CHILDREN'S PERFORMANCE ON AND ATTRACTION TO AN ACTIVITY AS A FUNCTION OF MASCULINE, FEMININE OR NEUTRAL LABELS AND SEX-ROLE PREFERENCE

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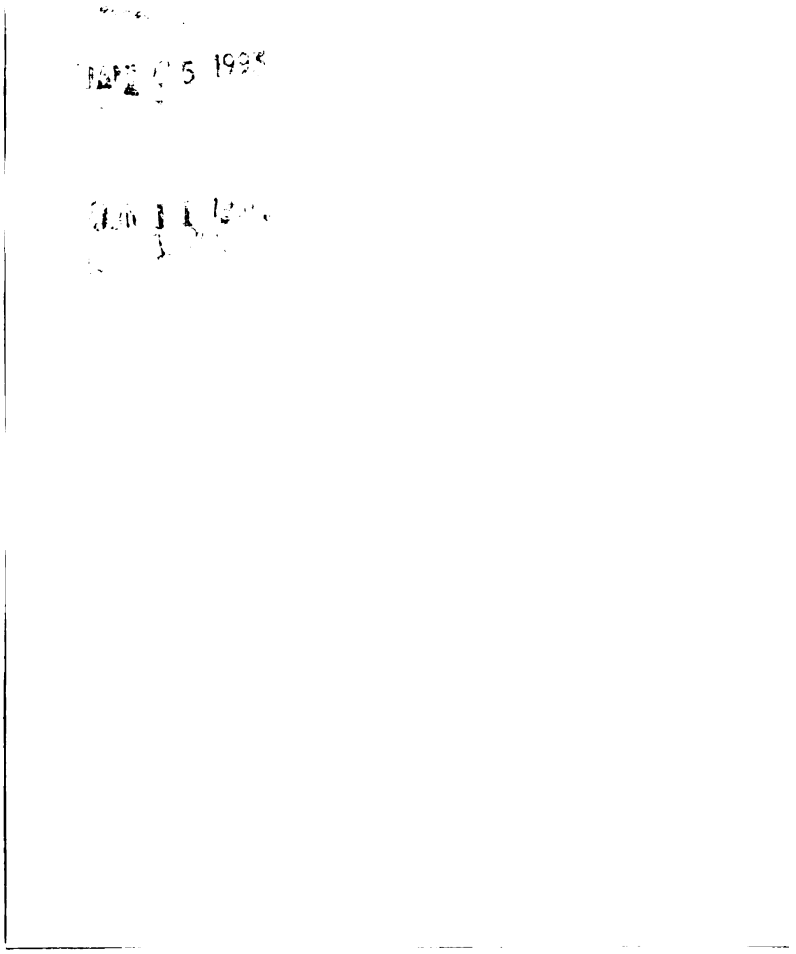

ABSTRACT

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By

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Sex-role preference refers to the desire to adopt behaviors or objects associated with one sex or the other. It is measured in children by having them state their preferences for objects or pictures of objects that are culturally defined as characteristic of one sex or the other. When preference is defined in terms of choice, the findings are that females generally choose more male objects than males choose female objects.

Although choice represents one measure of preference, another measure may also be level of performance. One would expect that the sexes would perform at different levels in activities which they preferred or did not prefer.

Recently, Kohlberg has described a theory of sex-typing which is in agreement with this formulation. According to Kohlberg, after an individual has stably

categorized himself as either male or female, he then comes to value those behaviors and objects that are consistent with this initial self-classification.

The present study examines preference in terms of level of performance and investigates Kohlberg's hypothesis that an individual will perform in a manner which is consistent with his own gender identity. It is hypothesized that level of performance and value for an activity will be highest for an activity which a child sees as appropriate, intermediate for an activity which he sees as sex-neutral, and lowest for an activity which he sees as inappropriate. An additional hypothesis is that these differences will be greater for individuals who score high on a measure of sex-role preference than for those who score low.

Subjects were 263 first and second grade children from a rural, midwestern community. Each subject was given the IT Scale for Children, and, for each sex, children with the 30 highest scores and 30 lowest scores were selected as study subjects. These children were then asked to play a game described as either a boy game, a children's game or a girl game. A performance and attractiveness score was obtained for each subject.

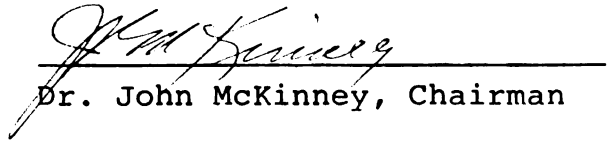
The results strongly supported the hypothesis that label would influence both performance and attractiveness. Subjects who received a label for the game appropriate for

their own sex had a higher mean than subjects with the neutral label who were higher still than subjects with an inappropriate label. These findings were present for both performance and attractiveness and were true for males and females. The preference factor was non-significant for both performance and attractiveness.

These findings support the idea of a strong desire to act consistent with a classification of oneself as either male or female. The findings are in agreement with Kohlberg's assertion that sex-typed labels are sufficient to influence a child's motivation and value for an activity. As Kohlberg says:

> Basic self-categorizations determine basic valuings. Once the boy has stably categorized himself as male he then values positively those objects and acts consistent with his gender identity.

The evidence from this study also indicates that males and females do not differ in their consistency strivings. When an activity was clearly defined as appropriate or inappropriate, both males and females approached or avoided the activity with an equal strength.

Approved by: 

Dr. John McKinney, Chairman

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To my Mother and Father

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INTRODUCTION

In all known human societies a functional distinction is made between males and females not only on the basis of primary and secondary sex attributes but also in terms of a variety of psychological and behavioral characteristics.

> The division and ascription of statuses with relation to sex seems to be basic in all social systems. All societies prescribe different attitudes and activities to men and to women (Linton, 1936).

Yet the source of this universal differentiation remains unclear. Margaret Mead's now-classic study of three New Guinea societies (1935) argues effectively for the cultural-specificity of male-female differences. Among the Arapesh, both men and women were cooperative, unaggressive and responsive to the needs of others--characteristics which are typically feminine in our society. In contrast, the Mundugumor would be regarded as possessing "masculine" traits since both men and women were ruthless, aggressive and unresponsive. Among the Tchambuli, the personality characteristics of the two sexes were the reverse of what is usual in our own culture. Tchambuli

women were dominant and impersonal, while the men were passive and emotionally dependent.

Studies such as Mead's offer compelling evidence for the conclusion that masculine and feminine roles are culturally defined. However, there are some impressive cross-cultural regularities, which indicate the existence of a core concept of masculinity and femininity, independent of culture (D'Andrade, 1966). For example, Barry, Bacon, and Child (1957) studied ethnographic reports from 110 different societies and rated each society in terms of their socialization practices for boys and girls. Their findings indicate that in most societies pressures toward nurturance, obedience, and responsibility were stronger for girls, while pressures toward achievement and self-reliance were stronger for boys. Further, Mead, herself, later noted that a difference between boys and girls which holds in all cultures is the greater investigativeness and intrusiveness of boys as evidenced, for example, in their tendency to wander farther from home (Mead, 1949).

In most cultures it appears that the male role is more often than not "instrumental," i.e., task-oriented and emotionally-inhibited, and the female role is usually "expressive," i.e., emotional, nurturant, and responsible (Parsons & Bales, 1955). Thus, Mead's original contention that human nature is "infinitely malleable," while

receiving some empirical support, neglects and obscures the important biological foundations of personality. This does not mean that a male will automatically take on traditionally masculine behaviors and affective responses simply because he is born a boy. The link between biological factors, genetic and hormonal, and behaviors is seldom a direct one. Instead, biological factors offer a foundation and give differential direction to behavioral stability and change in response to the social and cultural environments that an individual is reared in. However, such environments only support or shape man's behaviors and do not create them, as it were, out of the blue (Freedman, 1967).

If the accepted expression of "maleness" and "femaleness" differs to some extent from culture to culture, and even between social classes within a culture (Rabban, 1950), the distinction, itself, is a universal one. Correctly identifying oneself as a member of one sex or the other is the fundamental, unchanging reality judgment that all members of a society must make. There is abundant evidence to indicate that the male-female distinction is made early and that it is a central axis for classifying individuals and roles and for organizing the social mileau (Emmerich, Goldman, & Shore, 1971). Gesell, et al. (1940) reported that 65 to 75% of three-year-olds correctly answered the question "Are you a little boy or a little

girl?" However, it is not until about the age of five or six that a child correctly learns to apply the label "boy" or "girl" to another individual (Rabban, 1950).

