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SEX-ROLE DISCRIMINATION AND THE IT SCALE
FOR CHILDREN

Thesis for the Degree of M. A.
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Jean Waggoner
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ABSTRACT

SEX-ROLE DISCRIMINATION AND THE IT SCALE FOR CHILDREN

by Jean Waggoner

Sixty-four three- and four-year-old children were presented Brown's It Scale for Children, using both the original and modified sets of instructions. The original instruction presents a figure-drawing which is neuter-sexed. The modified instructions presents the figure once as a boy and once as a girl. Following the lead of previous published research it was expected that older children would make more accurate choices than younger children; that girls would be more variable than boys; that children would be better able to discern the objects and activities associated with their own rather than the opposite sex-role. It was also expected that having an opposite sexed sibling in the home would extend knowledge of the opposite sex-role.

Results show: (1) a clear sex-difference in choice of objects and activities when the It-figure was presented as sexually neuter and as a girl; (2) four-year-olds surpassed three-year-olds in terms of competence in making selections when the sex of the figure was designated; (3) that a greater percentage of children do better choosing items for the figure called "boy" than the figure called "girl"; (4) a tendency for boys and girls to show mixed preference patterns; (5) fewer girls choosing the markedly feminine role as opposed to

Jean Waggoner

the number of boys choosing the markedly masculine role; (6) that having siblings extends the ability of the subject to differentiate at an earlier age between sex-roles; (7) that having siblings of the opposite-sex might extend even more the ability of the subject to differentiate at an earlier age between sex-roles, but this point needs more conclusive evidence.

It appears questionable that the It-figure is neuter. The findings indicate that feminine items are more ambiguous than masculine items. Some children responded to the test in terms of position rather than content of test items.

Questions were raised as to the applicability of a theoretical, dynamic, socio-cultural interpretation of findings as opposed to a more stimulus-perception-cognition interpretation based on what the It Scale appears to actually measure. In this study it seemed more plausible to give the latter interpretation.

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TABLE OF CONTENTS

	Page
LIST OF TABLES	iv
LIST OF FIGURES.	v
 Chapter	
I. THE PROBLEM	1
II. METHOD	3
Subjects	3
Test and Administration	4
Procedure	5
III. RESULTS.	6
It Condition	6
Boy Condition	7
Girl Condition	8
Position-Set Tendency	9
Other Results.	9
IV. DISCUSSION.	13
Validity of It Scale	13
Sex Differences	16
Age Differences	18
Sibling Differences.	18
Conclusion of Age, Sex, Sibling Differences.	19
V. SUMMARY.	21
REFERENCES	23
APPENDICES	24

LIST OF TABLES

Table		Page
1.	Division of Subjects	3
2.	Analysis of Variance Under "It" Condition .	6
3.	Analysis of Variance Under "Boy" Condition.	7
4.	Analysis of Variance Under "Girl" Condition	8
5.	Distribution of Scores Under Three Conditions.	10
6.	Sex Designation of "It" at End of Three Presentations.	12

LIST OF FIGURES

Figure	Page
1. Suggested Presentation of Toy-Choices. . .	15

CHAPTER I

THE PROBLEM

A more complete understanding of the development of differences in sex-role behavior involves evaluation of the factors producing them. Psychoanalytic thinking considers such factors as anatomical differences and parent-child interactions to be fundamental (Freud, 1933). Adler and other personality theorists emphasize the basic importance of socio-cultural advantages and consistent rewards in the development of sex-typed behavior (Adler, 1946). Recently, Brown (1956) found that the sex of siblings influences the sex-role behavior of a particular child, and that the age of the child is also an important determinant of his sex-role behavior. Up to now, however, the age at which each sex becomes able to discriminate between sex-types objects and activities has not been investigated.

In our culture, adults and older children probably begin to respond differently as early as eighteen months to little boys and little girls. Certain patterns of behavior are reinforced for boys, other patterns for girls; as a result, somewhere between the age of two and four years clear differences between sexes occur in choices of play objects and activities (McCandless, 1961). This is typically

accounted for by reasoning that a process known as sex-typing (imitative or modeling behavior) is going on, and further, this process is supposed to precede another called identification (McCandless, 1961).

