Form A of the PPVT, they were then administered Form B of the PPVT on second testing. If subjects were administered Form B of the PPVT on first testing, they were then administered Form A of the PPVT on second testing. Similarly, if subjects were first tested by a female researcher, then a male researcher administered the PPVT to them on second testing. If subjects were first tested by a male researcher, then a female researcher administered the PPVT to them on second testing. Instructions for the administration of the PPVT to preschool aged children are described by Dunn (1965) in an expanded manual published recently.

Originally, forty children, ten boys and ten girls were enrolled in each of the preschool programs previously described. During the winter and spring terms of the nursery school year, however, two girls, one from each preschool program had their enrollments withdrawn, leaving a total of ten boys and nine girls in each preschool program at the time of the present study.

In using the PPVT to obtain an estimate of the subjects' IQ scores, five boys and five girls in each preschool program were

randomly selected for first testing by a female researcher. The remaining five boys and five girls in each preschool program were first tested by a male researcher. Of the five boys in each preschool program first tested by a female researcher, and the five girls in each preschool program first tested by a male researcher, three boys and three girls were randomly selected and administered Form A of the PPVT, while the remaining two boys and two girls in each preschool program were administered Form B of the PPVT. Of the five girls in each preschool program first tested by a female researcher, and the five boys in each preschool program first tested by a male researcher, two girls and two boys were randomly selected and administered Form A of the PPVT, while the remaining three boys and three girls in each preschool program were administered Form B of the PPVT. The IQ scores of subjects obtained on first and second testings, as well as information regarding the averages of these two PPVT IQ scores, preschool program involvement, sex of subject, sex of the first test administrator and the form of first PPVT testing are summarized in Appendix C.

Collection of data with the PPVT occurred over the period November, 1968 to June, 1969. For a majority of the subjects the time interval between the first and second test administrations varied from one day to two weeks. For nine subjects, however, the time interval varied from five to six months.

Important to note at this point is the fact that all IQ scores of subjects used to describe the sample of this study were averages of subjects' IQ scores obtained from two test administrations of the PPVT (Appendix C). They included for each subject, scores on Form A and Form B of the PPVT, and test administrations by both a male and a female researcher. The Pearson-product-moment correlation method was used to calculate correlation coefficients for the IQ scores of subjects on Form A and Form B of the PPVT, as well as for IQ scores of subjects obtained when a male and a female researcher administered the PPVT to them. Correlation coefficients obtained were 0.820 and 0.822, respectively. These correlation coefficients revealed a high positive relationship between subjects' IQ scores on Form A and Form B of the PPVT, as well as between subjects' IQ scores when a male and a female researcher administered the PPVT to them.

The administration of the PPVT took place during the preschool programs' free play sessions. Approximate testing time per subject was 10 to 15 minutes.

CHAPTER IV

ANALYSIS OF DATA

Introduction

There were two major purposes in the present study. First, this study attempted to test the assumption that the standard-ITSC can be used as a measure of both appropriate sex role discrimination and sex role preference with preschool aged children. Second, this study attempted to extend previous studies in these areas by analyzing the relationship between sex role discrimination and preference, and a variety of variables shown to be important in understanding sex role development in young children. These variables included such characteristics as sex, age, IQ, preschool program involvement and sibling status.

In attempting to test the assumption that the standard-ITSC can be used as a measure of both appropriate sex role discrimination and sex role preference, all subjects were administered the ITSC three times; once using Brown's (1956b) standard-ITSC with the sex of the IT figure not designated; once using a modified-ITSC with the IT figure replaced by a clear drawing of a little boy; and once using a modified-ITSC with the IT figure replaced by a clear drawing of a little girl.

The subjects of the present study were 38 children attending two

preschool programs established by the Department of Family Life at Oregon State University. Essentially, these subjects represented matched pairs, even though one female subject was lost from each group. Variables considered in the selection of subjects included age, sex, ordinal position, age of parents, length of parents' marriage, number of children in the family, religion and socioeconomic status of the family.

Five null hypotheses were generated for this study, and the analysis of variance approach was used to test Hypotheses I, II, and III. Data from the modified-scoring procedures were used in these analyses and F-values were generated for tests of sex, age, IQ, preschool program and sibling status comparisons and their interaction effects. Original attempts to include all main effects and interaction tests in each analysis of variance appeared to weaken the F-tests, therefore, sibling status comparisons were analyzed separately. The components of the analysis of variance are presented in the usual format, and, in addition, mean values associated with the variables are summarized. A probability level of .10 or beyond was used as the significance level. The matching procedures used in selecting the subjects for this study, and the resultant increase in the "sensitivity" of the experiment to register small effects of the independent variable, justified such a decision on the significance level.

The paired-difference test was used to test Hypotheses IV and V

of this study. Data from Brown's (1956b) original scoring procedures were used in this analysis. T-values were generated for tests of sex, age, IQ, preschool program and sibling status comparisons. The formula for the paired-difference test is:

$$t = \frac{\bar{d}}{\sqrt{s_d^2/n}}$$

where \bar{d} refers to the mean of the differences between the subjects' scores on two measurements and $\sqrt{s_d^2/n}$ refers to the standard deviation of these differences (Mendenhall, 1963). A probability level of .05 or beyond was used as the significance level for these tests.

The results of the tests of hypotheses are presented individually, and, in addition, descriptive statistics are used to explore not only the controversy concerning the nature of the IT figure, but also the ability of the subjects to correctly identify the boy and girl figure drawings used in the modified-ITSC.

Hypothesis I

Hypothesis I: There will be no significant differences between the own sex role discrimination scores of subjects with respect to the variables of sex, age, IQ, preschool program and sibling status.

Table 12 presents a summary of the analysis of variance as applied to the own sex role discrimination scores of subjects with

respect to the variables of sex, age, IQ and preschool program and their interaction effects. Only one of the ten F-values generated for the test of Hypothesis I proved significant, and this F-value was associated with the interaction effect of sex X preschool program ($p < .10$). Therefore, the null hypothesis is rejected only with respect to this interaction effect.

Inspection of the mean values for the interaction effect of sex X preschool program, presented in Table 13, indicates a tendency for boys in Preschool Program I to be slightly better than boys in Preschool Program II, and a tendency for girls in Preschool Program II to be slightly better than girls in Preschool Program I, in their ability to make own sex role discriminations.

Table 14 presents a summary of the analysis of variance for sibling status. None of the F-values are significant, therefore, the null hypothesis cannot be rejected with respect to this variable. Inspection of the mean values associated with the Sibling Status A comparison groupings, however, reveal interesting trends. These mean values are presented in rank order in Table 15, and these data suggest that subjects with no siblings tend to be slightly better than all other Sibling Status A comparison groupings, in their ability to make own sex role discriminations. Furthermore, subjects with a same-sex sibling tend to be slightly better than subjects with mixed-sex siblings, and subjects with mixed-sex siblings tend to be better than subjects

Table 12. A Summary of the Analysis of Variance As Applied to the Own Sex Role Discrimination Scores of Subjects With Respect to the Variables of Sex, Age, IQ, and Preschool Program.

Source of Variation	SS	DF	MS	F
Sex	46.67045	1	46.67045	1.680
Age	73.48941	1	73.48941	2.645
IQ	65.31900	1	65.31900	2.351
Preschool Program	.04194	1	.04194	.002
Sex X Age	69.93553	1	69.93553	2.518
Sex X IQ	25.45562	1	25.45562	.916
Sex X Preschool Program	111.09977	1	111.09977	3.999*
Age X IQ	45.30428	1	45.30428	1.631
Age X Preschool Program	13.85493	1	13.85493	.499
IQ X Preschool Program	2.77095	1	2.77095	.100
Error	750.00634	27	27.77800	
Total (corrected)	1,226.00634	37		

*F 290 with 1, 27 d.f., significant at the 10% level.

Table 13. A Summary of the Mean Values of the Own Sex Role Discrimination Scores of Subjects Grouped by Sex, Age, IQ, Preschool Program and Sibling Status.

Grouping	N	Mean	Grouping	N	Mean
<u>Sex</u>			<u>Age X IQ</u>		
Boys	20	71.25	Older-Rapid	12	73.75
Girls	18	74.28	Older-Average	7	73.43
<u>Age</u>			Younger-Rapid	12	73.83
Older	19	73.28	Younger-Average	7	68.14
Younger	19	71.79	<u>Age X Preschool Program</u>		
<u>IQ</u>			Older I	10	74.50
Rapid	24	73.79	Older II	9	72.67
Average	14	70.79	Younger I	9	70.71
<u>Preschool Program</u>			Younger II	10	72.80
I	19	72.63	<u>IQ X Preschool Program</u>		
II	19	72.74	Rapid I	12	73.75
<u>Sex X Age</u>			Rapid II	12	73.83
Boys-Older	10	71.10	Average I	7	70.71
Boys-Younger	10	71.14	Average II	7	70.86
Girls-Older	9	76.44	<u>Sibling Status A</u>		
Girls-Younger	9	72.11	Same-Sex Sib.	13	73.46
<u>Sex X IQ</u>			Opp. -Sex Sib.	10	71.10
Boys-Rapid	12	71.67	Mixed-Sex Sib.	10	72.90
Boys-Average	8	70.63	No Siblings	5	73.60
Girls-Rapid	12	75.92	<u>Sibling Status B/A₂ (Opp. -Sex Sib.)</u>		
Girls-Average	6	71.00	Opp. -Sex Sib.		
<u>Sex X Preschool Program</u>			Older	5	71.00
Boys I	10	72.90	Younger	5	71.00
Boys II	10	69.60	<u>Sibling Status B/A₃ (Mixed-Sex Sib.)</u>		
<u>Sex X Preschool Program</u>			Opp. -Sex Sib.		
Girls I	9	72.33	Older	8	72.50
Girls II	9	76.22	Younger	2	74.50

Table 14. A Summary of the Analysis of Variance As Applied to the Own Sex Role Discrimination Scores of Subjects With Respect to the Variable of Sibling Status.

Source of Variation	SS	DF	MS	F ^a
Sibling Status A	44.40062	3	14.80020	.402
Sibling Status B/A ₂	0.00000	1	0.00000	.000
Sibling Status B/A ₃	6.40000	1	6.40000	.174
Error	1,178.93080	32	36.84100	
Total (corrected)	1,336.21050			

^aNone of the F-values are significant.