These findings indicate that a child learns to label his own gender identity (biological sex) by age three and in the next two years learns to correctly label the gender identity of other individuals. This is not to suggest that a four-year-old cannot distinguish between males and females. However, a three or four-year-old child distinguishes males from females on the basis of external and perceptual criteria, primarily clothing and hair length (Katcher, 1955; Thompson & Bentler, 1971), rather than on a true conceptual understanding of maleness and femaleness. Thus, it is not uncommon for a three-year-old to classify any individual with long hair as a girl.

Some evidence exists for the ability of an infant to distinguish males from females. Morgan and Ricciuti (1968) studied stranger anxiety and found that female strangers elicited more positive and less negative reactions in eight-month-old infants than male strangers. However, a perceptual distinction does not imply a conceptual one and it is not until the child develops more mature cognitive structures such as classification and invariance, that the concept "male" or "female" becomes a criterion for classifying individuals. For example, among homosexuals there exists no confusion as to gender

identity of either self or others (Hooker, 1965). Indeed, among adults the inability to use these labels correctly is indicative of a severe degree of psychopathology. As Mower has stated: "Personal normality presupposes that an individual has assimilated not only those values and ideals which are regarded as necessary and proper for all persons, but also those values and ideals which are uniquely appropriate to one's sex role as a man or as a woman" (1950).

Of the many theoretical orientations which have attempted to deal with the question of sex-typing (e.g., Mead, G., 1932; Freud, 1938; Bandura & Walters, 1963; Kohlberg, 1966) only one, Kohlberg's cognitive-developmental theory, has paid particular attention to the critical roles of recognizing and labeling this male-female distinction. Kohlberg's theory is based on the assumption that the basic patterning of sexual attitudes is to be found neither in biological instincts nor social norms, but in the universal aspects of "the child's cognitive organization of his social world along sex-role dimensions" (Kohlberg, 1966, p. 82). Thus, classification of individuals, including oneself, as male or female is essentially cognitive in that it is rooted in the child's conception of physical things--the bodies of himself and others.

As Piaget (1947, 1952) has demonstrated, basic modes of cognitive organization change with age. The child's conception and organization of the physical world undergoes radical changes as he develops. So, too, does the child's conception of his social world. For example, recent research indicates that children develop a conception of themselves as having an unchangeable sexual identity at the same age and through the same process that they develop conceptions of the invariable identity of physical objects (Kohlberg & Zigler, 1967).

Learning, particularly observational learning, plays some part in sex-role acquisition but the most significant factor is the child's cognitive activity--his active selection and structuring of his perceptions and experiences--and is largely independent of situational rewards and punishments. As Kohlberg points out, "this learning is cognitive in the sense that it is selective and internally organized by relational schemata rather than directly reflecting associations of events in the outer world" (Kohlberg, 1966, p. 83). In other words, this theory views the child as actively structuring his world in terms of general categories of relationships such as causality, time and space.

Although this theory views sex-typing as primarily the result of a cognitive reality judgment, the motivational and emotional aspects of sex-role development are

not ignored. However, "the motivational aspects of sex-role development are best understood in terms of a theory of the self and of identification that rests on general competence, effectance (White, 1959) and self-regard motives rather than upon attachment and dependence motivations unique to the early parent-child relationships" (Kohlberg, 1966, p. 88). The child's sexual identity is actively established and maintained by a motivation to preserve a stable and positive self-image.

It is clear that the cognitive-developmental theory differs radically from traditional theories of sex-typing in a number of respects. Chief among these is a different view of the locus of causality. Both psychoanalytic (e.g., as reviewed by Bronfenbrenner, 1960) and social-learning theories (e.g., Sears, Rau, & Alpert, 1965) view the process of identification with the same sex parent as the prerequisite for, or cause of appropriate sex-typing. Although these theories differ in their assumptions about the motives favoring identification, both agree about the correct sequence of events. By identifying with the same sex parent, the child then comes to internalize or model the attitudes and behavior of that parent resulting in appropriate sex-typing. In contrast, the cognitive-developmental theory reverses this sequence and views identification as a result of the child's classification of himself in sex-typed terms.

Thus, the child adopts behaviors and attitudes that are consistent with this initial classification by choosing models who support, consolidate and extend this basic sex-typed orientation.

Cognitive-developmental theory also differs from other theories of sex-typing in terms of its emphasis on the relative importance of affective and cognitive processes. Both psychoanalytic and social-learning theory view sex-role learning as the result of felt needs and desires while cognitive, mediational processes are largely ignored. Cognitive-developmental theory, however, does not view the affective and cognitive aspects of behavior as dichotomous, but as proceeding through a parallel sequence of development in which both processes interact and influence each other. For example, it is a small step for the child to make to assume that because males are physically bigger than females they must also be more socially dominant. A child correctly labels himself as male or female at about the age of three but it is not until the age of six or seven that he establishes a stable gender identity. Thus, it is not until the child reaches Piaget's stage of concrete operations and acquires the concept of the invariance of physical objects that he is able to make the social judgment of the stability of his own gender identity. "Once this classification is made it is relatively irreversible and is maintained by

basic physical-reality judgments, regardless of the vicissitudes of social reinforcements and identifications" (Kohlberg, 1966, p. 88).

This process is analogous to the ethological concept of imprinting. Money, Hampson, and Hampson (1957) suggest that the development of normal adult sexual behavior is contingent on having been socially assigned to a given sex before the age of three of four. They report that if sexual assignment is made before this age later sexual adjustment is normal. But if assignment is made after this age maladjustment seems to result. The authors use the term imprinting to describe this "critical-age-period" phenomenon since it is obviously not the result of social learning principles which are in theory reversible. However, imprinting phenomena are difficult to establish in humans and the concept is often used as a descriptive one rather than an explanatory one. It may be that the phenomenon is the result of a labeling or structuring of a cognitive map. Such labeling is perhaps irreversible because basic cognitive categorizations are irreversible. "After a certain point, social reinforcement cannot readily reverse or change basic categorizations of constancies in the child's physical world, though such reinforcement can readily change categorizations at earlier cognitive stages before constancies are stabelized" (Smedslund, 1961).

The Money, Hampson, and Hampson data suggest that gender identity is made early in development and that it is a critical and basic organizer of sex-role attitudes. With this in mind Kohlberg postulates that basic self-categorizations determine basic valuings. Therefore, once a boy has stably categorized himself as a male, he comes to value those behaviors and attitudes that are consistent with his gender identity. There is abundant evidence for this kind of process (Rogers, 1951; Festinger, 1957; Rosenberg, 1960).

Stein, Pohly, and Mueller (1971) examined achievement behavior in sixth grade children as a function of the sex-label of the task. The children were presented with three tasks which were labeled masculine, feminine and neutral. Each child was given ten minutes and told to work on all three tasks. The results indicated that boys spent most of their time working on the "male" task, an intermediate amount of time on the "neutral" task, and the least amount of time on the "female" task. Girls, however, spent about the same amount of time on each task.

Although Stein et al. found that label was a significant determinant of choice of task they made no mention of the related issue of actual performance. One would expect that label and performance would also be related, although the nature of that relationship is unknown.

Hypothesis 1: When information on the sex-specificity of an activity is available to an individual, the individual will perform at a higher level on an activity which is labeled sex-appropriate than on an activity which is labeled sex-inappropriate.

An experiment by DeLucia (1961) suggested that gender identity determines the value of social rewards rather than being primarily instrumental in the achievement of rewards. She presented kindergarten children with a series of paired pictures of masculine and feminine toys and asked them which toy a pictured same-sex child would like to play with. The children were then divided into three groups and given social reinforcement for sex-appropriate responses on a parallel set of pictures. One group received reward; one group received reward and punishment; and a third group received no reinforcement at all. The original sex-typing test was then readministered to the subjects. A social-learning interpretation would predict that children in the reward and punishment condition would show more appropriate responses than children receiving no reinforcement. This was not found and the author suggests that kindergarten-age children have a fairly stable gender identity and that this identity is independent of situational rewards and punishments. Of course, an alternate explanation is that the manipulation was an ineffective one. However, the results

do suggest that sex-typing is a difficult construct to alter and that more may be involved in its development than mere rewards and punishments.

