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EFFECTS OF NON-SEX STEREOTYPED LITERATURE ON  
SEX ROLE PREFERENCE AMONG FOUR-YEAR-OLD CHILDREN

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A THESIS  
PRESENTED TO  
THE FACULTY OF THE GRADUATE SCHOOL  
APPALACHIAN STATE UNIVERSITY

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IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE  
MASTER OF ARTS

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by  
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SEX ROLE PREFERENCE AMONG FOUR-YEAR-OLD CHILDREN

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## ABSTRACT

Following the findings of Ross and Ross (1972), Fling and Manosevity (1972) and others, which indicated that males adhere more strongly to stereotyped sex-role behavior and resist efforts to change behaviors more strongly than do females, it was hypothesized that intensive exposure to non-sexist books would be viewed as an effort to alter sex role behavior and would, thereby, produce more stereotyped sex-role preferences among the males, but little change among the females.

Thirty-six 4-year-old children, attending two day care centers, were alternately exposed to either non-sexist or traditional children's books during two successive three-week periods. The IT Scale For Children (Brown, 1959), a projective measure of sex-role preference, was administered to each of the children three times--prior to the initial three week period, between the periods and following the second three weeks. The testers, who were balanced for sex and randomly assigned to the children, were unaware of the nature of the study, as were the readers, who were also balanced for sex.

An analysis of the results did not support the hypothesis, showing no significant effect of exposure to non-sexist literature. The findings are viewed as supportive of other studies which have demonstrated that short-term non-sexist interventions are generally ineffective. The implications for future research are discussed, with emphasis on the need for more male representation in such studies to eliminate sex-of-experimenter effects.

### Introduction

An examination of the research in the development of sex roles reveals an area marked by controversy, the available evidence offering no clear support for any one of the predominant theoretical perspectives. Of the three currently held to be most inclusive, Identification Theory is the oldest. An outgrowth of psychoanalytic thought, sex role behavior is viewed as emerging from the resolution of the Oedipal conflict, the child "introjecting" characteristics of the same sex parent. By identifying with and imitating the same sex parent, the child reduces unconscious conflicts. A more recent perspective, the social learning approach (Mischel, 1970), offers a widely divergent view. Sex-typed behaviors are seen as the product of differential reinforcement. The first step in this process is imitation, the child choosing a sex role model on the basis of the availability, nurturance and perceived power of the model. Reward is given more often for same sex than cross sex behavior and some cross sex behaviors may be punished, these contingencies being either direct or observed. The third of these, the cognitive-developmental approach (Kohlberg, 1967), concludes that sex-role identity is essentially a reality judgment on the part of the child rather than the product of either parental

identification or differential reinforcement. The child is seen as acquiring a given sex-role through a process of self-labeling. The attendant sex-appropriate behaviors and same-sex models assume a positive value for the child only after this self-concept has been established.

In the following review of relevant research, emphasis has been placed on those studies related to the social learning approach. This perspective has received the most comprehensive attention in the literature, though the results are, by no means, conclusively supportive. In addition, these studies offer the most cogent foundation for the present work.

#### Sex-role Development: Perspective and Definitions

David Lynn (1959) offers an explanation for the differential development of sex-role identity in males and females using both the identification and social-learning frameworks. Lynn discriminates between the processes of preference, adoption, and identification. Preference refers to the behavior associated with one sex or the other which the child desires to adopt, or perceives as desirable. Preference may be measured by asking the child to choose from an array of sex-typed objects or toys or by projective technique requiring the child to choose from among a variety of toys or activities those which another child

(of unstated sex) would like.<sup>1</sup> Adoption refers to the various activities wherein the child practices the characteristic behaviors of the preferred sex role. This may be assessed by direct observation of the individual's behavior. It is noted that adopted behavior does not necessarily imply the preferred role. Identification implies the actual incorporation of a given sex role. McCandless (1967) further defines this term as an acceptance of all the interests, behaviors and social demands common to one sex, the person feeling happy and comfortable with the choice. Lynn maintains that both males and females initially model their behavior after the mother, being primary caretaker and source of nourishment. The male child, however, becomes increasingly aware of the sex differences between himself and his mother through his perception and the reinforcement of sex-appropriate behavior by adults and peers. Unlike the girl, who may model her behavior after the mother,

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<sup>1</sup>Though widely accepted, Lynn's terminology has been questioned by Biller (1968), who differentiates between sex role preferences and sex role orientation. Sex role preference, Biller maintains, refers to the child's knowledge of appropriate sex-typed behavior and reflects the child's attempt to conform to expected norms. Orientation refers to the child's basic inclination toward particular sex-typed behaviors, irrespective of the knowledge of typical, appropriate behavior.

Preference, as used herein, reflects Lynn's definition, which seems to incorporate that process referred to as Orientation by Biller.

the boy lacks an ever-present role model since the typical middle-class father spends appreciably less time with the children. Consequently, Lynn maintains, the male child identifies with a culturally-defined sex role stereotype, while the female identifies with a personally-defined model, that of her mother. The male role is much more rigidly defined, boys being strongly reinforced for sex appropriate behavior and generally punished for cross-sex behavior.

#### Age-related Development of Sex-role Behavior

Before examining the research in differential reinforcement of sex-typed behavior, it is important to view the findings concerning age and its relationship in each sex to the development of sex role preference. Following Lynn's work, Ward (1969) showed that sex role preference is established by the age of 5 in both sexes. He maintained that sex role identification occurs earlier in females, coinciding with sex role adoption, but identification follows adoption in boys. This finding is supported by McCandless (1967) who, using a social learning approach, claimed that the identification process is more complex, therefore delayed in males.