Table 15. A Ranking of the Mean Values of the Own Sex Role Discrimination Scores of Subjects With Respect to the Variable of Sibling Status A.

Grouping	N	Rank	Mean
No Siblings	5	1	73.60
Same-Sex Sibling	13	2	73.46
Mixed-Sex Sibling	10	3	72.90
Opposite-Sex Sibling	10	4	71.10

with an opposite-sex sibling in their ability to make own sex role discriminations.

Hypothesis II

Hypothesis II: There will be no significant differences between the opposite sex role discrimination scores of subjects with respect to the variables of sex, age, IQ, preschool program and sibling status.

Table 16 presents a summary of the analysis of variance as applied to the opposite sex role discrimination scores of subjects with respect to the variables of sex, age, IQ, and preschool program, and their interaction effects. Only two of the ten F-values generated for the test of Hypothesis II proved significant. The F-values associated with the main effect of sex ($p < .01$), and the interaction effect of sex X age ($p < .05$) are significant, therefore, the null hypothesis is rejected only with respect to these variables.

A summary of the mean values associated with these significant findings is presented in Table 17. Inspection of these values associated with sex as a main effect and sex in interaction with age, reveals first of all that girls are significantly better than boys in their ability to make opposite sex role discriminations. The mean values reported for the sex X age interaction test not only reflect this clear superiority of girls, but also reveal that a similar advantage is present for both

Table 16. A Summary of the Analysis of Variance As Applied to the Opposite Sex Role Discrimination Scores of Subjects With Respect to the Variables of Sex, Age, IQ and Preschool Program.

Source of Variation		DF		F
Sex	1, 782.56061	1	1, 782.56061	31.950***
Age	78.07502	1	78.07502	1.220
IQ	4.52801	1	4.52801	.081
Preschool Program	11.91938	1	11.91938	.214
Sex X Age	275.20788	1	275.20788	4.933**
Sex X IQ	134.61325	1	134.61325	2.413
Sex X Preschool Program	.50518	1	.50518	.009
Age X IQ	59.97096	1	59.97096	1.075
Age X Preschool Program	16.90123	1	16.90123	.303
IQ X Preschool Program	71.70474	1	71.70474	1.285
Error	1, 506.39210	27	55.79200	
Total (corrected)	4, 358.34210	37		

**F 4.21 with 1, 27 d.f., significant at the 5% level.

***F 7.68 with 1, 27 d.f., significant at the 1% level.

Table 17. A Summary of the Mean Values of the Opposite Sex Role Discrimination Scores of Subjects Grouped by Sex, Age, IQ, Preschool Program and Sibling Status.

Grouping	N	Mean	Grouping	N	Mean
<u>Sex</u>			<u>Age X IQ</u>		
Boys	20	54.80	Older-Rapid	12	62.50
Girls	18	70.28	Older-Average	7	63.29
<u>Age</u>			Younger-Rapid	12	63.00
Older	19	62.79	Younger-Average	7	58.86
Younger	19	61.47	<u>Age X Preschool Program</u>		
<u>IQ</u>			Older I	10	63.20
Rapid	24	62.75	Older II	9	62.33
Average	14	61.07	Younger I	9	58.89
<u>Preschool Program</u>			Younger II	10	63.80
I	19	61.12	<u>IQ X Preschool Program</u>		
II	19	63.10	Rapid I	12	61.08
<u>Sex X Age</u>			Rapid II	12	60.18
Boys-Older	10	53.20	Average I	7	61.14
Boys-Younger	10	56.40	Average II	7	61.00
Girls-Older	9	73.44	<u>Sibling Status A</u>		
Girls-Younger	9	67.11	Same-Sex Sib.	13	61.85
<u>Sex X IQ</u>			Opp. -Sex Sib.	10	65.00
Boys-Rapid	12	53.50	Mixed-Sex Sib.	10	61.90
Boys-Average	8	56.75	No Siblings	5	57.60
Girls-Rapid	12	72.00	<u>Sibling Status B/A₂ (Opp. -Sex Sib.)</u>		
Girls-Average	6	67.67	Opp. -Sex Sib.		
<u>Sex X Preschool Program</u>			Older	5	64.20
Boys I	10	53.80	Younger	5	65.80
Boys II	10	55.80	<u>Sibling Status B/A₃ (Mixed-Sex Sib.)</u>		
Girls I	9	69.33	Opp. -Sex Sib.		
Girls II	9	71.22	Older	8	60.88
			Younger	2	66.00

older and younger cross-sex comparisons; younger girls are better than younger boys, and older girls are better than older boys in making opposite sex role discriminations. In addition, older-younger comparisons within each sex reveal that: (1) while older girls are better than younger girls in their discriminations, the reverse is true for boys, and (2) older and younger girls differ in their ability to make opposite sex role discriminations to a greater degree than do older and younger boys.

Table 18 presents a summary of the analysis of variance for sibling status. None of the F-values are significant, therefore, the null hypothesis cannot be rejected with respect to this variable. Inspection of the mean values associated with the Sibling Status A comparison groupings, however, reveal interesting trends. These mean values are presented in rank order in Table 19, and these data suggest that subjects with an opposite-sex sibling tend to be slightly better than all other Sibling Status A comparison groupings, in their ability to make opposite sex role discriminations. Furthermore, subjects with mixed-sex siblings tend to be slightly better than subjects with a same-sex sibling, and subjects with a same-sex sibling tend to be slightly better than subjects with no siblings in their ability to make opposite sex role discriminations.

Table 18. A Summary of the Analysis of Variance As Applied to the Opposite Sex Role Discrimination Scores of Subjects With Respect to the Variable of Sibling Status.

Source of Variation	SS	DF	MS	F ^a
Sibling Status A	193.61641	3	64.53800	.501
Sibling Status B/A ₂	6.40000	1	6.40000	.050
Sibling Status B/A ₃	42.02500	1	42.02500	.326
Error	4,123.36730	32	128.85500	
Total (corrected)	4,358.34210	37		

^aNone of the F-values are significant.

Table 19. A Ranking of the Mean Values of the Opposite Sex Role Discrimination Scores of Subjects With Respect to the Variables of Sibling Status A.

Grouping	N	Rank	Mean
Opposite-Sex Sibling	10	1	65.00
Mixed-Sex Sibling	10	2	61.90
Same-Sex Sibling	13	3	61.85
No Siblings	5	4	57.60

Hypothesis III

Hypothesis III: There will be no significant differences between the sex role preference scores of subjects with respect to the variables of sex, age, IQ, preschool program and sibling status.

Table 20 presents a summary of the analysis of variance as applied to the sex role preference scores of subjects with respect to the variables of sex, age, IQ, and preschool program, and their interaction effects. Six of the ten F-values generated for the test of Hypothesis III proved significant. The F-values associated with the main effects of sex ($p < .01$), age ($p < .05$) and preschool program ($p < .05$), and the interaction effects of sex X age ($p < .10$), sex X IQ ($p < .10$) and sex X preschool program ($p < .05$) are significant, therefore, the null hypothesis is rejected with respect to these variables.

The mean values of the subjects' sex role preference scores associated with the variables of this analysis are summarized in Table 21. Inspection of the mean values associated with the main effects of sex, age, and preschool program indicate that: (1) boys have significantly more appropriate sex role preference scores than do girls, (2) older subjects have significantly more appropriate sex role preference scores than do younger subjects, and (3) subjects in Preschool Program I have significantly more appropriate sex role preference scores than subjects in Preschool Program II. The mean values of the sex

Table 20. A Summary of the Analysis of Variance As Applied to the Sex Role Preference Scores of Subjects With Respect to the Variables of Sex, Age, IQ, and Preschool Program.

Source of Variation	SS	DF	MS	F
Sex	524.18182	1	524.18182	8.236***
Age	316.77519	1	316.77519	4.977**
IQ	132.84446	1	132.84446	2.087
Preschool Program	328.72071	1	328.72071	5.165**
Sex X Age	215.01334	1	215.01334	3.378*
Sex X IQ	208.54282	1	208.54282	3.277*
Sex X Preschool Program	314.13601	1	314.13601	5.108**
Age X IQ	83.52040	1	73.52040	1.312
Age X Preschool Program	4.69445	1	4.69445	.074
IQ X Preschool Program	14.01563	1	14.01563	.220
Error	1,718.46370	27	63.64680	
Total (corrected)	4,185.39470	37		

*F 2.90 with 1, 27 d.f., significant at the 10% level.

**F 4.21 with 1, 27 d.f., significant at the 5% level.

***F 7.68 with 1, 27 d.f., significant at the 1% level.

Table 21. A Summary of the Mean Values of the Sex Role Preference Scores of Subjects Grouped by Sex, Age, IQ, Preschool Program and Sibling Status.

Grouping	N	Mean	Grouping	N	Mean
<u>Sex</u>			<u>Age X IQ</u>		
Boys	20	62.35	Older-Rapid	12	58.33
Girls	18	53.56	Older-Average	7	65.86
<u>Age</u>			Younger-Rapid	12	55.58
Older	19	61.12	Younger-Average	7	57.00
Younger	19	55.79	<u>Age X Preschool Program</u>		
<u>IQ</u>			Older I	10	63.20
Rapid	24	56.96	Older II	9	57.67
Average	14	61.00	Younger I	9	59.22
<u>Preschool Program</u>			Younger II	10	62.60
I	19	61.32	<u>IQ X Preschool Program</u>		
II	19	55.58	Rapid I	12	59.25
<u>Sex X Age</u>			Rapid II	12	53.83
Boys-Older	10	68.00	Average I	7	64.86
Boys-Younger	10	57.60	Average II	7	57.14
Girls-Older	9	53.44	<u>Sibling Status A</u>		
Girls-Younger	9	53.56	Same-Sex Sib.	13	60.08
<u>Sex X IQ</u>			Opp. -Sex Sib.	10	55.50
Boys-Rapid	12	63.25	Mixed-Sex Sib.	10	56.50
Boys-Average	8	62.25	No Siblings	5	64.00
Girls-Rapid	12	50.67	<u>Sibling Status B/A₂ (Opp. -Sex Sib.)</u>		
Girls-Average	6	59.33	Opp. -Sex Sib.		
<u>Sex X Preschool Program</u>			Older	5	58.00
Boys I	10	68.80	Younger	5	53.00
Boys II	10	56.90	<u>Sibling Status B/A₃ (Mixed-Sex Sib.)</u>		
<u>Sex X IQ</u>			Opp. -Sex Sib.		
Girls I	9	53.54	Older	8	55.63
Girls II	9	54.00	Younger	2	60.00

role preference scores of subjects associated with the sex X age, sex X IQ and sex X preschool program interactions indicate that: (1) whether the data is grouped by sex X age, IQ or preschool program, boys tend to have more appropriate sex role preference scores than girls, (2) while there is almost no difference between the sex role preference scores of older and younger girls, older boys tend to have more appropriate sex role preference scores than do younger boys, (3) while average girls tend to have more appropriate sex role preference scores than rapid girls, there is only a minor difference between rapid and average boys, and (4) while boys in Preschool Program I tend to have more appropriate sex role preference scores than boys in Preschool Program II, girls in these two preschool programs do not differ appreciably from each other.