Hypothesis 2: When information on the sex-specificity of an activity is available to an individual, the individual will place a higher value on an activity which is labeled sex-appropriate than on an activity which is labeled sex-inappropriate.

A study by Epstein and Liverant (1963) examined the effects of high and low sex-typing on the value of rewards administered by male or female experimenters. In this study boys five to seven were divided into high and low masculine groups on the basis of their score on the IT Scale (Brown, 1956). Both groups were then verbally conditioned by two experimenters, one male and the other female. The high masculine scoring boys showed more conditioning when reinforced by a male experimenter than by a female experimenter. The low masculine scoring boys showed no differences in conditioning that could be attributed to the sex of the experimenter. This study demonstrated that high masculine boys place greater value on reinforcements from a male than they do from a female. In contrast, low masculine boys value the rewards equally.

Hypothesis 3: An individual who is classified as Hi sex-appropriate (Hi-masculine or Hi-feminine) has incorporated his culture's standard of sexual

differentiation to a significant degree. The concept of sexual differentiation is not as salient for the Lo scorers. Thus, the effect of an appropriate or an inappropriate label on performance and attractiveness for an activity will be greater for a Hi individual than for a Lo individual.

METHOD

Subjects

Subjects were 133 boys and 130 girls drawn from a rural, midwestern community. Subjects were first and second graders between the ages of 6 and 8 years ($\overline{X}$ = 6.8 years).

Design

The design for this study was a 2 x 2 x 3 factorial. Sex of subject; sex-role preference; and cognitive labeling of game were all varied. Each cell contained 10 subjects. The design was as follows:

		Sex of S			
		Males		Females	
		Sex-Role Preference			
		Hi	Lo	Hi	Lo
Label	Boy				
	Neutral				
	Girl				

Apparatus

The IT Scale for Children (ITSC) (Brown, 1956) was used to determine the sex-role preference of each child. Briefly the test consists of having the child make choices (i.e., either boy or girl) for IT, a sexually ambiguous stick figure, from activities and objects presented on 36 picture cards. Scores can range from 0, an entirely feminine score, to 84, an exclusively masculine score.

The game for this study was "Mr. Munchy" a commercially manufactured, Canadian toy. This game was chosen because of its unfamiliarity and because it did not appear to be sex-specific. Mr. Munchy is a clown with an oval body about six inches in diameter. Protruding from the clown's head is a spiral-shaped rod, 12 inches long, with a clown hat attached to the top.

The game is played by pulling the clown's head up the rod to his hat. When his head is released, it begins to spin down the rod, slowly at first, picking up speed as it goes along, until the head is attached to its body again. This takes approximately 15 seconds. The task for the child is to throw as many plastic marbles as possible into Mr. Munchy's body before the head descends.

Procedure

The IT Scale was administered to the initial population of 133 males and 130 females. A frequency distribution was established and the top 25% and bottom 25% of each sex was selected as study subjects. Thus, the study population consisted of 30 Hi-masculine males and 30 Lo-masculine males along with 30 Hi-feminine females and 30 Lo-feminine females. The range and mean of IT scores for each group was as follows: Hi-mas. (Range = 0; $\overline{X}$ = 84); Lo-mas. (Range = 0-75; $\overline{X}$ = 62.6); Hi-fem. (Range = 0-67; $\overline{X}$ = 39.6); Lo-fem. (Range = 0; $\overline{X}$ = 84). The subjects were then randomly assigned to each of the 12 cells.

About one month later, the experimenter returned to the schools to begin the main experiment. The procedure was as follows: The experimenter took each child from his classroom to the experimental room. There, the experimenter introduced himself and explained the purpose of his visit. If the subject was a boy, he received one of the following set of instructions appropriate for his condition:

(Boy Condition) "I have a toy that I would like you to play with. The name of this toy is Mr. Munchy. (The experimenter shows Mr. Munchy to the child.) Have you ever seen Mr. Munchy before? (Only 7 out of 120 children had ever seen Mr. Munchy before and this had been in a local toy store. None of the children had played the game before or knew how to play it.) Well, Mr. Munchy

is a brand new game just for boys. And since it is a brand new game just for boys, the people who made it have asked me to test it for them. So, I am asking some of the boys in this school to play it a few times to make sure that the game works and that boys can play it. Would you mind playing the game a few times for me? (Children answered no.)

"The way Mr. Munchy is played is like another game that boys play--basketball. When I pull Mr. Munchy's head up to his hat and let it go, it will start spinning around and around until it falls back on his body. What you have to do is to throw, one at a time, as many balls as you can into Mr. Munchy's tummy before his head comes all the way down. You can get as close to Mr. Munchy as you like but you can't touch him and you can only pick up one ball at a time.

"Do you have any questions?"

(Neutral Condition) "I have a toy that I would like you to play with. The name of this toy is Mr. Munchy. Have you ever seen Mr. Munchy before? Well, Mr. Munchy is a brand new game, and since it is a new game, the people who made it have asked me to test it for them. So, I am asking some of the children in this school to play it a few times to make sure that the game works and that children you age can play it. Would you mind playing the game a few times for me?

"The way Mr. Munchy is played is like this. When I pull Mr. Munchy's head . . ."

(Girl Condition) "I have a toy that I would like you to play with. The name of this toy is Mr. Munchy. Have you ever seen Mr. Munchy before? Well, Mr. Munchy is a brand new game just for girls. And since it is a brand new girl's game, the people who made it have asked me to test it for them. So I am asking some of the girls in this school to play it a few times to make sure that the game works and that girls can play it. But I also thought that I would ask a few boys to play it just to see if boys could play it. So, even though this is a girl's game, would you mind playing it a few times for me?

"The way Mr. Munchy is played is like another game that girls play--jacks. When I pull Mr. Munchy's head up . . ."

The instructions for female subjects were similar to the male instructions except that the labels were reversed in the appropriate conditions.

After the instructions, the child was given one practice trial and three test trials. After each trial, the subject's score was recorded by the experimenter. At the conclusion of the third trial, Mr. Munchy was removed from sight and the child's attractiveness for the toy was assessed.

The first measure of attractiveness (Scale) used in this study was to ask the child to place Mr. Munchy on a scale of 0 to 6 where 0 represented the least attractive toy and 6 the most attractive. It was recognized, however, that a seven-year-old child might experience difficulty in understanding the concept of a 0-6 scale. Therefore, a pictorial scale was devised which attempted to minimize, as much as possible, the difficulty of the task.

The scale consisted of a straight black line drawn on a sheet of white paper. The line was 12 inches long and was divided into 7 equal parts. At the left end of the line was a drawing of a child dressed in a raincoat. The child was drawn in dark colors. It had a frown on its face; it was standing in the rain; and it was holding a wilted flower. At the right end of the scale was a child drawn in bright colors. The child had a smile on its face; the sun was shining; and it was holding a blooming flower. An attempt was made to make the drawings sex-neutral.

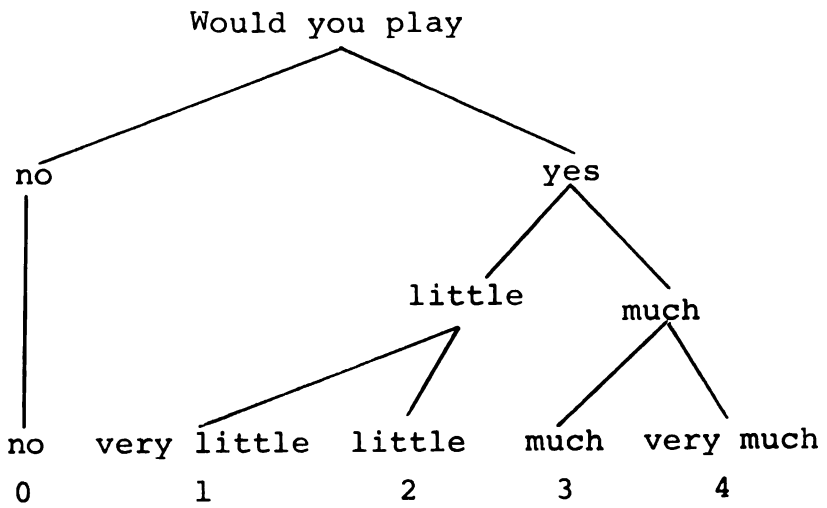
The drawing was used in the following manner. The subject was asked to name both his least favorite and most favorite toy. The experimenter then produced the drawing and explained to the child that the drawing would be used to assess his attractiveness for a group of toys that the experimenter would name. Toys which were the

least favorite would be placed in the space at the far left of the scale, in the space next to the sad child. While toys which were the most favorite would be placed at the opposite end of the scale in the space next to the happy child. It was explained that each of the seven spaces represented different degrees of attractiveness. Beginning from left to right, the spaces were for toys which were: "The worst in the world; Very bad; Bad; Good sometimes and bad sometimes; Good; Very good; The best in the world." In order to ascertain that the child was attending to the instructions, he was quizzed as to where toys which were very bad, good, etc. would be placed.