A study by Thompson (1975) explored among 2-, 2½-, and 3-year-old children their abilities in applying

appropriate gender labels, their preferences for a sex role and their awareness of sex-role stereotyping. It was shown that 2-year-olds have the ability to identify the sexes and were aware of some sex-stereotypes. This age group did not, however, reflect any consistent sex-role preferences, nor could they apply appropriate gender labels (nouns or pronouns). The 2½-year-olds showed an increased ability to identify the sexes and a significantly greater awareness of sex stereotyping. Similarly, the 2½-year-olds showed no significant sex-role preference. In the 3-year-old group, the majority of the subjects employed appropriate gender labels, preferred a same-sex role and were very aware of male and female cultural stereotypes. The author noted no significant sex differences on these measures. It was concluded that the development of sex-role preference at the age of 3 is sufficient to affect sex-role behavior.

In an earlier study by Hartup and Zook (1960), similar findings showed that sex-role preference is measurable in children 3 and 4 years of age. Reflecting Lynn's hypothesis, but in contrast with Thompson's findings, the males had a greater preference for the masculine role than females for the feminine role in both 3- and 4-year-old children. Also, as demonstrated by Ward (1973),

girls were shown to increasingly prefer the masculine role in early school years. Hartup and Zook explain this finding as related, in part, to the girl's coming into contact with a wider variety of female role models, through exposure to teachers and television, many of these models performing tasks traditionally ascribed to males. Offering partial confirmation for these findings is a study (Schell and Silber, 1968) showing definite sex-role preferences among 3- and 4-year-old white middle-class children. In a test of sex-role knowledge, girls scored the same as boys in discrimination of male sex-role characteristics, though boys scored much lower than girls in determining female characteristics. This would seem to support the allegation that the masculine role is better defined and of higher prestige than the feminine. The study also indicated that discrimination of appropriate sex-role behavior increases between the age of 3 and 4. This awareness of sex-role stereotypes has been shown (Williams, Bennett, and Best, 1975) to occur earlier in boys than girls, increasing in both sexes until the second grade.

#### Differential Reinforcement of Sex-typed Behavior

In addition to differences in the rate of development of sex-role awareness between males and females, a number of studies support the assumption, as noted by Lynn (1959),

that boys and girls experience differing levels of reward and punishment for adherence to stereotypic patterns of sex-role behavior. In one such study (Ross and Ross, 1972), boys and girls between 3½ and 5 years of age gave sex-appropriate choices for a toy, and were then encouraged to change this preference to a sex-inappropriate toy by pressure from a respected adult figure. Though both girls and boys resisted changing their preferences by a large margin, the boys displayed much more anxiety, using many social and non-social techniques to resist the sex-inappropriate change. Further support is found in Brown (1957). When developing the IT Scale for Children, a measure of sex-role preference, he determined that boys show a strong preference for the male role from kindergarten through elementary school, while girls do not reflect a strong preference for the female role. Bates (1973) also supports this view, showing strong tendencies for boys to restrict their game choices to typically masculine activities. In a study of sex-role knowledge and preference among kindergarten and third grade middle-class boys, Nadelman (1974) revealed that males and females both indicate a preference for their same-sex role, but boys more rigidly adhere to the same-sex choices. Bem and Lenney (1976), using college-age subjects, added further support to this concept. Dividing

their subjects into sex-typed, androgynous and role-reversed groups by means of the Bem Sex Role Inventory, they found that the sex-typed subjects, both male and female, resisted sex-inappropriate behavior significantly more than the other subjects, even though such choices offered higher monetary rewards than sex-appropriate activities. The males showed significantly greater resistance than the females, again reflecting the greater pressure for sex-role adherence for males.

Supporting the conclusion that males receive more punishment than females for cross-sex behavior, Fling and Manosevitz (1972) interviewed the parents of 4-year-old children to determine the extent to which they encouraged sex-appropriate toy choices and play interests and discouraged cross-sex interests or behaviors. They found that boys' parents (both mothers and fathers) offered significantly more discouragement for cross-sex behavior than did the parents of girls. Measuring encouragement, it was found that the fathers of boys offered more encouragement for sex-appropriate behaviors than fathers of girls, though this difference did not reach significance. With mothers, however, it was found that the mothers of girls offered significantly more sex-appropriate encouragement than the mothers of boys. It is particularly interesting that though

the authors found substantial evidence for differential reinforcement or punishment by the parents for boys and girls, there was no correlation found between parental influence and the scores of the children on a measure of sex-typing (IT Scale for Children). Though much evidence points to more rigid sex-typing in males, this study leads to questioning of the importance of parental attitudes and behavior in affecting the child's attitudes toward sex-roles.

Girls seem to be granted much greater license in cross-sex behavior, their sex identity consequently being less rigid. Some support for this view is found in a recent study (Ward, 1973) which indicated that the scores of third grade boys were significantly more sex-typed than the scores of the girls in a test of sex-role preference, indicating the social acceptability of cross-sex preferences in females. This finding, Ward suggests, may be attributable to the distinct advantages which accrue to the male in middle-class white society, making the male role more attractive than the female. Ward also found that females, just as males, tend to identify with a culturally-defined sex-role, rather than the personally-defined role that Lynn hypothesized. Ward used the IT Scale for Children as a measure of culturally-defined role preference. The ITSC

involves choices among such items as cosmetics/shaving equipment, tools/kitchen utensils, which are traditionally linked with the male or female sex role.