The process of sex-typing is described by McCandless (1961) as synonymous with sex-role differentiation. It would seem that differentiation must necessarily precede sex-typing, since before sex-typing can occur, the child must first be able to discriminate between those objects and activities designated by our culture as masculine and those designated as feminine.

The questions "At just what age can children reliably make this discrimination?" and, "What are some of the factors which influence it?" stimulate the present study. Reports in the psychological literature lead to the following assertions: (1) children at all ages know less about the opposite sex-role than their own; (2) the younger the child, the less he knows about either sex-role; (3) girls at all ages vary more than boys in their preference of sex-roles; (4) the presence of siblings of the opposite sex in the home increases knowledge about the opposite sex-role.

CHAPTER II

METHOD

Subjects

The 64 Ss, middleclass children from intact families living in the general communities of Lansing and East Lansing, Michigan, were selected through the use of University Housing, University Preschool, and Spartan Nursery files at Michigan State University, on the basis of sex, age, siblings, and social class. Table 1 shows the division of Ss by age, sex, and siblings. The entries in the table are the number of Ss in each subgroup.

TABLE 1
DIVISION OF SUBJECTS

Sibling Dimension	Mean Age			
	3 Years--0 Months		4 Years--0 Months	
	Male	Female	Male	Female
Sibling	8	8	8	8
No Sibling	8	8	8	8

The ages range from 2-years 9-months to 3-years 3-months in the three-year-old group and 3-years 9-months to 4-years 3-months in the four-year-old group. The opposite-sexed siblings were within zero to two years of the S's age.

Test and Administration

The instrument, the It Scale for Children, was developed by Brown (1956) as a sex-role preference scale. Ostensibly, items were included in the scale on the basis of contrasting behavior patterns socially identified with male or female roles.

The It Scale consists of 36 pictures depicting various objects, figures, and activities associated with masculine or feminine roles. The young subject is asked to make choices for "It," a child-figure drawing unstructured as to sex. On the basis of his choice, the child is given a score that can range from 0 for complete femininity to 84 for complete masculinity.

In the present study, the "It" figure was given to each child three times; once with the instruction that the figure is a girl, once with the instruction that the figure is a boy, and once using Brown's original instruction (Brown, 1956) in which sex is not designated for the figure, and the figure is called "It."

In every case the neuter "It" was presented first, before either the boy or girl presentations, in order to preserve the usefulness of Brown's original test by refraining from contaminating the neuter "It" with either boy or girl connotations. The boy-girl presentations were balanced such that half of each age and sex had the boy instruction first, and the other half, the girl instruction first.

To compute a feminine score, Brown's scale was reversed and feminine items were weighted rather than masculine items. In this way, the resulting score could be compared to the masculine and the "It" scores.

Procedure

The It Scale was administered individually to each child either at home or in a private room at the University Nursery School. While a parent, usually the mother, was present in the home during the testing, she did not sit with the examiner and the child. E began each session by giving the S the card showing the neuter "It" and saying: "We are going to play a game with this child, 'It.' O.K.? So this game will be about 'It.' Now we are going to show this child, whose name is 'It,' some cards with pictures on them."

Each of the three presentations of the figure began in this manner, only the words "It" and "child" were changed in the instructions to "little boy" and "little girl" on the succeeding presentations. Testing lasted from twenty to thirty minutes.

Each parent was provided with a short letter that described the test and the project and thanked them for co-operating (see Appendix A). Scoring was kept on a sheet designed for this purpose (see Appendix B).

CHAPTER II

RESULTS

Every child had three scores: one for neuter "It," one for boy, and one for girl. Each of the three sets of scores was analyzed by a three-way analysis of variance: Sex x Age x Siblings. It was decided that only those factors having an associated probability of .05 or less would be considered significant.

"It" Condition

Table 2 summarizes the results for the condition where the figure is identified as "It." The only significant effect is that associated with sex, an effect expected due to the nature and construction of the It Scale.

TABLE 2
SUMMARY OF ANALYSIS OF VARIANCE UNDER "IT" CONDITION

Source	df	Sum of Sq.	Mean Sq.	F
Age	1	138.1	138.1	<1
Sex	1	2889.1	2889.1	11.992**
Sibling	1	600.2	600.2	2.491
Age x Sex	1	3.8	3.8	<1
Age x Sibling	1	85.4	85.4	<1
Sex x Sibling	1	17.9	17.9	<1
Age x Sex x Sibling	1	110.7	110.7	<1
Within Cells	56	13490.8	240.9	
Total	63	17336.0		

** p < .01

It was also observed that when presented the figure with neuter instructions, a number of children in both groups showed a mixed-preference pattern, as if accepting components of both sex-roles. This was slightly more frequent in girls than in boys, with 44 per cent of the girls as opposed to 38 per cent of the boys scoring at or close to the intermediate score of 42.