Table 22 presents a summary of the analysis of variance for sibling status. None of the F-values are significant, therefore, the null hypothesis cannot be rejected with respect to this variable. Inspection of the mean values associated with the Sibling Status A comparison groupings, however, does reveal trends. These mean values are presented in rank order in Table 23 and these data suggest that subjects with no siblings tend to have slightly more appropriate sex role preference scores than all other Sibling Status A comparison groupings. Furthermore, subjects with a same-sex sibling tend to have slightly more appropriate sex role preferences than subjects with

Table 22. A Summary of the Analysis of Variance As Applied to the Sex Role Preference Scores of Subjects With Respect to the Variable of Sibling Status.

Source of Variation	SS	DF	MS	F ^a
Sibling Status A	271.22518	3	90.40800	.766
Sibling Status B/A ₂	62.50000	1	62.50000	.529
Sibling Status B/A ₃	30.62500	1	30.62500	.259
Error	3,778.79810	32	118.08700	
Total (corrected)	4,185.39470	37		

^aNone of the F-values are significant.

Table 23. A Ranking of the Mean Values of the Sex Role Preference Scores of Subjects With Respect to the Variable of Sibling Status A.

Grouping	N	Rank	Mean
No Siblings	5	1	64.00
Same-Sex Sibling	13	2	60.08
Mixed-Sex Sibling	10	3	56.50
Opposite-Sex Sibling	10	4	55.50

mixed-sex siblings, and subjects with mixed-sex siblings tend to have slightly more appropriate sex role preferences than subjects with an opposite-sex sibling.

Hypothesis IV

Hypothesis IV: There will be no significant differences between the sex role preference ("IT" instructional condition) and sex role discrimination ("little boy" instructional condition) scores of subjects with respect to the variables of sex, age, IQ, pre-school program and sibling status.

Table 24 presents a summary of the paired-difference test as applied to the differences between the sex role preference ("IT" instructional condition) and sex role discrimination ("little boy" instructional condition) scores of subjects with respect to the variables of sex, age, IQ, preschool program and sibling status. Each of the t-values generated in these tests was significant, therefore, the null hypothesis is rejected in every instance. This indicates that whether the data is grouped by sex, age, IQ, preschool program or sibling status, replacing the IT figure with a clear drawing of a boy in testing, resulted in significantly higher, more masculine mean scores.

Table 24. A Summary of the Comparisons Between the "IT" Instructional Condition and the "Little Boy" Instructional Condition Grouped by Sex, Age, IQ, Preschool Program and Sibling Status.

Grouping	N	Instructional Condition Comparison				
		\bar{X}_{IT}	\bar{X}_{Boy}	SE	t	p
<u>Sex</u>						
Boys	20	62.35	71.25	2.47	3.60	<.005
Girls	18	30.22	70.22	2.60	15.36	<.001
<u>Age</u>						
Older	19	50.26	72.21	5.12	4.27	<.001
Younger	19	44.00	69.68	3.80	6.76	<.001
<u>IQ</u>						
Rapid	24	47.71	71.83	3.63	6.74	<.001
Average	14	46.14	69.43	5.72	4.07	<.005
<u>Preschool Program</u>						
I	19	50.89	71.53	4.72	4.36	<.001
II	19	43.37	70.42	3.91	7.03	<.001
<u>Sibling Status A</u>						
Same-Sex Sib.	13	39.15	69.92	5.71	5.50	<.001
Opp. -Sex Sib.	10	48.10	70.90	5.79	3.94	<.005
Mixed-Sex Sib.	10	51.70	71.13	5.48	3.58	<.01
No Siblings	5	54.80	71.00	3.79	4.27	<.02
<u>Sibling Status B/A₂ and B/A₃</u>						
<u>Opp. -Sex Sib.</u>						
Older	13	52.54	71.39	4.85	3.89	<.005
Younger	7	45.00	70.57	6.73	3.80	<.01

Hypothesis V

Hypothesis V: There will be no significant differences between the sex role preference ("IT" instructional condition) and sex role discrimination ("little girl" instructional condition) scores of subjects with respect to the variables of sex, age, IQ, preschool program and sibling status.

Table 25 presents a summary of the paired-difference test as applied to the differences between the sex role preference ("IT" instructional condition) and sex role discrimination ("little girl" instructional condition) scores of subjects with respect to the variables of sex, age, IQ, preschool program and sibling status. Each of the t-values generated in these tests is significant, therefore, the null hypothesis is rejected in every instance. This indicates that whether the data is grouped by sex, age, IQ, preschool program or sibling status, replacing the IT figure with a clear drawing of a girl in testing, resulted in significantly lower, more feminine mean scores.

Additional Findings

Controversy: Nature of the IT Figure

In order to explore the controversy concerning the nature of the IT figure, after presentation of both the standard- and modified-ITSC to all subjects, the researcher asked all subjects, "What do you think

Table 25. A Summary of the Comparisons Between the "IT" Instructional Condition and the "Little Girl" Instructional Condition Grouped by Sex, Age, IQ, Preschool Program and Sibling Status.

Grouping	N	Instructional Condition Comparison				
		\bar{X}_{IT}	\bar{X}_{Girl}	SE	t	p
<u>Sex</u>						
Boys	20	62.35	28.60	2.89	11.68	<.001
Girls	18	30.22	9.72	2.69	7.62	<.001
<u>Age</u>						
Older	19	50.26	19.16	3.46	8.99	<.001
Younger	19	44.00	20.16	2.69	8.86	<.001
<u>IQ</u>						
Rapid	24	47.71	18.79	2.51	11.52	<.001
Average	14	46.14	21.12	4.35	5.75	<.001
<u>Preschool Program</u>						
I	19	50.89	20.79	3.25	9.27	<.001
II	19	43.37	18.53	3.04	8.17	<.001
<u>Sibling Status A</u>						
Same-Sex Sib.	13	39.15	18.00	3.32	6.30	<.001
Opp. -Sex Sib.	10	48.10	19.10	4.05	6.91	<.001
Mixed-Sex Sib.	10	51.70	20.50	5.14	6.07	<.001
No Siblings	5	54.80	23.40	4.32	7.19	<.005
<u>Sibling Status B/A₂ and B/A₃</u>						
<u>Opp. -Sex Sib.</u>						
Older	13	52.54	21.46	4.33	7.71	<.001
Younger	7	45.00	16.71	5.21	5.43	<.005

this child (pointing to the IT figure) really is, a boy or a girl?" Table 26 presents a summary of the results obtained on the subjects' perception of the nature of the IT figure. These data reveal that approximately 50% of the boys and 50% of the girls perceived the IT figure as representing a child of their opposite sex.

Table 26. A Summary of the Results Obtained On the Subjects' Perception of the Nature of the IT Figure.

Nature of the IT Figure	Preschool Program I		Preschool Program II		Total
	Boys	Girls	Boys	Girls	
Boy	6	5	5	4	20
Girl	4	4	5	5	18
Total	10	9	10	9	38

Identification of the Boy and Girl Figure Drawings in the Modified-ITSC

In utilizing the standard-ITSC as a measure of sex role discrimination with preschool aged children, the present study modified the test by replacing the presumed ambiguous IT figure with a clear drawing of a boy and a girl in testing. To test the assumption regarding the ability of young children to correctly identify these figure drawings, all subjects were asked to name the sex of the figure drawings prior to presentation of the modified-ITSC. Results obtained indicated that all subjects (20 boys and 18 girls) correctly identified the figure drawings of a boy and a girl used in the modified-ITSC.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

Almost without exception, current theoretical discussions or reviews of research on sex role preference in young children report results which have been obtained with the IT Scale for Children (standard-ITSC). This test consists of pictures of toys, playmates and activities, some of which are considered masculine, while others are considered feminine. Test procedures require that the child choose from among the variety of pictures presented to him, those which the IT figure, presumed to be ambiguous with respect to sex, would like best. It is assumed that when the child makes his choices from among the variety of pictures presented to him, he is indirectly reflecting his preferred sex onto the IT figure. More recently, however, through simple modifications in testing procedures, the same instrument has been used to assess sex role discrimination in young children. By simply referring to the IT figure as a "little boy" or a "little girl" in testing, these investigations observed the ability of young children to discriminate between symbols and representations associated with one sex or the other.

Presently, however, questions are being raised concerning the

adequacy of the standard-ITSC as a measure of young children's appropriate sex role discriminations and preferences. Results from a number of studies suggest that the IT figure looks more masculine than either feminine or neuter. Other studies, however, have provided evidence in support of the assumption that the IT figure is indeed ambiguous with respect to sex. Therefore, the controversy concerning the adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and preference is in need of further study and discussion, especially since it continues to be used in research with young children.

There were two major purposes in this study. First, to test the assumption that the standard-ITSC can be used as a measure of both appropriate sex role discrimination and sex role preference with preschool aged children. Second, to extend previous studies by analyzing the relationship between sex role discrimination and preference, and a variety of variables shown to be important in understanding sex role development in young children. These variables included such characteristics as sex, age, IQ, preschool program involvement and sibling status.

In attempting to test the assumption that the standard-ITSC can be used as a measure of both appropriate sex role discrimination and sex role preference, all subjects were administered the ITSC three times; once using Brown's (1956b) standard-ITSC with the sex of the

IT figure not designated, once using a modified-ITSC with the IT figure replaced by a clear drawing of a little boy, and once using a modified-ITSC with the IT figure replaced by a clear drawing of a little girl.