With shifts in social attitudes toward sex-role behavior during recent years, it would be expected that changing patterns would be noted in the sex-role preference of children. Lansky and McKay (1963) offer some evidence, finding a greater variance in males' scores than females' scores on the ITSC, which contrasts with many other findings that show female scores with significantly greater variance. A second study by these authors (1969) showed girls' scores on the ITSC more feminine than boys' scores were masculine, a distinct change from most other findings. An experiment with children's figure drawings (Toler, 1974) demonstrated that girls show an increased tendency to draw a same-sex figure first in comparison with earlier figure drawing studies. This may indicate the growth of a more positive sex-role preference due to the changing status of women in our society and the increased awareness of sex-role stereotypes.

#### Effects of Non-sexist Children's Books

Much of the research into the origin and development of sex-role behavior has been generated by the widespread interest in non-discrimination and sexual equality. The traditional view of the passive, emotionally volatile and

often illogical female, limited to the roles of wife, mother or secretary and the aggressive, logical and competent male, who may aspire to any position, from cowboy or policeman to astronaut or president, has been widely attacked as groundless and discriminatory. Nevertheless, these stereotypes persist in the literature available to children, beginning with the earliest pre-school picture books. In the early years, when sex-role preference is being established, the child is frequently exposed to stories depicting males and females in traditional, stereotyped roles. It has been shown in a variety of current children's literature (Oliver, 1974; Tibbetts, 1975; Women on Words and Images, 1972) that male characters greatly outnumber female. Girls are presented as passive, subordinate, and unadventurous, while boys are active, aggressive, curious, and skillful. Adult role models are also cast in stereotyped fashion, with females largely in the background, supportive and acquiescent, while males hold interesting jobs, are knowledgeable and dominant. The occupations shown as available to women include housekeeper, teacher, waitress, and nurse, while males build bridges, fly airplanes, or operate businesses. A recent review of current award-winning preschool picture books (Weitzman, 1972) shows that role stereotyping remains flagrant.

With this increased interest in non-stereotyped literature and movement toward inclusion of such materials in pre-school and elementary curricula, it would seem important to assess what effect, if any, these books have on the development of sex-role attitudes. An examination of recent literature reveals very few such studies and these appear generally tentative and exploratory, using very brief interventions. Since the obvious intent of non-stereotyped children's books is to decrease sex-bias and promote more egalitarian, androgynous attitudes, there would appear to be a critical need to demonstrate empirically the effectiveness of these books in producing the desired changes. To date, the most ambitious effort at measuring the effect of programs designed to decrease sex-bias among children was reported by Guttentag and Bray (1976). Using children from three different grade levels (kindergarten, fifth grade and ninth grade), they designed, implemented and assessed intervention programs which covered a six-week period and employed records, visual aids, toys, and teacher-training in addition to non-stereotyped children's books. They reported that among the kindergarten children, sex-stereotyping was prevalent in both sexes prior to intervention. This was determined by assessing the children's perception of vocational opportunities for men

and women. Following the intervention, the boys showed continued stereotyping, though they reported more jobs available to women and increased the overlap between male and female jobs. The girls showed a greater effect of the six-week intervention, reporting fewer stereotypes, viewing high-status jobs as available to women, and reporting more jobs requiring social skills as available to men. In the higher grades, similar results were found for the females, but the males showed some trends toward increased stereotyping. The author concluded that short-term efforts at changing sex-role attitudes may have some success in expanding the awareness of role possibilities among the females, but may have much less effect, or perhaps, a reverse effect upon the males.

Looking specifically at studies concerning the effects of stereotyping in children's books, Jennings (1975) demonstrated that both male and female 4- and 5-year-olds preferred a story reflecting characters in traditionally sex-appropriate roles to a story wherein the roles were reversed. It was also shown that both sexes remembered a role-reversed story for longer periods and in greater detail than the usual sex-typed story. This effect was attributed to the novelty of the reversed roles.

Marr (1974) using only two subjects, a boy and girl

8 years of age, read non-stereotyped stories three times per week for a period of six weeks. On three separate measures, a toy preference schedule, an occupational inventory, and an activity inventory, no differences were noted between pre- and post test scores. The author concluded that longer interventions were required to effect changes.

A study by Fischer and Tourney (1976) also supports the ineffectiveness of short-term interventions. Using 70 five-year-old kindergarten children, a story was read in which the main character, either male or female, was reinforced for either dependent or independent behavior. Dependent behavior was seen by the authors as stereotypically female, while independent behavior was stereotypically male. The dependent measure was dependency as measured by the time elapsed on a block-design task between presentation and requesting help. Help seeking was viewed as an indication of dependency. The girls' scores indicated significantly greater dependency regardless of treatment condition, and the males' scores showed no effects in either group.