Boy Condition

Table 3 summarizes the analysis of It Scale scores when the figure is identified as a "boy." Only the effect of age is significant. Four-year-olds do considerably better at making correct object-activity choices.

TABLE 3
SUMMARY OF ANALYSIS OF VARIANCE UNDER "BOY" CONDITION

Source	df	Sum of Sq.	Mean Sq.	F
Age	1	3751.4	3751.4	14.318**
Sex	1	132.2	132.2	<1
Sibling	1	840.9	840.9	3.210
Age x Sex	1	.1	.1	<1
Age x Sibling	1	.6	.6	<1
Sex x Sibling	1	0	0	<1
Age x Sex x Sibling	1	1.6	1.6	<1
Within Cells	56	14671.0	262.0	
Total	63	19397.75		

**p < .01

Under this condition, the sibling effect approached significance. ($F = 3.2$; $df = 1, 56$; $.10 < p > .05$). It was expected that if this effect was found it would be basically

due to the presence of a sibling of the opposite sex in the home. A U-test sub-analysis shows this to be the case. Four-year-old children with an opposite-sexed sibling in the home did slightly better when making object-activity choices than both two-year-old children with an opposite-sexed sibling and children without opposite sexed siblings ($U = 0$, $p = .028$).

Girl Condition

Table 4 summarizes the analysis of the It Scale scores when the figure is identified as a "girl." The effects of age, sex, and sibling were significant. Four-year-olds do better at making correct object-activity choices. Girls were better able than boys to make correct choices, and those children with siblings were more accurate in choosing than those without siblings.

TABLE 4

SUMMARY OF ANALYSIS OF VARIANCE UNDER "GIRL" CONDITION

Source	df	Sum of Sq.	Mean Sq.	F
Age	1	1387.5	1387.5	5.324*
Sex	1	2703.7	2703.7	10.375**
Sibling	1	3393.0	3393.0	13.020**
Age x Sex	1	504.1	504.1	1.934
Age x Sibling	1	217.4	217.4	<1
Sex x Sibling	1	301.2	301.2	1.156
Age x Sex x Sibling	1	597.4	597.4	2.292
Within Cells	56	14596.1	260.6	
Total	63	23700.4		

* $p = .05$

** $p = .01$

Position-Set Tendency

After the first few children were tested it was discovered that often the child seemed to be responding to position of the card rather than to the picture on it. When this was observed, the card position was changed while the child watched, and the pertinent question was repeated. If the child then pointed to the old position rather than to the picture a note of this position type of behavior was made on the data sheet. Tabulation of these responses indicate that 47 per cent of the boys and 38 per cent of the girls responded in terms of their position-set one or more times during the three presentations. By age, 44 per cent of the three-year-olds and 41 per cent of the four-year-olds responded in this fashion. This evidence casts doubts on the construction of this scale and the use of it with such young children.

Other Results

The scale of 0 to 84 was divided into four equal portions. Each portion is associated with a degree of accuracy in choosing feminine or masculine items. Hence, a score falling in the range from 0--21 indicates very feminine choices; from 22--42 feminine choices; from 43--63 masculine choices; from 64--84 very masculine choices. This is true of scores computed under the "It" condition and the boy condition. For the girl condition, scoring is such that the scale becomes progressively feminine instead of masculine,

so that a score in the 64--84 range shows very feminine choices. Table 5 shows the per cent of boys and girls scoring in the four portions under each of the three conditions.