The experimenter then began naming toys (e.g., "Where would you place a bicycle; a doll house; a coloring book; etc.) until the following two criteria were met: First, the subject was not making exclusively extreme responses, i.e., only using the worst and best spaces; and Second, the subject was not responding in a random manner as indicated by behaviors such as pausing before pointing to a space for a particular toy and using the same space for a toy named at two different times. When these criteria were met, the experimenter then asked the subject: "Where would you place Mr. Munchy?"

The second measure of attractiveness (Rank) consisted of the following set of questions: "If you owned Mr. Munchy would you play with him, yes or no?" If "No,"

stop. If "Yes, would you play with him much or a little?" If "Much, would you play with him very much or just much?" If "Little, would you play with him a little or a very little?" The following diagram illustrates the procedure:



RESULTS

ITSC Distribution

It was hypothesized that sex-role preference would be a significant factor in the performance and attractiveness of an activity. This hypothesis was tested by examining the responses of males and females whose IT scores placed them in the extreme ends of their respective distributions. An examination of these distributions, however, reveal that the pattern of scores for males and females are more similar than dissimilar and that differences between the "extremes" were only moderate.

As may be noted in Figure 1 and Table 1, the distributions for males and females are remarkably similar. In both groups, almost 50% of the Ss scored in the 80-84 category, essentially a perfect masculine score. The difference of 6.3 points between male and female means was not significant, indicating the extreme overlap of the two distributions. The one finding which did prove to be interesting was the greater amount of variability for girls than for boys. This finding is consistent with most thinking in the area of sex-typing

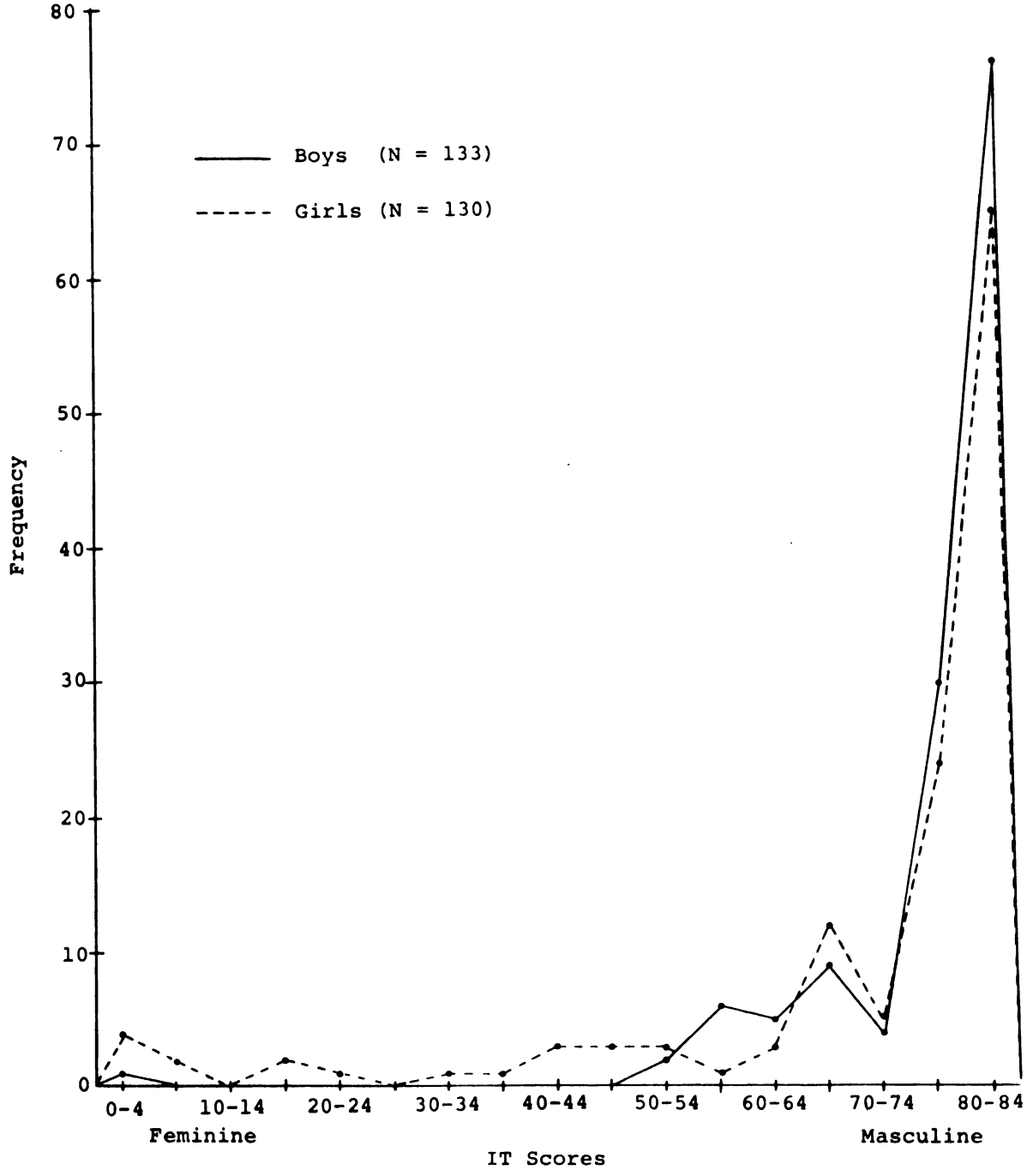


Figure 1

Distribution of Scores on the ITSC Total Sample (Males and Females)

which views the female role as more variable and ambiguous than the male counterpart.

Table 1

Group Means and Variability on the IT Scale for Children (Total Sample, Males and Females)

	N	Mean	SD	t	Level of Confidence
Males	133	77.27	10.70	0.27	n.s.
Females	130	70.97	20.96		

As indicated in Figure 1, the distribution of IT scores was greatly skewed toward the masculine end of the scale. Because so few individuals gave feminine-type responses, the groups composed of Ss with low scores were not as clearly defined or homogeneous as the groups composed of Ss whose scores were high, i.e., masculine. Table 2 reveals that in the experimental population of 120 males and females, Ss with high scores (Hi-mas. males, and Lo-fem. females) had group means of 84 and standard deviations of 0. This homogeneity contrasts considerably with the groups composed of Ss who received low scores (Lo-mas. males, and Hi-fem. females). In addition, Table 2 reveals that, although there was no overlap between the Hi and the Lo groups within each sex, there was also very little distance between these groups.

Table 2

Group Means, Variability and Range on the IT Scale for Children (Experimental Population, Males and Females)

	Group	N	Mean	SD	Range
Males	Hi	30	84.0	0.00	0
	Lo	30	62.6	13.82	0-75
Females	Hi	30	84.0	0.00	0
	Lo	30	39.6	23.48	0-67

Analyses of the data revealed that the preference factor was not significant for performance or rank. It was significant on one measure of attractiveness, scale, although barely ($p<.05$). On the basis of these results one may conclude that hypothesis 3 was not confirmed. No relationship was found between sex-role preference and either performance or attractiveness. However, in view of the previous discussion, one could also conclude that hypothesis 3 did not receive an adequate test. On the basis of this ITSC distribution, no fair comparison could be made between Hi and Lo groups since the difference between these groups was small.

Performance

Each S received a performance score which was the mean number of balls thrown into the toy over all

three trials. The group means and standard deviations for each of the 12 experimental conditions are given in Table 3.