A recent work (Flerx, Fidler and Rogers, 1976) contrasts with the above-noted findings, indicating some effects of sex-stereotyping in children's literature after only a brief exposure. Conducting two consecutive studies, the authors

presented non-sex stereotyped literature to 4- and 5-year-old children, testing them before and after intervention, using a projective doll-choice technique. In this method, the child answered questions related to occupations, play and work activities, comparative intelligence, sex-role attitude and affective expression by pointing to either male or female dolls, or to both male and female dolls (indicating sex equality). The results in both experiments signified that interventions totaling 2 and 2½ hours, respectively, over a one-week period, resulted in some reductions in sex-stereotyping. These changes were more characteristic of 5-year-olds than 4-year-olds, and were more characteristic of females than males. In the second test, it was revealed that the changes produced by egalitarian literature diminished after an interval of one week, some of the scores falling to pre-test levels.

On the basis of current research, it is apparent that few conclusions may be drawn about the influence of egalitarian themes in children's books. Tentatively, it would appear that children as young as 4 years of age attend to the sex roles presented in books and that non-traditional roles may have some influence, though the nature and extent of this influence is uncertain. It would also seem that short-term presentation of non-stereotyped literature has

few, if any, lasting effects and these effects are probably different between sexes and between age groups.

Some consistent elements in the methodology of these studies are of concern and bear closer scrutiny. Nearly all the studies investigating effects of non-sexist intervention with children have employed only female experimenters, a possible source of bias. Also, a pro-androgyny bias is stated by many of these authors. Since in most of the studies, the experimenters either read the literature to the children, administered the dependent measures, or scored the results, the possibility of confounds from experimenter expectations exists.

Statement of Problem

In the present study, effects of non-sex stereotyped literature upon four-year-old children are explored, looking specifically at changes in sex-role preference as measured by the IT Scale for Children. The possibility of sex-of-experimenter bias has been controlled through the use of male and female experimenters, making possible more conclusive findings than in previous work. The current study also uses a lengthened period of exposure to the literature, beyond that noted in many prior experiments.

The decision to use four-year-old children rests on the following assumptions: 1.) much of the current non-stereotyped literature is directed at children of this age; 2.) Sex role preference and awareness of sex stereotypes have been clearly demonstrated in this group; and 3.) The results of prior work indicates much uncertainty about the effects of non-stereotyped literature on children of this age.

Research has demonstrated that males are more rigid than females in their sex role preference due to prior experience with punishment for cross-sex behavior. Since non-sex stereotyped children's books present males engaged in role behavior traditionally viewed as feminine, the intensive exposure to such literature may be seen as an effort

to induce cross-sex behavior. Following the results of Ross and Ross (1972), this should increase anxiety among the males. To reduce this anxiety, the males are likely to adhere more strongly to the stereotypic male role model. Among the females, greater latitude is permitted in sex role behavior. It would be expected that introduction to non-stereotyped books would not produce anxiety as among the males, necessitating little change in sex role attitudes. On this basis, the following hypotheses are offered:

- 1.) Males exposed to non-stereotyped literature will show higher (i.e., more masculine) scores on the IT Scale for Children than males exposed to traditional, stereotyped literature.
- 2.) Females exposed to non-stereotyped literature will show no difference in scores on the IT Scale for Children as compared to females exposed to stereotyped literature.

MethodSubjects

The participants in the study were 36 children, 18 males and 18 females, attending two day care centers in Boone, North Carolina. Their ages ranged from 3 years 11 months, to 5 years 0 months, the average being 4 years 6 months. There were no significant age differences between sexes or between centers. Each of the children attended one of the day care programs at least 4 hours per day, 5 days a week. All of the children were white and an examination of their parents' occupations revealed that all came from middle or upper-middle income families.

Experimenters

Eight experimenters, 4 males and 4 females, were undergraduates at Appalachian State University enrolled in psychology courses. These eight were selected from a list of students who had volunteered to participate in "an experiment involving children." All the experimenters were blind as to the exact nature of the study, being informed only that it involved assessing the effects of stories on young children. Each of the experimenters was trained in the administration of the dependent measure during three training sessions in order to assure adherence to the standardized administration procedures.

### Materials

For the dependent measure, the IT Scale for Children (Brown, 1956) was used. The ITSC is an individually administered projective test of sex-role preference, consisting of a card depicting a stick figure (IT) and a series of 36 cards displaying toys, activities or human figures. As the cards are presented, the child is asked to choose those which the IT figure, assumed to be sex-neutral, would prefer. The items chosen are then scored, assigned value being based upon the traditional sex-typed nature of the card (e.g., carpentry tools are masculine, a washing machine is feminine). The masculine items have values of 1, 4, 8, or 12 and all feminine items are 0. The total scores range from 84 (most masculine) to 0 (most feminine).

Studies by Sher and Lansky (1968) and Fling and Manosevitz (1972) have revealed that the IT figure has a masculine stimulus value for many children, biasing their responses toward more masculine sex-typed choices. In an effort to eliminate this bias, the administration procedure devised by Fling and Manosevitz (1972) was employed. In this method, the IT figure is replaced by a blank card and the child is asked to "pretend" there is a picture of a child on the card. The instructions, as detailed in Appendix B, otherwise follow the original ITSC procedure (Brown, 1956).

The Peabody Picture Vocabulary Test (PPVT) was used to measure the initial equivalency of the two groups.

The non-stereotyped literature, listed in Appendix C, was chosen from a number of surveys (Lollipop Power, 1974; Weitzman, et.al., 1972; Women in Words and Images, 1972; Guttentag and Bray, 1976), listing books which portray males and females equally. In these books, both males and females have active roles, pursuing careers and sharing in the care of children and performance of household tasks. The traditional stereotyped literature, also found in Appendix C, was selected from books which the surveys listed as containing particularly stereotyped role models, plus other books which were judged as meeting this criterion. In these stories, males usually have the dominant role, females remaining passive in the role of mother and homemaker and the vocational choices implied for each sex reflect stereotyped attitudes.