TABLE 5
DISTRIBUTION OF SCORES UNDER THREE CONDITIONS

Sex	Range of Scale Scores			
	0-21	22-42	43-63	64-84
It Condition				
Male	0%	9%	63%	28%
Female	7%	53%	31%	9%
Boy Condition				
Male	3%	6%	28%	63%
Female	3%	9%	19%	69%
Girl Condition				
Male	6%	28%	35%	31%
Female	0%	16%	31%	53%

It was expected that on the whole boys would show a more marked preference for the very masculine role than girls would show for the very feminine role. This is supported insofar as only seven per cent of the girls show the marked preference for femininity indicated by scores falling in the very feminine portion of the scale under the "It" condition. This contrasts with 28 per cent of the boys whose decided

preference for the masculine role is indicated by scores falling in the very masculine range of the scale ($\chi^2 = 7.57$, 1df). None of the boys score in the very feminine end of the scale, while nine per cent of the girls score in the very masculine portion of the scale. The girls were more variable and showed more of a mixed-preference pattern than the boys.

It was found, also, that when the figure was identified as a "girl" only 53 per cent of the girls, and 31 per cent of the boys were able to make very accurate choices as indicated by their scores falling in the 64 to 84 range of the scale. This is to be compared to those percentages of children able to make very accurate, or very masculine choices when the figure was presented as a "boy"; that is, 69 per cent of the girls and 63 per cent of the boys. The difference in results under the two conditions approaches significance for the girls (χ^2 , 1df, = 3.13) and is significant for the boys (χ^2 , 1df, = 13.33).

Brown (1956) assumed that the It-figure has neither male nor female characteristics. In the present study approximately two-thirds of the boys and two-thirds of the girls were asked, following all three presentations, "Now, what do you thing this child really is, a boy or a girl?". A clear majority of the boys responded "boy," and 57 per cent of the girls responded "boy" (Table 6).

TABLE 6
SEX DESIGNATION OF "IT" AT THE END OF
THREE PRESENTATIONS

Sex	Response	
	Same Sex	Opposite Sex
Boys 2-9 to 3-3	5	3
Boys 3-9 to 3-3	9	2
% Responding	14 = 70%	5 = 30%
Girls 2-9 to 3-3	5	6
Girls 3-9 to 4-3	4	6
% Responding	9 = 43%	12 = 57%

CHAPTER IV

DISCUSSION

Validity of It Scale

Before age, sex, and sibling differences can be interpreted in terms of sex-role discrimination or sex-role preference, it is necessary to evaluate the intrinsic adequacy of the It Scale as a measure of discrimination or preference. In this connection, the questions of the clearness of the drawings themselves and the appropriateness of the objects represented as sampled from a population of possible objects need to be considered as well as the alleged neutrality of the "It" figure.

Brown himself has raised some question as to the neutrality of the "It" figure and comments, "there is the possibility that the figure may be more readily perceived as male than female . . ." (1956, p. 16). Even though he feels the neutrality of the figure is questionable, he still concludes that the 55 per cent of the five-and six-year-old girls who gave the figure a male name rather than a female name in his study did so out of a greater preference for the male than the female role, rather than because "It" actually looked more masculine than feminine. In the present study although a similar percentage of girls indicated that they perceived the figure as a boy when they

were asked the sex after the three presentations it cannot be assumed that the figure is in fact neuter. His interpretation may be wrong; these girls might be treating "It" as a boy because "It" looks like a boy.

There is marked variation in the clarity of the drawing of the 16 toy choices and indications that the male toys are more clearly illustrated. This would favor recognition of masculine objects.

Also questionable is the representativeness of the samples of masculine and feminine toys. Five of the eight male toys are vehicles and it is not unlikely that this is a more readily distinguishable category of toys than are some of the other objects shown. If this is so, the scale again has a tendency to favor recognition of male objects rather than female objects. It follows that a girl placed in a position of having to choose between an object she recognized (male) and one she could not discern (female) would pick the one she recognized.

Further, in an analysis of the toy pictures section of the scale, Brown (1956, pp. 10-11) found that:

. . . there are interesting differences in the relative extent of boys' choices of male toys compared to girls' choices of female toys. Since each child made eight choices, it might be expected that a rank order of the 16 toys would show that ranks 1 to 8 include only male toys in the case of boys and female toys in the case of girls. This expectation is confirmed for boys but not for girls. For the latter, four out of the first eight ranks are female (doll, dishes, high chair, and baby bath) but four are male (earthmover, gun, knife, and racer) toy items. . . .

He concludes:

. . . This result is consistent with the over-all finding that girls do not show preference for components of the feminine role to the extent that boys show preference for the masculine role. . . .