Table 3

Means and Standard Deviations for Performance Scores in Each Condition

Label	Males				Females			
	IT Scores				IT Scores			
	Hi		Lo		Hi		Lo	
	M	SD	M	SD	M	SD	M	SD
Boy	8.93	2.14	9.76	1.77	7.65	2.19	8.14	2.72
Neutral	8.83	1.30	7.63	2.07	9.11	2.88	8.84	2.29
Girl	6.82	1.45	7.87	3.31	10.19	1.83	10.73	2.06

The results of the analysis of variance for performance are summarized in Table 4. Examination of this table shows that a significant difference was found for the label by sex interaction. Subjects who received a label for the game appropriate for their own sex had a higher mean than subjects with the neutral label who were higher still than Ss with an inappropriate label ($F=10.40$, $df=2/108$, $p<.001$). Hypothesis 1 predicted this interaction and the prediction was confirmed. No other effect was significant. The mean for female Ss was slightly higher than the mean for male Ss (female $\bar{X}=9.11$,

male $\bar{X}$=8.31) but this difference did not quite approach significance ($p<.10$).

Table 4

Analysis of Variance: Performance Scores

Source	SS	df	MS	F	η^2
Label (A)	2.25	2	1.12	0.22	
Sex (B)	19.28	1	19.28	3.85	
Preference (C)	1.70	1	1.70	0.34	
A x B	104.25	2	52.13	10.40***	.15
A x C	14.45	2	7.22	1.44	
B x C	0.01	1	0.01	0.00	
A x B x C	3.14	2	1.57	0.31	
Error	541.10	108	5.01		
Total	686.18	119			

***p<.001

Since preference was non-significant, this factor was collapsed and Figure 2 was obtained for the two factors, sex and label. As may be noted in Figure 2, there is a linear relationship between sex and label for both sexes and all labels. The highest score for each group was in the appropriate label condition, followed by the neutral label condition and lastly by the inappropriate condition. Hypothesis 1 was confirmed for both males and females.

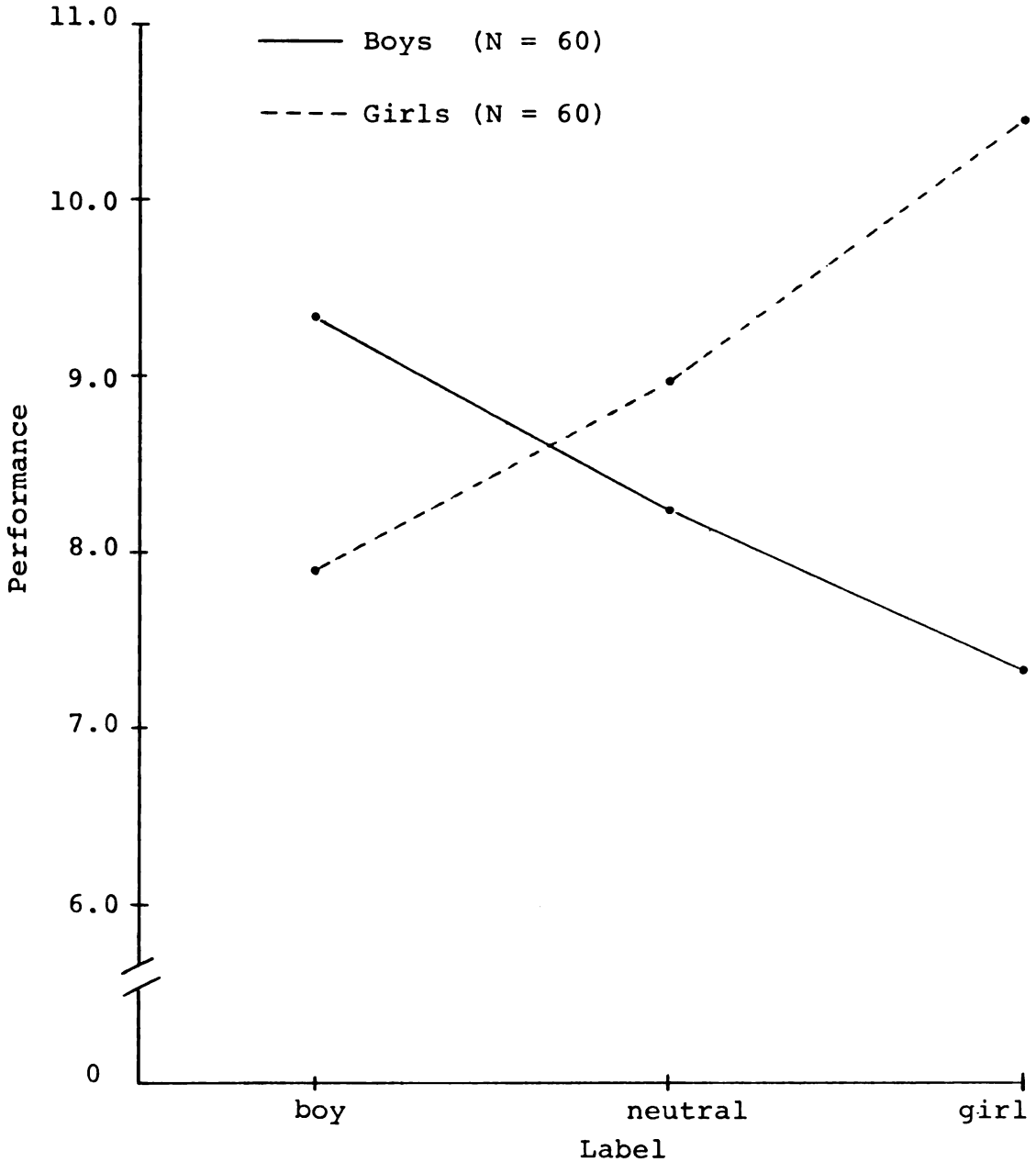


Figure 2

Mean Performance on Game as a Function of Label and Sex (Hi and Lo Groups Combined)

A simple effects test (Winer, 1962, p. 237) revealed: (a) For the boy label, males performed significantly better than females ($p<.05$); (b) For the neutral label, males and females were not significantly different; (c) For the girl label, females performed significantly better than males ($p<.01$). A Newman-Keuls test (Winer, 1962, p. 80) indicated: (a) For males, performance in the boy condition was significantly higher than performance in the girl condition ($p<.05$) but the neutral condition was not significantly different from either the boy or girl condition; (b) For females, performance in the girl condition was significantly higer than either performance in the neutral condition ($p<.05$) or in the boy condition ($p<.01$) but the neutral condition and the boy condition were not significantly different. (See Appendix A for the simple effects table).

Attractiveness: Scale

The Scale means and standard deviations for Ss in the 12 experimental conditions are given in Table 5.

The analysis of variance summary for attractiveness (i.e., where S placed the toy on a scale of 0-6) is presented in Table 6. Once again, a highly significant sex by label effect was found ($F=20.11$, $df=2/108$, $p<.001$). In addition, significant differences were found for the effects of label, ($F=4.97$, $p<.01$), preference

($F=4.79$, $p<.05$), and the label by sex by preference interaction ($F=5.57$, $p<.01$).

Table 5

Means and Standard Deviations for Attractiveness Scores in Each Condition (Scale)

Label	Males				Females			
	IT Scores				IT Scores			
	Hi		Lo		Hi		Lo	
	M	SD	M	SD	M	SD	M	SD
Boy	5.0	1.15	5.5	0.71	4.6	1.17	3.4	1.84
Neutral	5.7	0.67	5.3	0.67	5.5	0.71	4.3	1.70
Girl	3.9	2.28	2.5	1.51	5.1	0.88	5.7	0.91

The significant label effect was due to a depression of the scores in the boy and girl condition as compared to the neutral condition when the male and female scores were combined (boy $\bar{X}=4.64$, neutral $\bar{X}=5.20$, girl $\bar{X}=4.30$). A significant preference effect was found although the difference was slight (Hi $\bar{X}=4.97$, Lo $\bar{X}=4.45$). Table 5 reveals that the significant label by sex by preference interaction was due to a reversal of positions for the Hi and Lo groups which occurred for both males and females in the appropriate label condition. For males, the Lo group rated the toy as less attractive than the Hi group in the inappropriate and neutral condition.