#### Procedure

The study consisted of two consecutive three-week periods in which the children in each day care center were read either stereotyped or non-stereotyped books. The groups had access to only one type of literature during each three week period. The reading sessions were 15 to 20 minutes per day, 5 days per week. The books were read by 24 volunteers, 12 males and 12 females, selected from classes in early childhood education.

Each reader was randomly assigned by sex to one of the groups, such that each center had a male or female reader on alternate days. The readers were unaware of the nature of the study and had access to only one type of book.

The centers were randomly assigned to one of the conditions prior to the first three week period, the treatment being reversed for the second three weeks.

The eight experimenters were randomly assigned by sex to one of the groups. Each was then assigned four or five children, this assignment also being random by sex. This procedure provided a balance for possible sex-of-experimenter effects.

A pre-test was given to each child by his or her assigned experimenter, using the PPVT and ITSC. The experimenters were instructed to approach the test as "a game to play" with the child. Due to the established nature of the two groups and the logistical impracticability of dividing the children into treatment groups within each center, random assignment of each subject was not possible. The pre-testing was used to provide a measure of initial equivalency between the groups.

The children were again tested with the ITSC following the first three weeks and for the final time after the second three weeks. Following each testing period, the experimenters submitted the results to the author for scoring. The author was blind to the order of conditions to prevent bias.

Prior to the beginning of the study, a letter (as shown in Appendix A) was sent to the parents of each prospective participant. They were informed of the requirements of the study and asked to indicate their permission to include their child. Only two children, one in each center, were denied permission, the parents objecting to the testing.

### Results

Figure 1 offers a comparison of mean scores on the IT Scale for Children (ITSC) for each sex by treatment group (day care center). As shown, the males' scores on the dependent variable (ITSC) increase on the second test relative to the pre-test, regardless of treatment condition. On the third testing, the males' scores decline in both groups in relation to the second test, again showing roughly parallel changes. The females' scores reveal a decline from the pre-test to the second test, and a slight rise on the third test. As with the males, the changes occur in the same direction regardless of treatment condition. It is noted that the ITSC scores for both males and females in day care 2 remain slightly above those in day care 1 across all three testings.

The means and standard deviations (in parentheses) on the pre-test were 63.83 (15.72) and 34.53 (14.99) for males and females, respectively. A two-way analysis of variance, as shown in Table 1, was used to evaluate the pre-test scores, with sex of subject and day care center as the independent variables and sex role preference, measured by the ITSC, as the dependent variable. A significant effect for sex was found ( $F = 11.25$ ;  $df = 1, 34$ ;  $p .002$ ). This demonstrates the ability of the ITSC to discriminate between the sexes in measuring sex role preference and is congruent with prior