The subjects of the present study were 38 children attending two preschool programs established by the Department of Family Life at Oregon State University. Essentially, these subjects represented matched pairs, even though one female subject was lost from each group. Variables considered in the selection of subjects included sex, age, ordinal position, age of parents, length of parents' marriage, number of children in the family, religion and socioeconomic status of the family.

The instruments used to collect the data for the present study included the standard-ITSC (Brown, 1956b) and the modified-ITSC which was specifically designed for the study. The standard-ITSC was used as a measure of sex role preference, while the modified-ITSC was used as a measure of sex role discrimination. The Peabody Picture Vocabulary Test (PPVT) was used to estimate the subjects' IQ scores.

The following hypotheses were tested in this study. With respect to the variables of sex, age, IQ, preschool program and sibling status:

Hypothesis I: There will be no significant differences

between the own sex role discrimination scores of the subjects.

Hypothesis II: There will be no significant differences between the opposite sex role discrimination scores of the subjects.

Hypothesis III: There will be no significant differences between the sex role preference scores of the subjects.

Hypothesis IV: There will be no significant differences between the sex role preference ("IT" instructional condition) and sex role discrimination ("little boy" instructional condition) scores of the subjects.

Hypothesis V: There will be no significant differences between the sex role preference ("IT" instructional condition) and sex role discrimination ("little girl" instructional condition) scores of the subjects.

A summary of the findings is presented on the following pages under the sub-headings associated with the hypotheses tested. The analysis of variance approach was used to test Hypothesis I, II and III, while the paired-difference test was used to test Hypotheses IV and V. In addition, descriptive statistics were used to explore not

only the controversy concerning the nature of the IT figure used in the standard-ITSC, but also the ability of subjects to correctly identify the boy and girl figure drawings used in the modified-ITSC.

Hypothesis I, II, and III

Table 27 presents a summary of the significant findings obtained in the tests of Hypotheses I, II and III, and some important trends regarding sibling status.

Comparison of Instructional Conditions

IT vs. Boy (Hypothesis IV)

Whether the data is grouped by sex, age, IQ, preschool program or sibling status, replacing the IT figure with a clear drawing of a boy for testing, resulted in significantly higher, more masculine mean scores.

IT vs. Girl (Hypothesis V)

Whether the data is grouped by sex, age, IQ, preschool program or sibling status, replacing the IT figure with a clear drawing of a girl for testing resulted in significantly lower, more feminine mean scores.

Table 27. A Summary of the Significant Findings in Tests of Hypotheses I, II and III, and Some Important Trends Regarding Sibling Status.

Group	Own Sex Role Discrimination (Hypothesis I)		Opposite Sex Role Discrimination (Hypothesis II)		Appropriate Sex Role Preference (Hypothesis III)	
	Sig. Level	Mean	Sig. Level	Mean	Sig. Level	Mean
<u>Sex</u>			***Boys	54.50	***Boys	62.35
			Girls	70.28	Girls	53.56
<u>Age</u>					**Older	61.12
					Younger	55.79
<u>IQ</u>						
<u>Preschool Program</u>					**I	61.32
					II	55.58
<u>Sex X Age</u>			*Boys-Old.	53.20	*Boys-Old.	68.00
			Boys-Young.	56.40	Boys-Young.	57.60
			Girls-Old.	73.44	Girls-Old.	53.44
			Girls-Young.	67.11	Girls-Young.	53.56
<u>Sex X IQ</u>					*Boys-Rapid	63.25
					Boys-Aver.	62.25
					Girls-Rapid	50.67
					Girls-Aver.	59.33
<u>Sex X Preschool Program</u>						
	*Boys I	72.90			**Boys I	68.80
	Boys II	69.60			Boys II	56.90
	Girls I	72.33			Girls I	53.54
	Girls II	76.22			Girls II	54.00
<u>Age X IQ</u>						
<u>Age X Preschool Program</u>						
<u>IQ X Preschool Program</u>						
<u>Sibling</u>						
<u>Status A</u>	<u>Rank</u>	<u>Mean</u>	<u>Rank</u>	<u>Mean</u>	<u>Rank</u>	<u>Mean</u>
Same-Sex Sib. (T)	2	73.46 (T)	3	61.85 (T)	2	60.88
Opp. -Sex Sib.	4	71.10	1	65.00	4	55.50
Mixed-Sex Sib.	3	72.90	2	61.90	3	56.50
No Siblings	1	73.60	4	57.60	1	64.00
<u>Sibling Status B/A₂</u>						
<u>Sibling Status B/A₃</u>						

(T) trend.

*significant beyond the .10 level.

**significant beyond the .05 level.

***significant beyond the .01 level.

Additional Findings

Controversy: Nature of the IT Figure

Approximately 50% of the boys ($n = 11$) and 50% of the girls ($n = 9$) perceived the IT figure used in the standard-ITSC as representing a child of their opposite sex.

Identification of the Boy and Girl Figure Drawings in the Modified-ITSC

All subjects (20 boys and 18 girls) correctly identified the figure drawings of a boy and a girl used in the modified-ITSC, when asked.

Discussion

The discussion section which follows is divided into two major sections. Section one focuses upon relating the present findings to previous research in the area, and section two centers upon relating these same findings to the controversy concerning the adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and preference with young children.

Relationship of Findings to Previous Research

A summary of the findings obtained in the present study which can be related to previous research on sex role discrimination and

preference in preschool aged children is presented under sub-headings associated with each hypothesis tested. In general, results obtained strongly support the multi-dimensional nature of sex role development in young children. Future studies on sex role development in young children can no longer overlook the importance of these variables and their interaction effects in research.

Own Sex Role Discrimination (Hypothesis I)

Sex Differences. The finding that there was no significant difference between the own sex role discrimination scores of subjects with respect to the main effect of sex, is consistent with the findings of previous studies undertaken in this area (Hartrup and Zook, 1960; Schell and Silber, 1968). In this study the lack of significance reflects the relatively equal ability of boys and girls to make own sex role discriminations, in fact, both boys and girls have equally high scores in this area. This suggests support for earlier conclusions (Hartrup and Zook, 1960; Schell and Silber, 1968), that by three to four years of age, young children are quite capable of making own sex role discriminations.

Age Differences. The present finding that there was no significant difference between the own sex role discrimination scores of subjects with respect to the main effect of age, is in conflict with previous research findings (Hartrup and Zook, 1960; Schell and

Silber, 1968). While the present study found no difference between older and younger subjects in their ability to make own sex role discriminations, Hartrup and Zook (1960) and Schell and Silber (1968) in their studies found older subjects to be significantly better than younger subjects in their ability to make own sex role discriminations. However, the age range for these studies, within both the younger and older classifications, differ enough from those in the present study that more than casual reference does seem warranted. Hartrup and Zook (1960) used subjects both older and younger than subjects of the present study, while Schell and Silber (1968) used subjects considerably younger than those of the present study. This diversity may account for the discrepant findings. Also, in the present study, the age difference between older and younger groups was quite small, and it seems probable that this limited age range may have reduced the possibility of finding any difference between older and younger groups in their ability to make own sex role discriminations.

IQ Differences. To date no available research has reported on the relationship between IQ and sex role discrimination in young children. Kohlberg and Zigler (1966) in their study on sex role development in young children, however, speculated that at the younger ages (i. e. three to four years), IQ might be positively correlated with the learning of appropriate sex roles, since sex role development scores at these ages reflect earlier learnings of basic

sex-typing. The present finding that there was no significant difference between the own sex role discrimination scores of subjects with respect to the main effect of IQ, however, does not provide support for Kohlberg and Zigler's (1966) speculations. Rapid and average learners were not significantly different from each other in their ability to make own sex role discriminations. In light of this finding, more research focused upon studying the relationship between IQ and sex role discrimination in preschool aged children is recommended. It may well be that since most children, three to four years of age, are quite capable of making own sex role discriminations (Hartrup and Zook, 1960; Schell and Silber, 1968), variations in own sex role discrimination scores among these children may no longer be positively related to intelligence, but may be related to other factors in the child's personality and his environment.

Preschool Program Differences. While there were no significant differences between the own sex role discrimination scores of subjects with respect to the main effect of preschool program, the interaction effect of sex X preschool program was significant. An inspection of the mean values of the subjects' own sex role discrimination scores associated with this interaction effect indicated that boys in Preschool Program I (male teachers) and girls in Preschool Program II (female teachers) tended to be better than boys in Preschool Program II and girls in Preschool Program I, respectively, in their

ability to make own sex role discriminations. This finding could be used in support of the role theory of sex role development (Parson and Bales, 1955) which argues that in an interactional situation involving persons of unequal power, the less powerful is more apt to be influenced by the more powerful than vice versa. Power, in this theory, is defined as the degree to which a person is an effective rewarder and an effective punisher. Thus, in an interactional situation, if the more powerful figure is an adult male, boys' sex role development would be facilitated, while girls' sex role development impeded. If the more powerful adult figure is a female, however, the converse would hold true.

The findings of this study could provide support for the role theory of sex role development, if one reasoned that the powerful male teachers in Preschool Program I, may have facilitated the learning of own sex role discriminations among boys in this preschool program, while the more powerful female teachers in Preschool Program II may have impeded learning of own sex role discriminations among boys in that preschool program. A converse effect may have operated among the girls in the two preschool programs. With statistical significance appearing in the interaction term, some credence is added to this line of reasoning.

Sibling Status Differences. Although none of the sibling status comparisons with respect to the subjects' own sex role discrimination

scores were significant, several relevant trends were found. In ranking the mean values of subjects' own sex role discrimination scores with respect to the variable of Sibling Status A, data indicated that subjects with no siblings tended to be slightly better than subjects with a same-sex sibling, mixed-sex siblings, and an opposite-sex sibling, in their ability to make own sex role discriminations. This finding is in conflict with the only other investigation on the relationship between sibling status and sex role discrimination available to date (Schell and Silber, 1968). In their study, Schell and Silber (1968) found that among three- and four-year-old children, subjects with an opposite-sex sibling and mixed-sex siblings were more aware of sex role discriminations appropriate for their own sex than subjects with no siblings. In interpreting their results, Schell and Silber (1968) offered the idea that having mixed-sex siblings within the family provided a contrast to the child whereby the learning of his own sex role is facilitated.