Table 6

Analysis of Variance: Attractiveness Scores (Scale)

Source	SS	df	MS	F	η^2
Label (A)	16.62	2	8.31	4.97**	.06
Sex (B)	0.41	1	0.41	0.24	
Preference (C)	8.01	1	8.01	4.79*	.03
A x B	67.22	2	33.61	20.11***	.23
A x C	1.22	2	0.61	0.36	
B x C	0.21	1	0.21	0.12	
A x B x C	18.62	2	9.31	5.57**	.06
Error	180.50	108	1.67		
Total	292.80	119			

*p<.05

**p<.01

***p<.001

In the appropriate condition, however, the Lo group rated the toy as more attractive than the Hi group. A similar finding occurred for females. Among females, the Lo group rated the toy as less attractive in the inappropriate and neutral condition but more attractive in the appropriate condition than the Hi group.

When the preference factor is collapsed, a clearer picture emerges of the sex by label interaction. As may be noted in Figure 3, the pattern of attractiveness scores for males and females are very similar.

A simple effects test revealed: (a) For the boy label, males had significantly higher attractiveness scores than females ($p<.01$); (b) For the neutral label, males and females were not significantly different; (c) For the girl label, females had significantly higher attractiveness scores than males ($p<.001$). A Newman-Keuls test indicated that: (a) For males, the boy label and the neutral label were not different but both were significantly higher than the girl label ($p<.05$); (b) For females, the girl label and the neutral label were not different but both were significantly higher than the boy label ($p<.05$). These findings contrast with the findings for performance, and the difference is with the neutral label. For performance, the appropriate label was higher than both the neutral label and the inappropriate label. This finding was significant for females

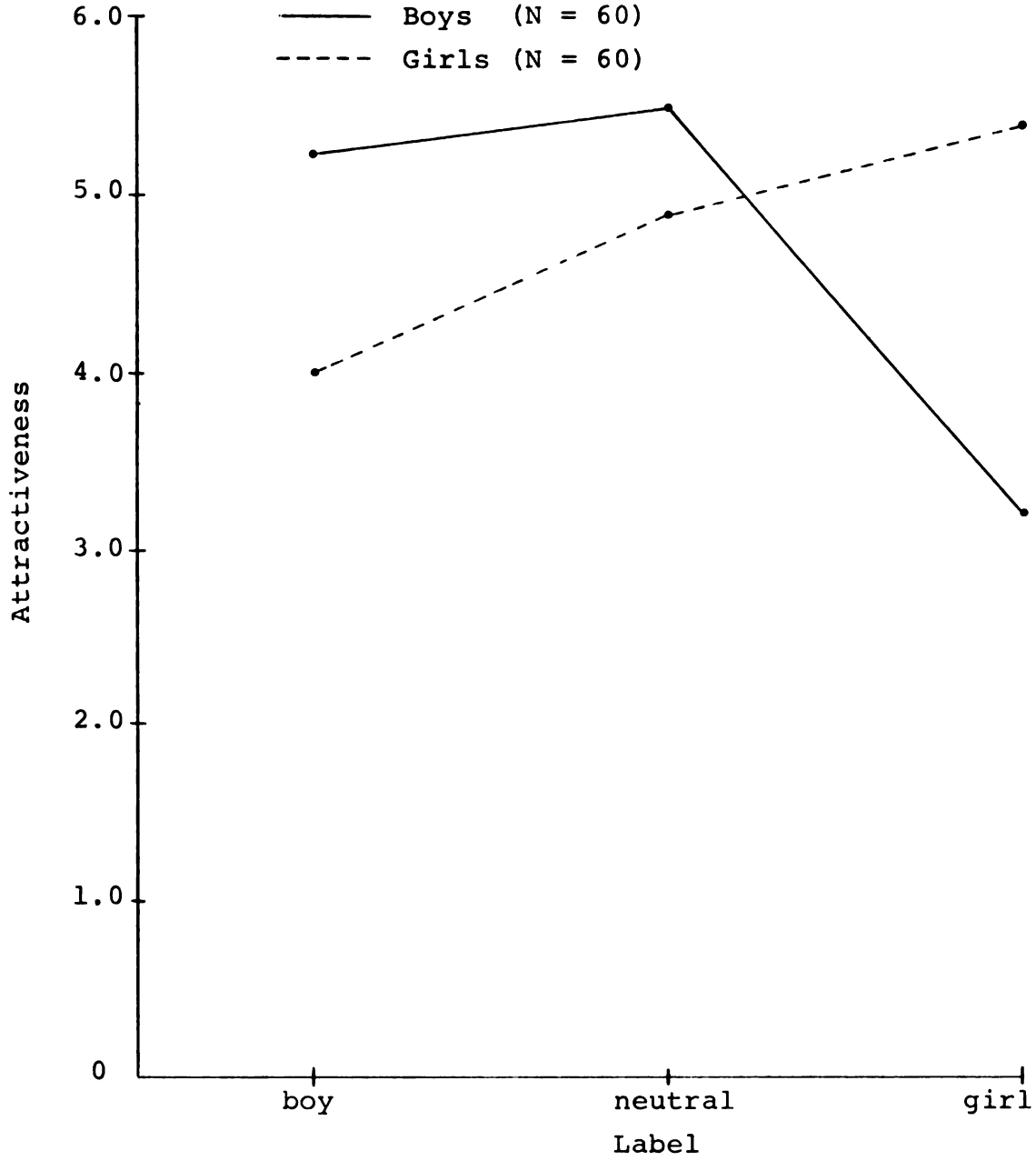


Figure 3

Attractiveness of Game (Scale) as a Function of Label and Sex (Hi and Lo Groups Combined)

and in the right direction for males. For attractiveness, however, both the appropriate and the neutral label were higher than the inappropriate label. (See Appendix A for the simple effects table).

Attractiveness: Rank

The Rank means and standard deviations of Ss in the 12 experimental conditions are given in Table 7.

Table 7

Means and Standard Deviations for Attractiveness Scores in Each Condition (Rank)

Label	Males				Females			
	IT Scores				IT Scores			
	Hi		Lo		Hi		Lo	
	M	SD	M	SD	M	SD	M	SD
Boy	3.0	0.82	3.5	0.53	2.7	1.06	1.9	1.29
Neutral	3.3	0.82	3.3	0.82	3.6	0.70	3.0	1.50
Girl	2.2	1.62	2.0	1.41	3.2	0.79	3.7	0.48

The results of the analysis of variance of attractiveness for rank (i.e., S's ranking of the toy from 0, never play, to 4, play very much) are summarized in Table 8. This table indicates that a significant effect was found for label ($F=3.32$, $df=2/108$, $p<.05$) and again for the sex by label interaction ($F=12.08$, $df=2/108$, $p<.001$). Once again, the significant label effect was

Table 8

Analysis of Variance: Attractiveness Scores (Rank)

Source	SS	df	MS	F	η^2
Label (A)	7.35	2	3.68	3.32*	.05
Sex (B)	0.53	1	0.53	0.48	
Preference (C)	0.30	1	0.30	0.27	
A x B	26.72	2	13.36	12.08***	.17
A x C	1.05	2	0.53	0.47	
B x C	1.20	1	1.20	1.09	
A x B x C	5.15	2	2.58	2.33	
Error	119.40	108	1.11		
Total	161.70	119			

*p<.05
***p<.001

due to a depression of scores in the boy and girl label condition as compared to the neutral condition when males and females are combined (boy $\bar{X}$=2.78, neutral $\bar{X}$=3.30, girl $\bar{X}$=2.78). The significant label by sex interaction was found confirming Hypothesis 2.

As may be noted in Figure 4, the pattern of scores for males and females are alike and this pattern is similar to the one found when attractiveness was measured by Scale. For both males and females, the appropriate and neutral conditions are not different from each other but both are different from the inappropriate condition. Hypothesis 2 was confirmed for both measures of attractiveness, Scale and Rank.

A simple effects test revealed: (a) For the boy label, males had significantly higher attractiveness scores than females ($p<.01$); (b) For the neutral label, males and females were equal; (c) For the girl label, females had significantly higher attractiveness scores than males ($p<.001$). A Newman-Keuls test indicated: (a) For males, the boy label and the neutral label were not different but both were significantly higher than the girl label ($p<.05$); (b) For females, the girl label and the neutral label were not different but both were significantly higher than the boy label ($p<.05$). As with the Scale findings, this pattern contrasts with the performance pattern. (See Appendix A for the simple effects table).