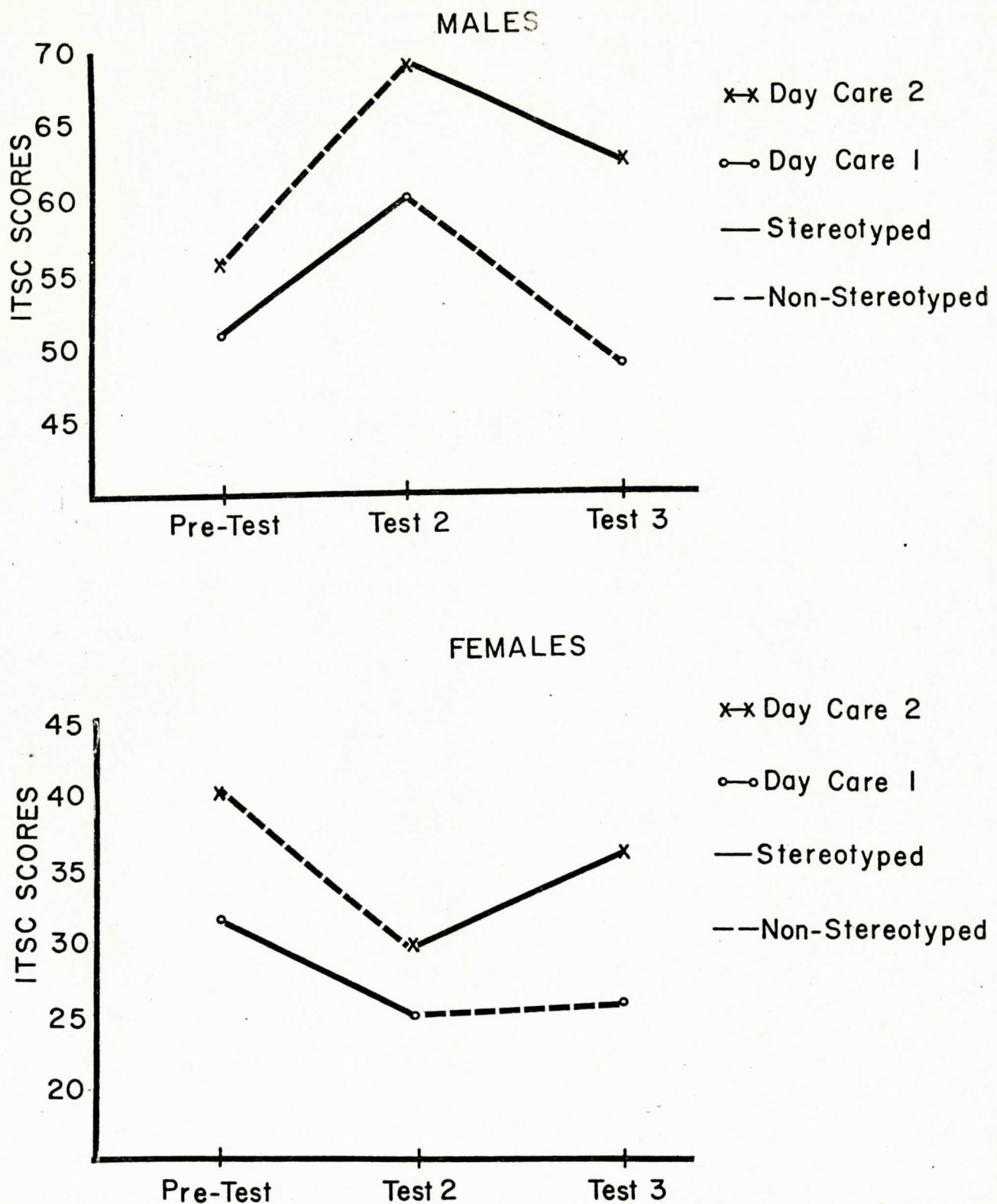


Figure 1. - Comparison of mean ITSC scores of 4-year-old males and females as a function of exposure to stereotyped and non-stereotyped literature.

Table 1  
Analysis of Variance for ITSC; Pre-test

<u>Source</u>	<u>df</u>	<u>Sum of Squares</u>	<u>Mean Square</u>	<u>F</u>	<u>Significance</u>
Sex	1	2687.04	2687.04	11.25	p .002
Day Care	1	396.93	396.93	1.66	ns
Sex X Day Care	1	1.97	1.07	.008	ns
Residual Error	31	7401.81	238.77		
Total	34	11058.65	325.25		

research. The second and third administrations of the ITSC produced means and standard deviations of 65.12 (13.75) and 57.47 (19.04) for males, 26.53 (14.28) and 29.12 (18.52) for females. Tables 2 and 3 indicate that these results are also significant for sex.

Supporting the assumption that the two groups of children were initially equivalent, the analysis of variance results in Table 1 indicate that the main effect of day care centers was insignificant on the pre-test ( $F = 1.06$ ;  $df = 1, 34$ ; ns). In addition, a Pearson correlation was calculated for Peabody Picture Vocabulary Test scores between the day care centers. The results were not significant ( $r = .032$ ; ns), indicating no IQ differences between the groups.

Since the ITSC scores of males and females were shown to be significantly different, the most meaningful perspective would seem to be a separate comparison of each sex between day care centers as is presented in Figure 1. A list of the means and standard deviations for males and females in each day care center is shown in Table 4.

A one-way analysis of variance on the pre-test ITSC scores, as indicated in Table 5, reveals no significant difference for either males ( $F = .74$ ;  $df = 1, 17$ ; ns) or females ( $F = .95$ ;  $df = 1, 16$ ; ns). This offers further support for the pre-intervention equivalence of the groups.

Table 2  
Analysis of Variance for ITSC, Second Test

Source	<u>df</u>	<u>Sum of Squares</u>	<u>Mean Square</u>	<u>F</u>	<u>Significance</u>
Sex	1	11523.60	11523.60	58.86	p .001
Residual Error	32	5873.39	195.78		
Total	33	18940.91	573.97		

Table 3  
Analysis of Variance for ITSC, Third Test

Source	<u>df</u>	<u>Sum of Squares</u>	<u>Mean Square</u>	<u>F</u>	<u>Significance</u>
Sex	1	5081.45	5081.45	15.62	p .001
Residual Error	32	9759.88	325.33		
Total	33	18121.03	549.12		

Table 4  
Means and Standard Deviations for ITSC

<u>Pre-test</u>	<u>Mean</u>	<u>SD</u>
<b>Males</b>		
Day Care 1	50.25	16.46
Day Care 2	56.70	15.36
<b>Females</b>		
Day Care 1	31.91	17.21
Day Care 2	39.33	9.18
<b>Second Test</b>		
<b>Males</b>		
Day Care 1 (Stereotyped)	59.86	15.67
Day Care 2 (Non-stereotyped)	68.80	11.65
<b>Females</b>		
Day Care 1 (Stereotyped)	24.70	15.90
Day Care 2 (Non-stereotyped)	29.14	12.28
<b>Third Test</b>		
<b>Males</b>		
Day Care 1 (Stereotyped)	48.00	19.23
Day Care 2 (Non-stereotyped)	64.10	16.72
<b>Females</b>		
Day Care 1 (Stereotyped)	25.27	19.55
Day Care 2 (Non-stereotyped)	36.17	15.51

Table 5  
Analysis of Variance for ITSC, Pre-test

<u>Source</u>	<u>df</u>	<u>Sum of Squares</u>	<u>Mean Square</u>	<u>F</u>	<u>Significance</u>
<b>Males</b>					
Day Care	1	184.90	184.90	.74	ns
Residual Error	16	4019.60	251.23		
Total	17	4204.50	247.32		
<b>Females</b>					
Day Care	1	213.99	213.99	.95	ns
Residual Error	16	3382.24	225.48		
Total	17	3596.23	224.77		

To evaluate the effects of the treatment, the scores of the second ITSC testing were examined. The males' mean scores were 68.80 and 59.86 for the non-stereotyped and stereotyped conditions respectively. Table 6 presents a one-way analysis of variance which indicates no significant effect of the literature for the males following the first three-week period ( $F = 1.83$ ;  $df = 1, 16$ ; ns). The first hypothesis was that males' scores on the ITSC would be significantly higher (i.e., more masculine in sex-role preference) following exposure to non-stereotyped literature compared to the scores of males exposed to traditional, stereotyped literature. This was not supported.