Thus, Brown has chosen to interpret the order of toy choice in terms of preference for a specific sex-role. Adapting Brown's data (1956) for rank order of toy preference, and also his suggested order of presentation, it is found that those toys most frequently chosen by girls were presented to the subject in the positions indicated in Figure 1.

I	Necklace	Tractor	E	Engine	Purse	II
	*Doll	Dumptruck		*Gun	*Highchair	
III	Cradle	*Racer	S	Soldiers	Buggy	IV
	*Dishes	*Earthmover		*Knife	*Bassinette	

Figure 1. Suggested Presentation of Toy-Choices

*Picked most often by girls (Brown, 1956).

Examination reveals that with the exception of the racer, all of the items most frequently chosen by girls are in the same position, at the bottom of the set of four. The racer tied with the bassinette for eighth place, and the dump truck was ninth in the rank order of preference. The identical position of most of the items favors an interpretation of

position-set on the part of the girls in Brown's study. Again, it is suggested that if the girls are trying to discriminate girl items, and these are not clear, they may be set to respond to position, whereas most of the boys can readily distinguish "boy" items, and so respond on this basis. If the girl items are less clear, this may even more strongly push boys to choose male objects.

In the present study, when told the figure was a "boy" 69 per cent of the girls and 63 per cent of the boys could make very accurate or very masculine discrimination. Only 31 per cent of the boys and 53 per cent of the girls made accurate or very feminine discriminations when told the figure was a "girl." The feminine objects are simply more difficult to distinguish. No weighty theoretical explanation, in terms of sex-role preference, is necessary.

Sex Difference

On the presentation of the figure as "It" and as "girl" the sex effect was significant. On the "It" presentation this is to be expected due to the construction of the It Scale, wherein masculine choices receive high scores and feminine choices receive low scores. Ninety-one per cent of the boys made choices that were primarily masculine (above the median score of 42) as opposed to 60 per cent of the girls who made choices that were primarily feminine (below the median score of 42). This may also be another reflection of the clarity of the masculine items and the ambiguity of

the feminine items, as well as the use of non-representative samples.

It is to be expected that when given the additional information that the figure is a "girl" the girls would make more accurate choices than the boys because they are choosing objects and activities associated with their sex-role. Even though the girls did significantly better than the boys under this condition, a higher percentage of girls were able to discriminate appropriately masculine items than feminine items.

The sex effect was not significant on the "boy" presentation. The ability of boys and girls to choose appropriate objects and activities under this condition is about the same. Again, the interpretation of clarity of masculine items is supported since a higher percentage of boys and girls were able to discriminate appropriate masculine items than were able to discriminate appropriate feminine items.

It was found that almost all boys and girls show a mixed preference pattern when presented the stimulus-figure named "It." However, this tendency is slightly more frequent in girls than in boys. Also, fewer girls were shown to have a markedly feminine preference as opposed to boys having a markedly masculine preference, but, rather, were more variable in preference. While this may be interpreted in terms of psychoanalytic thinking or socio-cultural pressures, it seems equally plausible in this instance to suggest that the

responses are a function of the test materials, in terms of both clarity and object selection. In brief, girls make fewer feminine and more masculine choices both as a result of a "position-set" tendency and an impetus to choose clear over ambiguous objects.

Age Differences

The significant effects associated with age were in connection with the "boy" and "girl" presentations of the figure. Here the effect of age was significant and indicated that when three- and four-year-old children are told the sex of the figure, four-year-old children do considerably better at making appropriate toy choices. The younger the child, the less he knows about either sex-role. It is conjectured that the four-year-olds are better able to pick accurately because they have had an additional year's experience in learning to discriminate among toys, objects, games, or activities appropriate to their sex. It is likely that age was not a significant factor on the "It" presentation because without the additional information of sex of the figure, choices had to be made in regard to an ambiguous drawing. There was no difference between three- and four-year-old choices in this unstructured situation.

Sibling Differences

The effect of the presence or absence of siblings was significant in the case of the "girl" presentation, and

approached statistical significance in the case of the "boy" presentation. These results indicate that having a sibling in the home increases at an earlier age the ability to discriminate between sex-roles. More particularly, but under the "boy" condition only, having a sibling of the opposite sex in the home is basic to this finding. The sibling effect was not significant under the "It" condition. It is again suggested that the situation was not structured enough under those conditions to produce a difference in response in such young children.