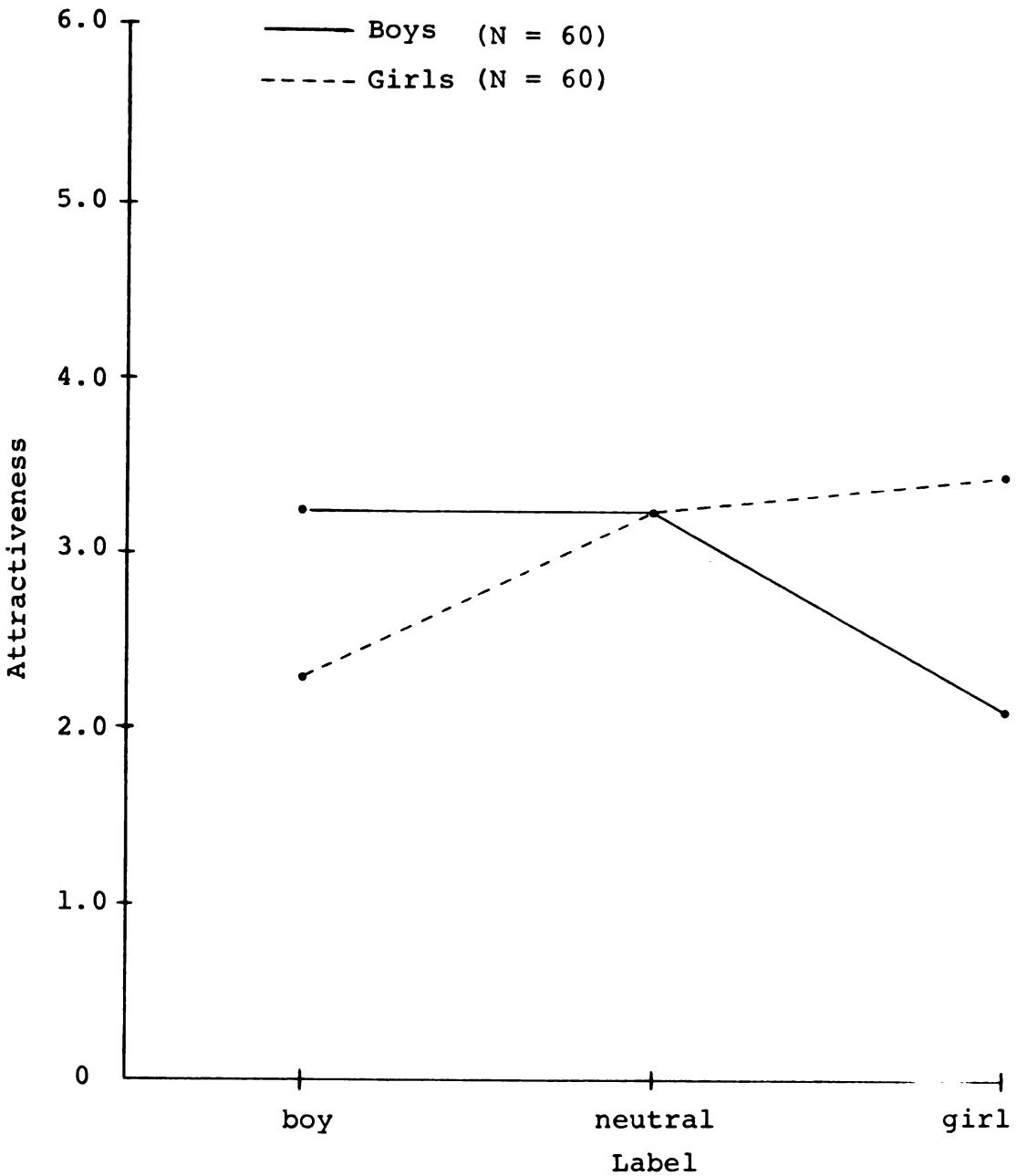


Figure 4

Attractiveness of Game (Rank) as a Function of Label and Sex (Hi and Lo Groups Combined)

Relationship of Dependent Measures

The three dependent measures, Performance, Scale, and Rank, were correlated with each other. Table 9 indicates that Performance was a poor, although statistically significant, predictor of both Scale (r=.25) and Rank (r=.23). However, the two measures of attractiveness were highly correlated (r=.74).

Table 9

Correlation Matrix for Dependent Measures

	Performance	Scale	Rank
Performance	1.00		
Scale	.25*	1.00	
Rank	.23*	.74**	1.00

*p<.05
**p<.01

DISCUSSION

One question which this study attempted to answer concerned the relationship between a cognition and overt behavior. The finding of a strong interaction between the sex of the child and the label that he received for the game indicated that in the area of sex standards, a direct relationship existed between the cognition that the child received for the activity and his own behavior. It was found that performance was highest when the child received a label for the game which was appropriate for his sex, intermediate when no information was given on the sex-specificity of the game, and lowest when the game was labeled as inappropriate for the child's sex. This same interaction was found for the two measures of attractiveness, although the specifics of the interaction differed slightly from the performance findings. Hypothesis 1 and 2 were confirmed for both males and females. Hypothesis 3 predicted that the label would have a greater effect on the high-preference group than on the low-preference group. This prediction was not confirmed but

there is some cause to doubt the effectiveness of the IT Scale to distinguish a high- from a low-preference individual.

These findings support the idea of a strong desire to act consistent with a classification of oneself as either male or female. The findings support Kohlberg's assertion that sex-typed labels are sufficient to influence a child's motivation and value for an activity. As Kohlberg says:

> Basic self-categorizations determine basic valuings. Once the boy has stably categorized himself as male he then values positively those objects and acts consistent with his gender identity (Kohlberg, 1966, p. 89).

Although Kohlberg's concern is primarily with boys, this study found consistency strivings equally strong for both males and females.

The effect of label for both performance and attractiveness was in the same direction and of the same intensity for males and females. Scores for males and females were almost the mirror image of each other. This finding differs from most findings in the area of sex-typing. Masculine roles and attitudes are typically found to be more stereotyped and constrained than feminine roles. For example, Stein, et al. (1971) found that when children were allowed to work on tasks which had been labeled male, female or neutral, boys worked most on the male task, less on the neutral task and least on the female

task. Females, however, spent an almost equal time on all three tasks. The authors conclude that "the effects of sex-typed labels were larger and more consistent for boys than for girls, probably because boys generally have a stronger preference for the masculine role than girls do for the feminine role."

On the basis of a great deal of empirical evidence, most researchers in the area of sex-typing have concluded that males have a stronger preference for the masculine role than girls do for the female role. This conclusion is based on evidence which shows that girls will choose activities and objects which are culturally defined as masculine more often than boys will choose feminine activities. Although the empirical evidence is impressive, the conclusion does not necessarily follow.

A major component of the process of sex-typing is the learning of the sex-role standard for males and females in the culture of origin. Kagan (1964) defines sex-role standard as "a learned association between selected attributes, behaviors and attitudes, on the one hand, and the concepts male and female, on the other." Although biological potentials may form the foundation of sex standards in any culture, the specifics of that standard may in large part reflect learned cultural norms and historical traditions rather than biological potentials. For example, a biological reductionist would be

hard pressed to explain why females prefer pink and play volleyball while males prefer blue and play baseball. The acquisition of a sex-role standard involves much more than the expression of innate biological potentials. The acquisition and expression of that standard involves an interaction between biological potentials and experiential factors.

In addition, one would expect the child's conception of male and female to undergo a considerable change with time. A child must acquire more than a long list of behaviors and attitudes which are appropriate or inappropriate for his sex. A child must learn to factor out, as it were, the essential qualities of maleness and femaleness and to apply these constructs to himself and others. Since maturational factors play a particularly important role in cognitive development, concepts such as male and female would also change over time. Thus, one would expect a child's sex-role standard to differ significantly from an adult's, the difference being due to both experiential and maturational factors.

Besides this cognitive factor, a second important aspect of sex-typing is a motivational one, the desire to act in accordance with the standard judged appropriate for one's own sex. It is not enough simply to know what are the appropriate standards for men and women. One must also act within those standards. Thus, any mismatch

between the child's gender and his behavior may involve one of the following: First, the child does not know the appropriate standard and behaves in a manner which is judged to be inappropriate; Second, the child knows what is the correct standard but chooses to act in a manner inappropriate for his sex.

Previous research in sex-typing has not separated these factors in order to investigate them individually. A child's masculinity or femininity was judged on the basis of the match between his behavior or attitudes and the cultural standard of masculinity or femininity. Any mismatch was judged to be indicative of a lack of preference for the culture's standard. An alternate conclusion is that the child has not learned the standard or has learned it in a distorted form.