For the females, the mean ITSC scores on the second test were 29.14 (non-stereotyped condition) and 24.70 (stereotyped condition). A one-way analysis of variance, shown in Table 6, indicates that there was no effect of type of literature ( $F = .38$ ;  $df = 1, 16$ ; ns). This finding supports the second hypothesis, that females exposed to non-stereotyped books would show no difference in sex-role preference compared to females in the stereotyped group.

On the third testing, following the second three week reading period, the scores of the males and females moved closer to the level of the pre-test, the males' scores declining and the females' scores rising. The mean scores

Table 6  
Analysis of Variance for the ITSC, Second Test

<u>Source</u>	<u>df</u>	<u>Sum of Squares</u>	<u>Mean Square</u>	<u>F</u>	<u>Significance</u>
<b>Males</b>					
Treatment	1	329.31	320.31	1.83	ns
Residual Error	15	2694.45	179.63		
Total	16	3023.76	188.99		
<b>Females</b>					
Treatment	1	81.28	81.28	.38	ns
Residual Error	15	3178.96	211.93		
Total	16	3260.23	203.77		

of the males were 64.10 and 48.00 in the non-stereotyped and stereotyped conditions, respectively. Using a one-way analysis of variance, presented in Table 7, no treatment effect was noted ( $F = 3.38$ ;  $df = 1, 16$ ; ns). The results again fail to support the first hypothesis.

The mean scores among the females on the third testing were 36.17 in the non-stereotyped group and 25.27 in the stereotyped. In Table 7, this effect is seen to be non-significant, using a one-way analysis of variance. The second hypothesis was again confirmed.

Table 7  
Analysis of Variance for the ITSC, Third Test

<u>Source</u>	<u>df</u>	<u>Sum of Square</u>	<u>Mean Square</u>	<u>F</u>	<u>Significance</u>
<b>Males</b>					
Treatment	1	1067.34	1067.34	3.38	ns
Residual Error	15	4734.89	315.66		
Total	16	5802.23	362.64		
<b>Females</b>					
Treatment	1	460.75	460.75	1.38	ns
Residual Error	15	5025.00	335.00		
Total	16	5485.75	342.86		

### Discussion

The results of the study seem to indicate that short term exposure to non-sex stereotyped literature has no significant effect upon the sex role preference of either male or female four-year-olds. These findings do not support the first hypothesis that males' scores on the IT Scale for Children would increase (become more masculine) following exposure to egalitarian children's books. The ITSC scores of the females, on the other hand, support the second hypothesis by revealing no change following the intervention.

The implication would appear to be that the exposure to alternative sex roles in the stories was not of sufficient impact upon the males to induce the threat of cross-sex behavior, thereby leading to increased stereotyped responses as a defense. Among the females, who characteristically show less anxiety than do males when confronted with cross-sex behavior, the stories had no demonstrable effect, as expected.

The observed changes in ITSC scores over the six week period showed the males' scores increasing on the second test, then decreasing on the third, and the females' scores declining, then rising. This response might be viewed as a possible effect of testing, in light of Brown (1956). In examining the effects of retesting with the ITSC at a one-month interval,

Brown revealed an average increase of 1.5 points in males' scores and a 3 point average decline in females' scores. The observed rise in the males' scores after the first three week intervention (9.61 and 12.10 points) was much larger than Brown's reported change, but the decline in scores over the second three week period yields a total change (a rise of 7.40 points and a decline of 1.75 points) over six weeks that more closely approximates Brown's findings. The females scores follow a similar pattern, the observed change in three weeks being much greater than Brown's 3 point decline (decreases of 7.21 and 10.19 were recorded). The total change in six weeks returned to levels closer to those previously observed, revealing decreases of 6.64 and 3.16 points. The inconsistency may be attributable to age differences between the two samples, the children in Brown's study being over a year older.

It is concluded, therefore, that the simplest explanation for the obtained results would be an effect of testing. This is based on the previously demonstrated testing effect with the ITSC (Brown, 1956), the similarities of those findings to the currently observed score variations, and the roughly parallel changes in ITSC scores for each sex regardless of treatment conditions.

Some methodological problems are apparent in the study which must be taken into account when considering the results.

The most salient of these arises from the non-random assignment of subjects, yielding a quasi-experimental design. The efforts at demonstrating the pre-intervention equivalency of the two groups do much to reduce the seriousness of this, but some question remains whether inherent differences between the children in the two day care centers could have accounted for the observed results. Support for existence of such differences is seen in the ITSC scores which are higher in day care 2 than in day care 1 for both males and females across all three testings. Considering the possibility of inherent differences between the two groups introduces another source of error. The order in which the types of literature were introduced may have differentially affected each group. Judging from the indications of equivalence on the pre-test, however, and the general uniformity of score variations between the groups, the effects of these methodological problems would not appear to substantially alter the above noted conclusions.