No previous research studies on sex role discrimination can be brought to bear upon the other sibling status findings obtained in the present study. The findings that subjects with a same-sex sibling tended to be slightly better than subjects with mixed-sex siblings, and subjects with mixed-sex siblings tended to be slightly better than subjects with an opposite-sex sibling, in their ability to make own sex role discriminations, seems like a reasonable trend. The fact that

subjects with a same-sex sibling and mixed-sex siblings tended to be slightly better than subjects with primarily an opposite-sex sibling may be interpreted from the point of view that having a same-sex sibling within the family serves as a salient model for instructing the child in own sex role discriminations, while having mixed-sex siblings provided a contrast to the child whereby the learning of his own sex role is facilitated (Fauls and Smith, 1956; Schell and Silber, 1968). More research is necessary, however, before acceptance of such a point of view can be suggested.

Furthermore, no other previous research studies on sex role discrimination can be brought to bear on the findings regarding the Sibling Status B/A₂ and B/A₃ comparisons. The present finding that there was no significant difference between subjects with an opposite-sex sibling who was older or younger than they, in their ability to make own sex role discriminations, however, is contrary to what seems reasonable to expect on the basis of the role theory of sex role development (Parson and Bales, 1955). For example, according to this theory of sex role development, it would be expected that subjects with an older-opposite sex sibling would be less capable than subjects with a younger-opposite sex sibling, in their ability to make sex role discriminations appropriate for their own sex (Brown, 1956b; Brim, 1968). Such findings, however, were not obtained. A possible explanation of these discrepancies can be made on the basis of

sample size. The limited sample size of the present study made results obtained with respect to the variables of Sibling Status B/A₂ and B/A₃ highly questionable. Further research with a larger sample is recommended.

Opposite Sex Role Discriminations (Hypothesis II)

Sex Differences. The present finding that there was a significant difference between the opposite sex role discrimination scores of subjects with respect to the main effect of sex, is in support of a previous research investigation undertaken in this area (Schell and Silber, 1968). The present study indicated that girls were better than boys in their ability to make opposite sex role discriminations. The superiority of girls over boys is further reflected in the significant sex X age interaction effect. Whether older or younger, girls were better than boys in their ability to make opposite sex role discriminations. In interpreting these results, Schell and Silber (1968) suggested that their findings may be interpreted from the point of view that while boys are more often required to learn what is acceptable for boys, girls are often required to learn what is acceptable for girls and for boys. Recently, Reed and Asbjornson (1968) and Sher and Lansky (1968) reported what appear to be parallel results, although they studied somewhat older children, using different testing procedures.

Age Differences. The present finding that there was no

significant difference between the opposite sex role discrimination scores of subjects with respect to the main effect of age, is in conflict with the results of a previous study (Schell and Silber, 1968). While the present study found no difference between older and younger subjects in their ability to make opposite sex role discriminations, Schell and Silber (1968) in their study, found older subjects to be significantly better than younger subjects in their ability to make opposite sex role discriminations. A possible explanation of these discrepant results can be made on the basis of the age range of subjects used in these two studies. As previously indicated, Schell and Silber (1968) used subjects considerably younger than subjects in the present study. This diversity may account for the difference between the opposite sex role discrimination scores of older and younger subjects found in their study. In the present study, however, the age difference between older and younger subjects was quite small and it seems probable that this limited age range may have reduced the possibility of finding any difference between older and younger subjects in their ability to make opposite sex role discriminations.

It should be noted, however, that the significant difference between the subjects' opposite sex role discrimination scores, obtained in the present study, with respect to the interaction effect of sex X age, suggests that age differences may be operative. Inspection of the mean values of the subjects' opposite sex role discrimination

scores associated with this interaction effect revealed that, while older girls tended to be better than younger girls in their ability to make opposite sex role discriminations, the reverse was true for boys. Results obtained in the present study, therefore, provided evidence which only partially supported Schell and Silber's (1968) finding.

IQ Differences. As indicated previously, no research has been found which explores the relationship between IQ and sex role discrimination in young children. Kohlberg and Zigler (1966) in their study, however, speculated that at the younger ages (i. e. three to four years), IQ might be positively correlated with the learning of appropriate sex roles, since sex role development at these ages reflect earlier learnings of basic sex-typing. The present finding that there was no significant difference between the opposite sex role discrimination scores of subjects with respect to the main effect of IQ, however, does not provide support for Kohlberg and Zigler's (1966) speculations. Rapid and average learners were not significantly different from each other in their ability to make opposite sex role discriminations.

Preschool Program Differences. The present findings that there were no significant differences between the opposite sex role discrimination scores of subjects with respect to the main effect of preschool program or the interaction effect of sex X preschool

program provided no support for the role theory of sex role development (Parson and Bales, 1955). As previously described, since Preschool Program I involved powerful male adults as teachers, and Preschool Program II involved powerful female adults as teachers, one would have expected that the variables of sex and power of teachers in both preschool programs would have a differential effect upon the opposite sex role discrimination scores of boys and girls enrolled in these preschool programs. More specifically, it could be expected that since the powerful adult figures in Preschool Program I were male teachers and the powerful adult figures in Preschool Program II were female teachers, girls in Preschool Program I and boys in Preschool Program II would tend to be better than girls in Preschool Program II and boys in Preschool Program I, respectively, in their ability to make opposite sex role discriminations. Such a finding, however, was not obtained. Instead, we found that boys in Preschool Program I and girls in Preschool Program II were just as good as boys in Preschool Program II and girls in Preschool Program I, respectively, in their ability to make opposite sex role discriminations. Since the present study is the only available investigation focused upon delineating the relationship between the variables of sex and power of teachers, and the ability of preschool aged children to make opposite sex role discriminations, more research in this area is recommended.

Sibling Status Differences. Although none of the sibling status comparisons with respect to the subjects' opposite sex role discrimination scores were significant, several relevant trends were found. In ranking the mean values of the subjects' opposite sex role discrimination scores with respect to the variable of Sibling Status A, data indicated that subjects with an opposite-sex sibling and mixed-sex siblings, tended to be slightly better than subjects with a same-sex sibling or no siblings, in their ability to make opposite sex role discriminations. This finding is in support of a previous study undertaken by Schell and Silber (1967) with similar aged children. In interpreting their results, Schell and Silber (1967) pointed to the theory that having an opposite-sex sibling within the family served as a salient model for instructing the child in opposite sex role discriminations.

No other previous research investigations on sex role discrimination can be brought to bear on the findings regarding the Sibling Status B/A₂ and B/A₃ comparisons. The present finding that there was no significant difference between subjects with an opposite-sex sibling who was older or younger than they, in their ability to make opposite sex role discriminations, however, is contrary to what seems reasonable to expect. For example, according to the role theory of sex role development (Parson and Bales, 1955), it would be expected that subjects with an older-opposite-sex sibling would be

better than subjects with a younger-opposite-sex sibling, in their ability to make sex role discriminations appropriate for their opposite sex (Brown, 1956b; Brim, 1968). Such findings, however, were not obtained. A possible explanation of this discrepancy can be made on the basis of sample size. The limited sample size of the present study made results obtained with respect to the variables of Sibling Status B/A_2 and B/A_3 highly questionable. Further research with a larger sample is recommended.

Sex Role Preference (Hypothesis III)

Sex Differences. The finding that there was a significant difference between the sex role preference scores of subjects with respect to the main effect of sex, is consistent with findings of previous research studies undertaken, using the standard-ITSC as a measure of sex role preference in young children (Hartrup and Zook, 1960; Schell and Silber, 1968). This finding indicated that boys, three to four years of age, had significantly more appropriate sex role preference scores than girls, and this superiority is further reflected in the significant sex X age, IQ and preschool program interaction effects. Such a finding has previously been obtained with children of preschool ages (Hartrup and Zook, 1960; Schell and Silber, 1968), as well as with older children (Brown, 1956b; Fauls and Smith, 1956; Hall and Keith, 1964; Handy, 1954; Hogan, 1957; Rosenberg and

Sutton-Smith, 1964, 1959; Ward, 1968). A standard interpretation of these results for boys has been that boys develop appropriate sex role preferences earlier than girls. The explanation customarily has been they do so because of the greater prestige, power and attractiveness of the male role; because of the greater clarity in our culture about what is appropriate male behavior than what is appropriate female behavior; and because of the greater pressure put on boys than on girls to learn sex appropriate behavior. A standard interpretation of the results for girls has been that they, too, prefer masculine activities as well as feminine ones, and are much less likely to experience punishment and are much more likely to be reinforced for behaving like boys than boys are for behaving like girls.

Age Differences. The present finding that there was a significant difference between the sex role preference scores of subjects with respect to the main effect of age, indicated that older subjects had significantly more appropriate sex role preference scores than younger subjects. This finding, however, cannot be interpreted without also considering the significant interaction effect of sex X age. Inspection of the mean values of the subjects' sex role preference scores associated with this interaction effect indicated that while there appeared to be almost no difference between the sex role preference scores of older and younger girls, older boys tended to have

more appropriate sex role preference scores than younger boys. This finding is in support of previous research undertaken in this area (Biller and Borstellmann, 1961; Brown, 1958; Hartrup and Zook, 1960; Rabban, 1950). According to previous research, from three years of age, boys consistently increase in their appropriate sex role preferences, becoming progressively more masculine each year. For girls, however, the results are more complex. It has been found that they reach their peak of femininity at approximately four years of age, and proceed to maintain this level or even decrease in their femininity during the early elementary school years. In the present study, the age range of the older subjects was from four years-one month to four years-five months. This age range may account for the difference between the appropriate sex role preference scores of older and younger boys, and the almost no difference between older and younger girls. If the very slight difference between the sex role preference scores of older and younger girls can be taken as an indication of the development of girls' sex role preferences, then the finding that older girls had slightly less appropriate sex role preference scores than younger girls suggests a trend toward more masculine sex role preferences among older girls and this would concur with previous research findings.