If these speculations are true, one would expect older children, both males and females, to show a greater understanding of the construct than younger children. Kohlberg has demonstrated that the young child is not certain of the constancy of gender identity before the age of five or six (cited in Maccoby, 1966, p. 95). Children aged four to eight were asked if a pictured girl could be a boy if she wanted to or if she played boy's games. Most four-year-olds said that she could be a boy if she wanted to, while seven-year-old children were certain that she could not.

One would also expect children with greater cognitive maturity, or high IQ, to show a stronger preference or more accurate understanding of the accepted sex-role standard. Kohlberg and Zigler (1967) found that IQ correlated significantly with six important measures of sex-typing, included the IT Scale. They conclude that "IQ is an important correlate of individual differences in sex-role attitudes within age groups. . . ."

Finally, it has been observed that parents are more concerned with appropriate behavior for their male children than they are for their female children. One would expect that because of this increased emphasis, males would show a clearer understanding of their standard than females. This has been found to be the case, as males respond with appropriate sex-role choices earlier than do females.

From this discussion it should be clear that evidence for a mismatch does not necessarily imply a lower motivation to act consistent with the accepted standard. It may also imply a lack of understanding of the standard. The question of whether or not males and females differ in their desire to act consistent with <u>their understanding</u> of correct male and female behavior is an entirely different issue.

The evidence from this study indicates that males and females do not differ in their consistency strivings.

When an activity was clearly defined as appropriate or inappropriate, both males and females approached or avoided the activity with an equal st rength.

This study indicates that the common belief that females prefer the male role may be untrue. An alternate conclusion may be that since parents spend less time teaching their female children the correct standard, young girls have a hazier idea of what is correct and incorrect. Since measures of sex-typing find that older children prefer their sex-roles equally, one may conclude that it is not preference that is changing but cognitive maturity.

The findings for attractiveness indicate that both males and females valued the game as highly with the neutral label as they did with the appropriate label. The inappropriate label, however, significantly reduced the attractiveness of the game. The results indicate that although both approach and avoidance gradients are operative and equally strong for performance, only the avoidance factor is important in the value that a child places on an activity. Children may have an initially positive value orientation toward all objects and this orientation may be operative at full strength, and is, therefore, difficult to increase with more information. However, children may be more sensitive to negative information, more sensitive to holding a negative value, and will devalue those activities which are clearly inappropriate. One would

expect that this type of orientation would be the result of a parent-child situation in which the parent was particularly concerned with the proscriptive aspects of sex-typing, what not to do, rather than the prescriptive elements of sex-typing, what to do.

The IT Scale for Children (Brown, 1956) is the most widely used instrument for the assessment of sex-role preference in children. The test is projective in that it requires the subject to choose from among a number of sex-typed items and activities, those which IT, an "ambiguous stick figure" would prefer. Presumably, the child projects his own sexuality onto IT and his choices for IT indicate the magnitude of the child's own sex-role preference. The test is operative to the extent that projection can and does occur, i.e., that IT is, in fact, a sexually ambiguous figure, and that the child perceives his task in a manner that will allow projection to take place.

The results of this study cast serious doubts on the sensitivity of the ITSC as an instrument for the measurement of either differences between or within sexes. Three explanations are possible for the curious nature of these findings. First, something in the experimental situation makes a male response more likely than a female response; second, an artifact in the test instrument produces a masculine bias; and third, the distribution is a

true measure of sex-role preference and the population is in some way deviant.

The relationship between task, subject and experimenter is a complex one and it is always possible that in any experimental situation an artifact of one of these variables may have influenced the results. What in the experimental situation could have acted to increase the likelihood of a male response?

Sex of the experimenter has repeatedly been demonstrated to exert a differential effect on male and female subjects for most tasks. It is reasonable to assume that this effect will be all the more pervasive when the task is a sex-related one. The effect may be due to subtle differences in the way a male experimenter acts toward male and female subjects. Or the difference could be the result of differential labeling of the task by the subject, based on cognitive and perceptual processes. Surely choosing items and behaviors for a stick figure and stating those choices to a male is a different task than choosing items and stating them to a female. Were the experimenter a female, it is entirely possible that ITSC distribution would have been different.

In addition to the experimental situation, it may be possible that the test instrument contains a masculine bias in it. Thompson and McCandless (1970) compared IT scores obtained with standard instructions with scores

under instructions where IT was identified as a member of the same sex as the child. Their findings indicated that labeling IT a boy did not significantly change the scores for males. However, labeling IT a girl reduced the female score by almost 25 points. These results are consistent with a considerable number of studies indicating that IT actually looks like a boy rather than a neutral figure (e.g., Sher & Lansky, 1968; Hartup & Zook, 1960; Brown, 1962).

The ITSC may be a measure of the child's perception of IT as male or female rather than the child's preferred sex-role. If this is correct, one would expect that male responses would be positively correlated with age for both boys and girls since accuracy in distinguishing males from females should increase with age and experience. This hypothesis was confirmed by Kohlberg and Zigler (1967) who found that by age 7 both boys and girls were making almost exclusive masculine choices.

Despite these criticisms, the IT Scale has been found to have considerable construct validity (Hetherington, 1965, 1966; Mussen & Distler, 1959; Mussen & Rutherford, 1963). However, these studies were done primarily with children younger than seven years, and before 1966. We have recently gone through a drastic change in acceptable external standards of appearance for males and females and it is suggested that IT looks more

like a male today than he did before 1966, a la the Beatles.

If these criticisms are correct they indicate that for the IT Scale to retain its usefulness, a modification of the test or of the manner in which it is given is in order. One technique, developed by Lansky and McKay (1963) was to keep IT in an envelope. The child was told: "There is a child named IT in the envelope." This, however, makes the test highly ambiguous and would result in higher anxiety levels for the subjects.

A final explanation is that the IT Scale distribution for this study is accurate for the population tested. Thus, both males and females may be very masculine in their preferences. We would expect to find lower class boys to be extremely stereotyped and traditional in their preferences, while girls may perceive the greater value of males in our society and make their choices accordingly.

Since this study was not specifically designed to investigate the IT Scale, no final conclusion can be drawn to explain the skewness of the results. No information is available on the IQ level or socioeconomic status of the population nor are the results of other populations or of other experimental techniques available. These unexpected findings only add weight to a growing body of empirical

evidence that indicate that results obtained from the IT Scale should be interpreted cautiously and that future investigators should be aware of the scale's limitations.

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APPENDIX

Table A1

Analysis of Variance for Simple Effects
Performance Scores

Source	SS	df	MS	F
Label for male	40.18	2	20.09	4.08*
Label for female	66.34	2	33.17	6.74**
Within cell	560.40	114	4.92	

*p<.05
**p<.01

Table A2

Analysis of Variance for Simple Effects
Performance Scores

Source	SS	df	MS	F
Sex for label (boy)	21.02	1	21.02	4.27**
Sex for label (neutral)	5.55	1	5.55	1.29
Sex for label (girl)	97.03	1	97.03	19.72*
Within cell	560.40	114	4.92	

*p<.05
**p<.01

Table A3

Analysis of Variance for Simple Effects
Attractiveness Scores (Scale)

Source	SS	df	MS	F
Label for male	63.70	2	31.85	17.40***
Label for female	20.13	2	10.07	5.50**
Within cell	208.55	114	1.83	

**p<.01
***p<.001

Table A4

Analysis of Variance for Simple Effects
Attractiveness Scores (Scale)

Source	SS	df	MS	F
Sex for label (boy)	15.62	1	15.62	8.54**
Sex for label (neutral)	3.60	1	3.60	1.97
Sex for label (girl)	48.40	1	48.40	26.45***
Within cell	208.55	114	1.83	

**p<.01
***p<.001

Table A5

Analysis of Variance for Simple Effects
Attractiveness Scores (Rank)

Source	SS	df	MS	F
Label for male	18.43	2	9.22	8.31**
Label for female	15.63	2	7.82	7.05**
Within cell	127.10	114	1.11	

**p<.01

Table A6

Analysis of Variance for Simple Effects
Attractiveness Scores (Rank)

Source	SS	df	MS	F
Sex for label (boy)	9.02	1	9.02	8.13**
Sex for label (neutral)	0.00	1	0.00	0.00
Sex for label (girl)	18.22	1	18.22	16.41***
Within cell	127.10	114	1.11	

**p<.01
***p<.001