The findings in the current study offer some support for the earlier results of Guttentag and Bray(1976), Marr(1974), and Fischer and Tourney (1976), revealing no appreciable effects of short-term exposure to non-sex stereotyped literature. This is consistent with the view that children's sex role behavior is mediated by a variety of elements, including peer and parent

models, television, and the influence of teachers, all imposing a strong and constant impetus toward "appropriate" (i.e., stereotyped) role behavior. It is not surprising, therefore, that brief interventions make little headway.

Some interesting speculations arise concerning the inconsistencies between the present study and the recent research. In Guttentag and Bray (1976) and Flerx, et.al., (1976), it was reported that girls were more affected than boys by the non-sexist efforts, yet in the present study, no effects were noted among the females. Though this may be related to age differences between the samples, older children having been shown to be more influenced by egalitarian programs than younger children, it is possible that the differences in methodology account for the discrepancies. The most apparent of these differences is the use in the present study of males both as experimenters and as readers, contrasting with the almost exclusive use of females in earlier work. The lack of significant changes among the females in the present findings may, therefore, be indicative of a sex bias in the earlier studies. Wolf (1975) demonstrated that play with a sex inappropriate toy (i.e., cross-sex behavior) was promoted more among males following exposure to an older model than to a younger model and also more to a male model than a female model. Prior findings of increased stereotyping in males

following non-sexist intervention may be related to the absence of male models in these studies. If boys are more likely to respond to an older male model than an older female model, it may be conjectured that in the current study the presence of male readers as well as male experimenters served as salient models of androgynous behavior and thereby decreased the anxiety among the males when urged toward cross-sex behavior by means of non-sexist literature.

These speculations denote particularly vital areas for future research. The need for including males in studies dealing with changing sex stereotypes is apparent. Such studies could have important implications for the design of non-sexist programs in kindergartens and day care centers, where teachers and aides are predominantly female. Also needed are further explorations using longer and more intensive exposure to non-stereotyped materials, the current study having demonstrated once again the ineffectiveness of brief efforts. It would seem necessary, in order to justify the continued insertion of egalitarian books into pre-school programs and to guide the effective use of such materials that evidence be gathered demonstrating the long term effects of this literature and detailing those variables which may enhance its positive effects upon behavior.

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## Appendix A

## Sample Permission Letter to Parents

Dear \_\_\_\_\_,

I am a graduate student in Clinical Psychology at ASU. During the next two months I will be completing my thesis, working with pre-school children at local day care centers. I would like to have permission to include your child in my study.

In this project I will be trying to find out how two different types of children's books effect pre-schoolers. Specifically, I will be looking at the effects of these books upon the children's choices of toys, activities and playmates. There will be no changes in the normal routine of the day care center and the only individual testing will be carried out in three brief periods of no more than ten minutes each, spread out over a six week period.

If you have any questions concerning this study, I will be happy to discuss it with you in person. I may be reached through the day care or by calling 297-4201. Please indicate if you are willing to have your child participate by signing in the space provided below. This letter may be returned to the day care center at your convenience. Your co-operation is greatly appreciated.

Following the completion of the study, the results will be available through the day care center. No information regarding individual children will be available.

Sincerely,

Author's Signature

I give my permission for my child to participate in the study described in the above letter.

(sign) \_\_\_\_\_

## Appendix B

## Instructions for Administration of Blank Card It Test

Introduction: "Let me tell you about the game we're going to play. See this card? There's nothing on it (turning it over), but let's pretend there's a picture on it. OK? Let's make-believe there's a picture of a child on it. And let's play like the child's name is IT. Hello, IT, how are you today, IT? (E talking to the card and laughing.) Here, you can hold IT. Now, let's show our make-believe child whose name is IT some pictures of toys and see which ones IT likes best." (If the child asks about the sex of IT, E says, "Let's just say IT's a child and you can play like IT's either one if you want to." As the sixteen cards are arranged, they are named by E and S to be sure each is recognized.)

Toy Pictures Section: "These are all nice toys, aren't they? Now, let's play like IT could play with all of these toys. Which toy do you think IT would like best?" (As each toy is selected, either E or S turned the card over in order to make remaining selections easier.) "OK, look at ALL the toys now and pick out another one IT likes the very best." (Repeat until eight choices are made.) "OK, fine. Now let's look at some other pictures."

Eight Paired Pictures Section:

- a) Indians: "Let's play like IT could be an Indian. Which Indian would IT rather be?"
- b) Clothes: "Let's play like IT could have some new clothes. Which clothes would IT rather have?"
- c) Sewing-Airplane: "Here are things to use in making an airplane and in sewing a tea towel. Which would IT rather do?"
- d) Face articles: "Here are things to use on our face. Which would IT rather play grown-up with?"
- e) Mechanical tools and household objects: "Here are some things to use in washing and ironing and in fixing things that are broken. Which would IT rather work with?"
- f) Shoes: "Which shoes would IT rather play grown-up with?"
- g) Children playing: "Here are some pictures of children playing together. Which picture would IT rather be in?"
- h) Building tools and baking articles: "Here are some things to bake and cook with and some things to build with. Which things would IT rather work with?"

Four Child-Figures: "Here are some pictures of children. Let's play like IT could be any one of these children it wanted to be. Which one would IT rather be?"

## APPENDIX C

## Non-sex Stereotyped Children's Books

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