IQ Differences. Studies focused upon exploring the relationship between IQ and sex role preference in preschool age children are

relatively few. Of those that have been done, however, findings reveal that for boys, four to five years of age, IQ appears positively correlated with appropriate sex role preferences (Biller, 1968a; Kohlberg and Zigler, 1966). For girls, however, the findings are less clear cut. On some measures of sex role preference, IQ appears positively correlated with girls' appropriate sex role preferences, while on other measures, IQ appears negatively correlated with this same variable (Kohlberg and Zigler, 1966). The finding of the present study that there was a significant difference between the sex role preference scores of subjects with respect to the interaction effect of sex X IQ, provides only partial support for these earlier findings. The finding that average girls tended to have more appropriate sex role preference scores than rapid girls, is in support of those studies which indicate a negative relationship between IQ and sex role preference (Kohlberg and Zigler, 1966). What this finding seems to suggest is the idea that the relationship between IQ and sex role preference in young children may not only be age-specific, but also influenced by the important variable of sex. More research in this area is recommended.

Preschool Program Differences. The present finding that there was a significant difference between the sex role preference scores of subjects with respect to the variable of preschool program indicated that subjects in Preschool Program I had significantly more

appropriate sex role preference scores than subjects in Preschool Program II. This finding, however, should not be interpreted without consideration of the additional significant result associated with the sex X preschool program interaction effect. Inspection of the mean values of subjects' sex role preference scores associated with this interaction effect indicated that while boys in Preschool Program I (male teachers) tended to have more appropriate sex role preference scores than boys in Preschool Program II (female teachers), girls in these two preschool programs did not differ appreciably from each other. This finding is consistent with previous research undertaken in this area using older boys as subjects (McFarland, 1966; Steele, 1968), and supports the role theory of sex role development (Parson and Bales, 1955) for boys only. As summarized previously this theory suggests that in an interactional situation involving persons of unequal power, the less powerful is more apt to take on the characteristics of the more powerful than vice versa. If the more powerful adult figure is a male, boys' sex role development would be facilitated. If the more powerful adult figure is a female, however, the converse would hold true.

It should be indicated, however, that while the present study provided evidence in support of the role theory of sex role development for boys, the finding that there was no appreciable difference between the sex role preference scores of girls in Preschool Program I and II

provides further information in need of interpretation. Such a finding could be interpreted as suggestive of the theory that the influence of the powerful male figure in impeding girls' sex role preferences is not as great as the influence of the powerful female figure in impeding boys' sex role preferences. This theoretical position is held by Johnson (1963), who upholds the crucial role of the father in facilitating appropriate sex role development in both males and females. She states that:

...the father takes a less demanding, more "appreciative" attitude toward his daughter than toward his son, playing husband to the girl and mentor to the boy...the mother does not make a distinction symmetrical to the father. Although the mother does share common cultural values with the father about what is appropriate masculine and feminine behavior, and may assign tasks...on a sex-typed basis, there is considerable evidence that she does not make a basic differentiation in her attitude toward male and female children. She neither plays wife to her son, nor does she urge her daughter to "buck up and get in there and be a woman", rather she thinks of both sexes as "children", whom she treats in light of her general nurturant and supportive role in the family (Johnson, 1963, p. 320)

The crux of this theoretical position, therefore, rests upon the assumption that the father does differentiate his role toward the opposite-sex child, while the mother does not.

Sibling Status Differences. Although none of the sibling status comparisons with respect to the subjects' sex role preference scores were significant, several relevant trends were found. In ranking the mean values of subjects' sex role preference scores with respect to

the variable of Sibling Status A, data indicated that subjects with no siblings tended to have slightly more appropriate sex role preference scores than subjects with a same-sex sibling, mixed-sex siblings, and an opposite-sex sibling. This finding is consistent with a previous study undertaken in this area. Fauls and Smith (1956) in studying three and four-year-old children, found that subjects with no siblings had more appropriate sex role preference scores than subjects with an older-like-sex sibling. Interpreting their results, Fauls and Smith (1956) suggested that the previous notion regarding the influence of siblings upon young children's sex role preferences may be over-rated. The greater availability of the parent of the same-sex in families with only-children, and the greater concern of parents about teaching their only-child appropriate social behaviors, suggest a facilitation of appropriate sex role preferences among only-children. Research with older-only-children (nine to 20 years), however, provide contrasting results (Rosenberg and Sutton-Smith, 1964a; Sutton-Smith and Rosenberg, 1964). In these studies subjects with no siblings were found to have less appropriate sex role preference scores than subjects in all other sibling status groupings considered. In direct opposition to Fauls and Smith's (1956) interpretations, these results were interpreted as suggestive of the theory that in only-child families the availability of the opposite-sex parent, as a sex role love-object is more abundant. Such availability may lead only-

children to develop more cross-sex role preferences than children in families with siblings. These conflicting results suggest a need for more research in the area.

The present findings that subjects with a same-sex sibling tended to have slightly more appropriate sex role preference scores than subjects with mixed-sex siblings, and that subjects with mixed-sex siblings tended to have slightly more appropriate sex role preference scores than subjects with an opposite-sex sibling, is consistent with previous research findings in this area (Brown, 1956b; Sutton-Smith and Rosenberg, 1968). In interpreting these results researchers have pointed to the theory that having primarily a same-sex sibling within the family serves as a salient model for instructing the child in appropriate sex role development. Furthermore, the greater availability of same-sex models in families with siblings of the same-sex facilitates appropriate sex role development. Still also, having mixed-sex siblings within the family, provides a contrast to the child whereby his own sex role development is facilitated.

Finally, the lack of significant differences between the sex role preference scores of subjects with respect to the variables of Sibling Status B/A_2 and B/A_3 is not consistent with previous research findings in this area (Brown, 1956b; Rosenberg and Sutton-Smith, 1964a; Sutton-Smith and Rosenberg, 1965). On the basis of the role theory of sex role development (Parson and Bales, 1955), these previous studies

predicted and confirmed that subjects with an older-opposite sex sibling had less appropriate sex role preference scores than subjects with a younger-opposite-sex sibling. In the present study, these results were not obtained. A possible explanation of these discrepant results may be made on the basis of sample size. The limited sample size of the present study made results obtained with respect to the variables of Sibling Status B/A_2 and B/A_3 highly questionable. Further research with a larger sample is recommended.

Comparison of Instructional Conditions

IT vs. Boy (Hypothesis IV). The present finding that whether the data is grouped by sex, age, IQ, preschool program or sibling status, replacing the IT figure with a clear drawing of a boy in testing (using the "little boy" instructional condition), resulted in significantly higher, more masculine mean scores among the subjects, is consistent with a research study undertaken with children three to four years of age (Schell and Silber, 1968). This finding, however, is in contrast to an earlier (Hartrup and Zook, 1960) and an even more recent study (Thompson and McCandless, 1970) undertaken with similar aged children. In these studies it was found that while girls made significantly more masculine scores when the IT figure was referred to as a "little boy", than when it was simply referred to as "IT", boys' scores under these two instructional conditions were not

significantly different from each other. The discrepancy between the results obtained in these studies, however, may be due to the different testing procedures used. In the present study, a clear drawing of a boy replaced the IT figure under one instructional condition.

Hartrup and Zook (1960) and Thompson and McCandless (1970), however, continued to use the IT figure under two instructional conditions.

IT vs. Girls (Hypothesis V). The present finding that whether the data is grouped by sex, age, IQ, preschool program or sibling status, replacing the IT figure with a clear drawing of a girl in testing (using the "little girl" instructional condition) resulted in significantly lower, more feminine mean scores, is consistent with all previous studies undertaken in this area (Hartrup and Zook, 1960; Schell and Silber, 1968; Sher and Lansky, 1968; Thompson and McCandless, 1970).

Summary. The findings obtained in the present study regarding the comparison of instructional conditions, provided important evidence in support of the assumption concerning the validity of the modified-ITSC as a measure of sex role discrimination for use with preschool aged children.

Additional Findings

Controversy: Nature of the IT Figure. The finding that approximately 50% of the boys and 50% of the girls in this study

perceived the IT figure as representing a child of their opposite sex, is in conflict with previous findings obtained in this area. Previous studies with children three to ten years of age (Brown, 1956b; Hall and Keith, 1964; Schell and Silber, 1968; Sher and Lansky, 1968) indicated that not more than 26% of the boys perceived the IT figure as a girl, while not less than 55% of the girls perceived the IT figure as a boy. In interpreting these results, Brown (1956b) suggested that since in our culture the masculine sex role is both more prestigious and clear cut than the feminine sex role, it is not unusual that a majority of both boys and girls perceived the IT figure as a boy, rather than a girl. Hall and Keith (1964), Schell and Silber (1968), and Sher and Lansky (1968), however, in interpreting these same results suggested that these findings indicated the presence of a masculine bias in the IT figure. The present finding that approximately 50% of the boys and 50% of the girls perceived the IT figure as representing a child of their opposite sex, therefore, does not provide support for either of these positions. A possible explanation of these discrepant results may be due to the fact that while subjects in previous studies were asked to name the sex of the IT figure immediately following the presentation of the standard-ITSC, subjects in the present study were asked to carry out this same task after presentation of both the standard- and modified-ITSCs.

The Controversy Concerning the
Adequacy of the Standard-ITSC

As previously indicated, questions are currently being raised concerning the adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and preference with young children. Studies have accumulated indicating the IT figure to look more masculine than either feminine or neuter to the subjects (Brown, 1962; Duryea, 1967; Hall and Keith, 1965; Hartrup and Zook, 1960; Lansky and McKay, 1968; Lefkowitz, 1962; Kohlberg and Zigler, 1966; Sher and Lansky, 1968; Thompson and McCandless, 1970). Those who uphold this position suggest that the standard-ITSC is not adequate as a measure of appropriate sex role discrimination and preference, but is a measure of masculine sex role discrimination in young children. If it is the case that the IT figure is indeed more masculine than either feminine or neuter to the subjects, it is not unusual that predominantly high masculine scores were obtained with the standard-ITSC in studies of sex role preference, especially among girls. Hartrup and Zook (1960) and Schell and Silber (1968), although aware of these findings still utilized the IT figure in their research on sex role discrimination. Although attempts were made to control the sex of the IT figure by referring to it as a "little boy" or a "little girl", subjects may still have perceived the IT figure as more masculine than either feminine or neuter, hence Schell and Silber's (1968) finding

that girls were significantly better than boys in their ability to make sex role discriminations appropriate for their opposite sex.