Conclusion of Age, Sex, Sibling Differences

In general, it was found that the younger the child, the less knowledge he has about either sex-role; girls are more variable than boys in choice of masculine and feminine objects and activities when the neuter figure is presented, and the presence of siblings in the home tends to increase knowledge about the opposite sex-role and opposite-sexed siblings may be basic to this increase. Using the It Scale, with modified instructions, boys choose more appropriate items for the "boy" figure than for the "girl" figure; girls choose appropriate masculine items slightly more often than appropriate feminine items.

At this point a dynamic interpretation is not in order. Though in fact, underlying personality dynamics and socio-cultural learning, reward, and discouragement may influence activity and toy preferences from an early age, it is suggested

that in this instance a more stimulus-perception-cognition based explanation is in order, and that most of the findings reported in this study are a function of the test material.

CHAPTER V

SUMMARY

Sixty-four three- and four-year-old children were presented Brown's It Scale for Children, using both the original and modified sets of instructions. Following the lead of previous published research it was expected that older children would make more accurate choices than younger children; that girls would be more variable than boys; that children would be better able to discern the objects and activities associated with their own rather than the opposite sex-role. It was also expected that having an opposite sexed sibling in the home would extend knowledge of the opposite sex-role.

Outcomes were variable, depending upon the condition under which the test was administered. Results show: (1) a clear sex-difference in choice of objects and activities when the It-figure was presented as sexually neuter and as a "girl"; (2) four-year-olds surpassed three-year-olds in terms of competence in making selections when the sex of the figure was designated; (3) that a greater percentage of children do better choosing items for the figure called "boy" than the figure called "girl"; (4) a tendency for boys and girls to show mixed preference patterns regardless of test-taking conditions; (5) fewer girls choosing the markedly feminine role, as opposed to the number of boys choosing the markedly

masculine role, when presented the neuter figure; (6) that having siblings extends the ability of the child to differentiate at an earlier age between sex roles; (7) that having siblings of the opposite-sex might extend even more the ability of the child to differentiate at an earlier age between sex roles, as was found under the "boy" condition in this study. The last point needs more conclusive evidence.

It appears questionable that the It-figure is in fact neuter. There is evidence to suggest that feminine items are more ambiguous than masculine items. Some children responded to the test in terms of position rather than content of test items.

Questions were raised as to the applicability of a theoretical, dynamic, socio-cultural interpretation of findings as opposed to a more stimulus-perception-cognition interpretation based on what the It Scale appears to actually measure. In this study it seems more plausible to give the latter interpretation.

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APPENDIX A

Dear Parent:

First, let me thank you for your cooperation in letting me test your child. You are probably wondering just what this is all about and so I offer this letter as an explanation.

My Master's thesis, carried out in the department of Psychology, is concerned with finding out what kinds of toys and activities very young children prefer. Your child is being tested along with other children and his score will be considered in relation to his age, presence or absence of brothers and/or sisters, and whether the child is a boy or a girl. We hope to find that: (1) with the very young children we test there is not much difference in groups of boys and girls when it comes to selecting toys; (2) that there is a difference in the older children's choices, and (3) that having other children in the home influences toy selection. We are also trying to find out if it is really possible to test the very young child (2:9 to 3:3) in this manner with meaningful results.

This test is called the IT Scale for Children. Your child will be shown a drawing of a child and asked "What does this child want to play with." He will be asked to indicate which of several pairs of toys the child prefers. On the basis of his responses a score will be given, but there are no right or wrong answers.

Again, thank you,
Jean Waggoner
Department of Psychology
Michigan State University

APPENDIX B

IT SCALE FOR CHILDREN

NAME: _____ AGE: _____ SEX: _____

SIBS: _____

I

_____ NECKLACE

_____ TRACTOR

_____ DOLL

_____ DUMP TRUCK

_____ ENGINE

_____ PURSE

_____ RIFLE

_____ HIGH CHAIR

 MALE: +1 _____
 FEMALE: +0 _____
 IT: _____

II

_____ CRADLE

_____ RACER (CAR)

_____ DISHES

_____ EARTHMOVER

_____ SOLDIERS

_____ DOLL BUGGY

_____ KNIFE

_____ BABY BATH

 MALE: +1 _____
 FEMALE: +0 _____
 IT: _____

III

 _____ PRINCESS
 _____ TROUSERS & SHIRT
 _____ SEWING ARTICLES
 _____ COSMETIC ARTICLES
 _____ MECHANICAL TOOLS
 _____ MEN'S SHOES
 _____ GIRLS PLAYING
 _____ BUILDING TOOLS