Important to note at this point, however, is the fact that while studies have accumulated indicating that the IT figure may look more masculine than either feminine or neuter, other studies have also provided support for Brown's (1956b) original position, which established the standard-ITSC as a sex role preference test (Endsley, 1967; Handy, 1954; Hogan, 1957, Kobashigawa, 1959; Lowe, 1957; Rosenberg and Sutton-Smith, 1961, 1963; Ward, 1968). These studies indicate that from three years of age, boys consistently have been found to have high (i. e. masculine) scores, while girls do not have as low (i. e. feminine) scores; that is young boys more frequently and consistently choose masculine items than girls of the same age choose feminine items. This sex difference continues throughout the early elementary school years, with boys becoming progressively more masculine each year. For girls, however, the results are more complex. Typically, it has been found that girls score in the mid-range of the scale and are more variable than boys. They reach their peak of femininity at approximately four years of age, and proceed to maintain this level or even decrease in their femininity during the early elementary school years.

A standard interpretation of these results for boys has been that they develop appropriate sex role preferences earlier than girls. The

explanation customarily has been that they do so because of the greater prestige, power and attractiveness of the male role; because of the greater clarity in our culture about what is appropriate male behavior than what is appropriate female behavior; and because of the greater pressure put on boys than on girls to learn sex appropriate behavior. A standard interpretation of the results for girls has been that they score in the mid-range of the scale and are more variable because they, too, prefer masculine activities, as well as feminine ones, and are much less likely to experience punishment and much more likely to be reinforced for behaving like boys, than boys are for behaving like girls (Brown, 1956b, 1957, 1958; DeLucia, 1963; Hartley, 1959; Kobashigawa, 1959; Lynn, 1964).

The controversy concerning the adequacy of the standard-ITSC, therefore, still continues. Studies briefly reviewed in this section indicate a necessity for more research in the area, especially since the standard-ITSC continues to be used in studies of sex role discrimination and preference with young children. The present section of the discussion of the results obtained in the present study, therefore, will center upon relating these results to the two major contradictory issues involved in the controversy concerning the adequacy of the standard-ITSC. The first issue focuses upon the assumption that the standard-ITSC is a measure of masculine sex role discrimination, while the second issue focuses upon the assumption that the

standard-ITSC is indeed a sex role preference test.

The Standard-ITSC As A Measure of Masculine Sex Role Discrimination

Part of the findings in the present study relating to the issue concerning the standard-ITSC as a measure of masculine sex role discrimination can be found in Table 27. A study of the mean values related to the significant findings obtained under Hypothesis II, associated with the main effect of sex and the sex X age interaction, indicated that girls were significantly better than boys in making sex role discriminations appropriate for their opposite sex. Working on the assumption that children of preschool ages know perhaps less about what is appropriate for their opposite sex than they do about what is appropriate for their own sex (Schell and Silber, 1968), one might expect that subjects would make fewer wrong choices when the IT figure, presumed to represent themselves, is presented to them (Hypothesis III) than when a figure representing their opposite sex is presented to them (Hypothesis II). Comparison of the mean values of the subjects' scores obtained under Hypothesis II and III, associated with the main effect of sex and the sex X age interaction, reveals that while boys made fewer incorrect choices under the IT instructional condition (Hypothesis III), girls made considerably more incorrect choices under the IT instructional condition (Hypothesis III) than under the instructional condition using a figure representing their opposite sex (Hypothesis

II). These findings, therefore, indicate that for boys the assumption mentioned previously is supported, while for girls these findings indicate that they know less about what is appropriate for themselves than what is appropriate for their opposite sex. What is suggested by these findings is the notion that for girls, at least, the IT figure may appear more masculine than either feminine or neuter.

Furthermore, a study of the mean values related to the findings obtained under Hypothesis I, associated with the main effect of sex and the interaction effect of sex X preschool program suggested that girls were as good or even slightly better than boys in making sex role discriminations appropriate for their own sex. Working on the assumption that children of preschool ages know perhaps just as much about what is appropriate for their own sex as they do about what is appropriate for themselves, one might expect that subjects in the present study would make just as many correct choices when the IT figure, presumed to represent themselves, is presented to them (Hypothesis III) as when a figure representing their own sex is presented to them (Hypothesis I). Comparison of the mean values of subjects obtained under Hypothesis I and III, associated with the main effect of sex and the interaction effect of sex X preschool program, indicates that both boys and girls made fewer correct choices under the IT instructional condition (Hypothesis III) than under the instructional condition of a figure representing their own sex (Hypothesis I). This finding

indicates that boys had more feminine and girls had more masculine scores under the IT instructional condition (Hypothesis III) than under the instructional condition involving a figure representing their own sex (Hypothesis I). What is suggested by these findings is the notion that for boys, the IT figure may be confusing, while for girls the IT figure may be more masculine than either feminine or neuter. This is further supported by the findings obtained under Hypothesis IV and V, which indicated that both boys and girls made significantly more masculine and feminine scores, respectively, when the IT figure was replaced by a clear drawing of a boy and a girl in testing. Therefore, the findings to this point suggest that the adequacy of the standard-ITSC as a measure of both appropriate sex role discrimination and preference with young children is highly questionable. These findings indicate that the IT figure used in the standard-ITSC may be confusing to some children, or indeed look more masculine, than either feminine or neuter.

The Standard-ITSC As A Measure of Sex Role Preference

Evidence in support of the assumption that the standard-ITSC is a measure of sex role preference for use with young children have already been discussed in detail when considering the findings obtained under Hypothesis III (sex role preference) of the present study. The present finding that boys had significantly more appropriate sex role

preference scores than girls (Hypothesis III, sex effect), is in support of Brown's (1956b) original theoretical position. The finding that while there appeared to be almost no difference between the sex role preference scores of older and younger girls, older boys tended to have more appropriate sex role preference scores than younger boys (Hypothesis III, sex X age interaction) also provided support for the developmental aspects of Brown's (1958) theory of sex role development.

Furthermore, the findings regarding: (1) the relationship between preschool program and sex role preference (Hypothesis III, sex X preschool program interaction effect), providing partial support for the role theory of sex role development, and (2) the relationship between sibling status and sex role preference (Hypothesis III, Sibling Status A effect), lending some support to previous theory and research undertaken in this area, give some construct validity to the standard-ITSC as a measure of sex role preference for use with young children.

Summary

Evidence in support of the two major contradictory issues relating to the adequacy of the standard-ITSC as a measure of appropriate sex role discrimination and preference in young children, obtained in the present study have been presented. A summary of these results indicate that support for either position could be made with equal

facility. Therefore, the controversy concerning the adequacy of the standard-ITSC continues. Whether or not the standard-ITSC provides an adequate measure of children's sex role discriminations and preferences will probably remain a debatable point, until or unless someone develops another independent or more effective way of measuring them. The results of the present study, however, seem to warrant extending a word of caution to all future researchers who use the standard-ITSC as a measure of either appropriate sex role discrimination or preference in their investigations.

Limitations of the Study

Although attempts to overcome pertinent limitations in this study were undertaken, a number of problems were encountered which inhibited successful efforts in that direction. These limitations have been classified under five major headings: (1) the sample, (2) the research design, (3) control of the treatment variables, (4) the instrument used, and (5) the test administrator.

Sample

The major limitations encountered relative to the sample include: (1) the inability to sample randomly, (2) the representation of subjects from predominantly upper-middle and middle socioeconomic levels (as measured by Hollingshead's (1957) index), and (3) the sample size.

The inability of the researcher to sample randomly detracted from his ability to generalize from the results obtained. Representation of subjects from predominantly upper-middle and middle socioeconomic levels restricted generalization of the results to children from these socioeconomic levels. Furthermore, although the sample size allowed for an analysis of the main effects and second-order interaction effects of the variables in this study, the limited sample size prevented an analysis of third- and fourth-order interaction effects, and necessitated separating sibling status group comparisons from the other main effects.

Research Design

The major limitation encountered relative to research design involved the use of an ex post facto approach to study the relationship between two different preschool programs and sex role discrimination and preference in young children. Attempts were made to match subjects as closely as possible on a variety of variables pertinent to the study of sex role development, and random assignment procedures were used to position the subjects in both preschool programs. However, the absence of a pretest measure on the dependent variables (i. e. sex role discrimination and preference scores) prior to the experimental treatments (i. e. involvement in one of the two preschool programs) necessitated reliance on the theoretical "equivalence"

gained in the matching and assignment procedures. Whether differences between the subjects in both preschool programs on the dependent variables following the experimental treatments were due to the subjects' initial position on the dependent variables or to the experimental treatments cannot be accurately determined in this study.

Control of the Treatment Variables

A number of important limitations concerning control of the treatment variables can also be delineated. These limitations included: (1) the sex composition of teachers involved in the two preschool programs, and (2) their personalities.

As mentioned previously, the sex composition of teachers in Preschool Program I involved male head and assistant teachers with both male and female student participants, while the sex composition of teachers in Preschool Program II involved female head and assistant teachers with all female student participants. Although the involvement of student participants in each preschool program was quite limited, consisting primarily of a three-hour preschool participation experience once a week, the presence of female student participants in Preschool Program I may have detracted from the relative power of the male head and assistant teachers in this preschool program. Probably a better sex composition of teachers in this preschool program would have been the presence of male head and assistant teachers with all male student participants. Added to this, preschool programs

with male head and assistant teachers with all female student participants, and female head and assistant teachers with all male student participants would have allowed the researcher to study the relationship between the variables of teachers' sex and power, and sex role development in young children in a more fruitful manner.

Furthermore, the lack of controls over the teachers' personalities in each preschool program placed severe limitations in interpreting the results obtained. Despite the fact that the stated educational philosophy of the teachers in both preschool programs was quite similar, variations in carrying out this basic philosophy in the actual preschool setting may have occurred as a result of individual variations in teacher personalities. Furthermore, the absence of information regarding the personality factors of the teachers, such as warmth, nurturance, punitiveness, restrictiveness, power, masculinity and femininity, variables shown to be pertinent in studies of the relationship between parents and their children's sex role development, further adds to the difficulty of interpreting the results obtained.

Instrument

Although findings of the present study provided support for the adequacy of the standard-ITSC as a measure of sex role preference for use with preschool aged children, these same results were used with equal facility to also question its adequacy. The controversy

concerning the adequacy of the standard-ITSC, therefore, still remains. Suggestions for further research to overcome this controversy will be presented later. Several other problems encountered in research with the standard-ITSC, however, will be presented here.

Having studied the standard-ITSC and administered to it approximately 70 subjects of preschool ages, it became the researcher's impression that there are marked variations in the clarity of the drawings of the feminine as compared to the masculine items in the test. Masculine items appear to be more clearly illustrated than feminine items. This difference strikes the researcher as one which would favor recognition and choice of masculine items. Furthermore, the representativeness of the sample of masculine and feminine items which comprise the test also appear somewhat insufficient. In the Toy Section of the test, for example, five of the eight masculine toys are vehicles, and this may well be a more readily distinguishable category of toys than some of the other toys sampled. If so, this kind of sampling would again favor recognition and choice of boy items.

Also, serious problems in the Child-Figures Section of the test were encountered. As previously noted, in this section of the test, the child is asked to choose from among pictures of four child-figures presented to him, which the IT figure would like to be. The pictures of the four child-figures depicted included: (1) a boy wearing a pants, shirt and tie, (2) a boy wearing a dress, (3) a girl wearing a pants,

shirt and tie, and (4) a girl wearing a dress. For girls, a choice of a girl wearing a dress is considered the most appropriate feminine preference, followed by a girl wearing a pants, shirt and tie, a boy wearing a dress and a boy wearing a pants, shirt and tie. With dramatic changes in women's fashions occurring within our culture today, it seems quite reasonable to question the adequacy of this section of the ITSC as a measure of sex role preference. Today changes in women's fashions indicate that on some occasions, women wearing outfits including a pants, shirt and tie, are quite appropriate.

Test Administrator

The final major limitation encountered in the present study was the necessity of the researcher to serve as both a teacher in Preschool Program I and the test administrator of all subjects. Though careful procedures were undertaken to establish the needed rapport with all subjects, this limitation may have introduced some bias in the results obtained.

Suggestions for Further Research

As a result of this study on sex role discrimination and preference in preschool aged children, a variety of suggestions can be made for future research.

A number of suggestions related to the problems of the

standard-ITSC as a research instrument can be made. In reference to the controversy concerning the nature of the IT figure, an attempt at overcoming the masculine bias in the IT figure, if it exists, and thereby restore the acceptability of the standard-ITSC as a projective sex role preference test, could involve a control of the sex-specificity (i. e. degree of specificity) of the IT figure in research. Furthermore, another modification could involve the substitution of the IT figure with a figure considered to be more ambiguous with respect to sex (i. e. a face, or a baby without sex differentiated characteristics). Probably, a most worthwhile and ambitious project, however, would be to develop another independent or better way of measuring sex role preferences in young children.

Concerning the test items included in the standard-ITSC, more research focused upon both the representativeness and clarity of these test items would be desirable. In addition, research focused upon whether these items do discriminate between present day masculine and feminine sex roles would be worthwhile.

In reference to studies concerned with the relationship between intelligence and sex role development, further research is recommended. More longitudinal and cross-sectional studies investigating this relationship among children at various age levels are needed for an understanding of the cognitive-developmental aspects of sex role development.

Future research focused upon studying the relationship between sibling status and sex role development should also be undertaken.

Further studies in this area should clearly distinguish between the different sibling status groupings present, and utilize larger samples in their research investigations.

Results of the present study regarding the relationship between teachers' power and sex, and sex role development in young children suggest that more research in this area would be worthwhile. Future research in this area, however, should attempt a close approximation of an experimental research design. Furthermore, control of a variety of teacher personality variables relevant to the study of sex role development in young children would be desirable.

Studies focused upon understanding the relationship between sex role development and family size, ordinal position and socioeconomic status should be undertaken. Also studies regarding the relationship between different aspects of sex role development (e. g. discrimination, preference, adoption, identification) is suggested. In all these areas, research investigations are quite sparse. Preliminary research findings on the relationship between family size, ordinal position and sex role development were briefly discussed in the review of literature. Also, while studies on sex role development have focused upon subjects from middle and upper-middle socioeconomic levels, investigations using subjects from socioeconomic levels at both

extremes are not available at this time. Furthermore, only recently have researchers taken seriously the importance of distinguishing between various aspects of sex role development in research.

Another direction for future research could be an exploration of the relationship between parental variables and sex role development in young children. Such variables might include attitudes toward child-rearing, understanding of children's behavior and the parental perceptions of appropriate sex role behavior for children of a certain age.

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APPENDICES

APPENDIX A

Oregon State University

School of Home Economics

Department of Family Life
Child Development Laboratories

CHILD

Name: _____ Sex: _____

Birthdate: _____ Birthplace: _____

Was baby full term or premature? _____ Birth Weight: _____

Race: _____ Nationality: _____ Adopted? _____ When? _____

Any previous school experience? _____ Explain: _____

PARENTS

Father's Name: _____ Age: _____ Address: _____

Telephone: _____ Race: _____ Nationality: _____

Education:

High School 7 8 9 10 11 12 (circle one) Graduate Date _____

College 13 14 15 16 (circle one) Graduation _____ Field _____

Graduate Degree MA MS Ph.D. (circle one) Graduation _____

Field _____

Occupation: _____ Military Service? _____ When? _____

Religion: _____

Mother's Name: _____ Age: _____ Address: _____

Telephone: _____ Race: _____ Nationality: _____

Education:

High School 7 8 9 10 11 12 (circle one) Graduate Date _____

College 13 14 15 16 (circle one) Graduation _____ Field _____

Graduate degree MA MS Ph.D. (circle one) Graduation _____
Field _____

Occupation: _____ Religion: _____

Length of present marriage: _____

Has either parent been married before? _____

How long do you plan to stay in Corvallis? _____

OTHERS WITHIN THE HOME

	<u>Name</u>	<u>Age</u>	<u>Sex</u>	<u>Relationship to Child</u>
(1)	_____	_____	_____	_____
(2)	_____	_____	_____	_____
(3)	_____	_____	_____	_____
(4)	_____	_____	_____	_____
(5)	_____	_____	_____	_____

Please send the filled information sheet in as soon as possible. They may be sent to:

ORCHARD STREET NURSERY SCHOOL
c/o Dr. J. Philip O'Neill, Head
Department of Family Life
School of Home Economics
Oregon State University
Corvallis, Oregon (97331)

COMMENTS:

APPENDIX B

Sex and Age Distribution of Subjects in Preschool
Program I and II

Preschool Program I		Preschool Program II	
Sex	Age (Years/Months)	Sex	Age (Years/Months)
M	4-4	M	4-5
M	4-4	M	4-3
M	4-3	M	4-3
M	4-2	M	4-3
M	4-1	M	4-1
<hr/>		<hr/>	
M	4-0	M	4-0
M	4-0	M	4-0
M	3-11	M	3-10
M	3-7	M	3-8
M	3-7	M	3-7
F	4-5	F	4-5
F	4-3	F	4-4
F	4-2	F	4-3
F	4-2	F	4-1
F	4-1	<hr/>	
<hr/>		F	3-10
F	3-10	F	3-10
F	3-8	F	3-8
F	3-8	F	3-7
F	3-7	F	3-7
<hr/>		<hr/>	

APPENDIX C

IQ Scores of Subjects As Measured by the Peabody
Picture Vocabulary Test (PPVT)

Preschool Program	Sex of Subject	Sex of 1st Test Administrator	PPVT Form of 1st Test	IQ Scores		
				1st Test	2nd Test	Average
I	M	F	A	108	108	108.00
I	M	F	A	110	109	109.50
I	M	F	A	107	107	107.00
I	M	F	B	120	127	123.50
I	M	F	B	130	135	133.00
I	M	M	A	113	119	116.00
I	M	M	A	114	115	114.50
I	M	M	B	119	119	119.50
I	M	M	B	117	116	116.50
I	M	M	B	102	102	102.00
I	F	F	A	110	95	102.50
I	F	F	A	114	114	114.00
I	F	F	B	111	111	111.00
I	F	F	B	112	120	116.00
I	F	F	B	117	No score	No score
I	F	M	A	125	129	127.00
I	F	M	A	112	108	110.00
I	F	M	A	111	115	112.50
I	F	M	B	102	102	102.00
I	F	M	B	108	93	100.50
II	M	F	A	97	98	97.50
II	M	F	A	98	90	94.00
II	M	F	A	109	90	100.00
II	M	F	B	108	127	117.50
II	M	F	B	127	120	123.50
II	M	M	A	122	117	119.50
II	M	M	A	107	107	107.00
II	M	M	B	114	129	121.50
II	M	M	B	115	116	115.50
II	M	M	B	122	127	124.50
II	F	F	A	110	110	110.00
II	F	F	A	114	110	112.00
II	F	F	B	130	123	126.00
II	F	F	B	105	104	104.50
II	F	F	B	98	101	99.50
II	F	M	A	136	136	136.00
II	F	M	A	107	No score	No score
II	F	M	A	108	111	109.50
II	F	M	B	114	117	115.50
II	F	M	B	112	116	114.00

APPENDIX D

Description of Subjects in the Modified-ITSC Reliability Study by Sex, Age, Socioeconomic Status, and Appropriate Sex Role Discrimination Scores

Sex	Age	Socioeconomic Status	Appropriate Sex Role Discrimination Scores			
			Boy Figure		Girl Figure	
			1st Test	2nd Test	1st Test	2nd Test
M	4-4	I	76	76	76	72
M	4-3	I	83	84	83	82
M	4-3	I	83	83	72	68
M	4-2	I	57	66	69	65
M	4-1	I	83	83	84	84
M	3-9	I	62	82	72	82
M	3-9	I	38	45	48	49
M	3-9	I	59	58	46	42
M	3-8	II	65	73	50	48
M	3-5	II	83	83	72	72
F	4-4	I	75	75	76	76
F	4-1	II	74	83	76	68
F	4-0	II	41	51	82	82
F	4-0	I	76	76	76	76
F	3-11	II	84	84	73	73
F	3-7	I	80	82	73	78
F	3-7	II	82	83	80	82
F	3-6	II	62	70	66	72
F	3-6	I	76	84	84	84
F	3-5	I	58	66	74	74