 _____ CHIEF
 _____ DRESS
 _____ AIRPLANE PARTS
 _____ SHAVING ARTICLES
 _____ HOUSEHOLD OBJECTS
 _____ WOMEN'S SHOES
 _____ BOYS PLAYING
 _____ BAKING ARTICLES

 MALE: +8 _____
 FEMALE: +0 _____
 IT: _____

IV

 _____ GIRL / _____ GIRLISH BOY / BOYISH GIRL _____ / BOY _____
 0 8 4 12

 ARE YOU A BOY OR A GIRL? _____
 MOTHER: WORK _____ AT HOME _____
 OTHER: _____

 FEMALE: _____
 MALE: _____
 IT: _____

TOTAL MALE SCORE: _____ IT SCORE: _____ TOTAL FEMALE SCORE: _____

APPENDIX C

MEANS AND SUMS OF RAW DATA

Sex		It Condition	Boy Condition	Girl Condition
Male-Sibling	$\bar{X}$	58	60.6	50.1
2-9 to 3-3	$\sum X$	464	485	401
	$\sum X^2$	28334	30681	22091
Male-No Sibling	$\bar{X}$	50.5	53.9	36.1
2-9 to 3-3	$\sum X$	404	431	289
	$\sum X^2$	21272	27323	13447
Female Sibling	$\bar{X}$	41.4	63.8	66.8
2-9 to 3-3	$\sum X$	331	510	534
	$\sum X^2$	14417	35586	37552
Female-No Sibling	$\bar{X}$	41.3	56.4	59
2-9 to 3-3	$\sum X$	330	451	472
	$\sum X^2$	15748	27983	29608
Male-Sibling	$\bar{X}$	61.1	76.4	64
3-9 to 4-3	$\sum X$	489	611	512
	$\sum X^2$	31895	47263	33752
Male-No Sibling	$\bar{X}$	54.3	68.6	54.4
3-9 to 4-3	$\sum X$	434	549	435
	$\sum X^2$	23910	39303	26107
Female Sibling	$\bar{X}$	48.8	79	78.9
3-9 to 4-3	$\sum X$	390	632	631
	$\sum X^2$	21926	50048	50169
Female-No Sibling	$\bar{X}$	38.8	71.9	52
3-9 to 4-3	$\sum X$	310	575	416
	$\sum X^2$	15070	42641	23726

CHI SQUARES ON MALE AND FEMALE DIFFERENCES

	O	E	χ^2
Difference between boys preference for very masculine role and girls preference for very feminine role under "it" condition	2 30 Feminine	9 23 Masc.	7.57**
Difference between girls identification of appropriate object-activity under boy condition and under girl condition	22 10 Boy Cond.	17 15 Girl Cond.	3.13
Difference between boys identification of appropriate object-activity under boy condition and under girl condition	10 22 Girl Cond.	20 12 Boy Cond.	13.33*

* χ^2 significant at .001 level.

** χ^2 significant at .01 level.

RAW SCORES FOR CHILDREN WITH SIBLINGS

Sex		It	Boy	Girl	
Male 2-9 to 3-3	OS*	55	65	61	
		66	55	19	
		42	34	55	
		44	71	37	
	SOS**	47	72	39	
		68	55	66	
		58	76	57	
		84	57	67	
	Female 2-9 to 3-3	OS	37	58	60
			33	76	84
			37	54	35
			42	19	54
60			84	79	
29			79	75	
SOS		52	76	80	
		41	64	67	
Male 3-9 to 4-3		OS	45	83	75
			56	80	71
			74	83	50
			44	80	63
	SOS	84	67	81	
		53	84	64	
		49	58	46	
		84	76	62	
	Female 3-9 to 4-3	OS	84	84	84
			39	76	76
			30	84	84
			48	76	84
45			76	84	
38			76	67	
76			76	84	
SOS		30	84	68	

* Opposite sexed sibling only. ** Same and opposite sexed sibling.

U-Test: Males with opposite sexed siblings.

3 years				4 years			
34	55	65	71	80	80	83	83
Scores							
U=0	p = .028						

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