SEX-ROLE SOCIALIZATION THROUGH CHILDREN'S PICTURE BOOKS IN PRESCHOOL CHILDREN

Thesis for the Degree of M. A. MICHIGAN STATE UNIVERSITY MARGARET A. BROWNING 1974

THESIS



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ABSTRACT

SEX-ROLE SOCIALIZATION THROUGH CHILDREN'S PICTURE BOOKS IN PRESCHOOL CHILDREN

By

Margaret A. Browning

Statement of Purpose

The purpose of this study was to measure the influence of children's literature on sex-typing. The investigator was interested in whether or not preschool children consistently exposed to picture books describing either traditional or nontraditional sex-roles would change their sex-role typing in accordance with treatment.

Design of the Study

The study utilized three laboratory preschool classrooms at Michigan State University. Each classroom was divided randomly in half for administration of the two treatments. Prior to treatment, the Browning Flannel Board Sex-Typing Test, consisting of ten headless flannel board figures representing five traditional male and five traditional female occupations or activities, was administered to measure the children's sex-role typing. The figures were neutral sexually; the children were asked

to complete the figures by adding a male or female head. Children were then read books, for a three-week treatment period, of either a traditional or nontraditional nature. Children were then administered a posttest, using the same Browning Flannel Board Sex-Typing Test employed as the pretest.

Major Findings of the Study

- 1. Children exposed to List I, the nontraditional literature, became more nontraditional in their sex-typing of figures while children exposed to List II, the traditional literature, became more traditional in their sex-typing of figures.
- Younger children were less stereotyped in their responses than older children.
- 3. Younger children were changed more by the treatment than the older children.
- 4. Boys showed greater traditional sex-typing of male figures than girls did. Boys, however, saw female figures less traditionally than girls did.
- 5. The traditional male occupations or activities were more sex-typed by the children than the traditional female occupations or activities.

6. The number of male heads chosen was greater than the number of female heads chosen on the pretest.

In addition to these findings, implications of these findings and recommendations for further study were discussed.

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Ву

Margaret A. Browning

A THESIS

Submitted to

Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

College of Human Ecology

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This thesis is dedicated with love to my parents,
Mr. and Mrs. Robert C. Browning.

ACKNOWLEDGMENTS

I would like to express my sincere appreciation to Dr. Vera Borosage, my major professor, for her patient guidance and warm interest in the construction and writing of this thesis.

To my committee members, Dr. Margaret Bubolz,
Dr. Eileen Earhart and Dr. Donald Melcer, I am grateful
for their time, interest and encouragement.

My sincere gratitude is extended to Mary Andrews; without her help, analysis and interpretation of the data would not have been possible. I always will value highly the time, helpful suggestions and warm support she gave to me.

Fondly, I would like to thank Jeanette Mason, my tester, and Mary Ann Batchelder, a special friend to my thesis. Both of these women consistently offered me loving support and guidance.

To the five child development experts who rated my Flannel Board Sex-Typing Test, Suzanne Franzini,

Betty Garlick, Donna Howe, Betty Stapleford and Alice
Whiren, I offer my thanks and appreciation.

And finally, I would like to thank the teachers who cooperated in this study, Anne Ewald and Jane Provan.

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CHAPTER I

INTRODUCTION

Julia Sherman asks the key question, "Shall we socialize females to be competent or to be feminine?" (Sherman, 1972, p. 1). Reviews of research related to the intellectual competence and emotional health of females report that female socialization opposes training in intellectual achievement and motivation as well as is inimical to a healthy emotional state (Heilbrun, 1965, 1968; Heilbrun & Fromme, 1968; Sherman, 1972).

In terms of intellectual functioning, Sontag (1953) found that children whose IQ improved with age were competitive, self-assertive, independent, and dominant in their interaction with other children. Passive, shy, and dependent children had declining IQ scores. Jacklin and Maccoby have concluded that sex differences in intellectual functioning are a result of sex differences in independence training (Jacklin & Maccoby, 1972; Maccoby, 1966).

Cohen (1966) reports that the traditionally passive, dependent, and thus, feminine woman is most

often inadequate as a sexual partner, wife, and mother.

Marks (1961) found that the feminine woman, as defined by

our culture to be dependent and passive, is the most

frequent type of mother bringing children to the childquidance centers.

Passive-dependency, then, is not supportive of positive mental health nor does it seem conducive to females contributing to their society in either traditional or nontraditional roles. Peskin (1968) found women in his survey that were rated as possessing masculine characteristics in terms of being independent and action-oriented were also rated as more maternal, attractive, and competent in their sex-role than women rated as traditionally feminine.

What, then, are our goals and expectations for children in our society? Kagan (1964) describes the female sex-role as inhibited in terms of aggression, sexual desires, nurturance, attractiveness, emotional responsiveness, and passivity with men. He describes the male sex-role as dominant, physically and sexually aggressive, nonnurturant, and independent. Rosenkrantz and others surveyed college students in an attempt to define the sex-role standards for males and females in our society. They found females were to be talkative, gentle, tactful, perceptive, religious, appearance— and security-conscious, and expressive. They found males

were to be aggressive, independent, objective, dominant, active, logical, direct, self-confident, defensive, and decision-oriented (Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968, p. 291).

Predictably, the sex-role standards of our society are reflected in the sex-role socialization processes of our young children. Good (1974) found infants from 19 through 24 months of age making sex-role preferences during a toy-preference test. Brown (1956) found children entering kindergarten able to identify with the appropriate sex-roles.

Children not only learn their sex-role, but they are socialized to accept what the worth of each of the sexes is and what is appropriate behavior for each sex. Hartley (1959) found eight-year-old boys describing girls as neat, clean, quiet, gentle, and fearful; and adult women as unintelligent, ineffective, unadventurous, nasty, and exploitive. In another study (Hartley, 1960), she found children identifying the primary feminine role as housekeeping and the primary masculine role as wage earning.

It does not seem, then, that basic developmental goals for children such as learning to express and identify emotions or feelings, developing large and small motor skills, understanding and controlling the physical world, developing the thinking process, and

developing resourcefulness and independence are goals for all children in our society.

The sex-role distinctions made for these goals are clearly defined through children's picture books.

From the moment your daughter begins to read, she uses books to find out about the world. [And]
. . . she is learning some discouraging facts about being a girl. Girls, she discovers, are fearful, docile, foolish and sometimes downright stupid. Girls are dependent upon other people—usually men-for motivation. Girls stand and watch while their brothers build scooters and race down the streets; they tag after their brother and their brothers' friends but they can't quite keep up (Miles, 1971, p. 152).

Key succinctly describes the general atmosphere in children's literature today as, "Boys do, girls are" (Key, 1971, p. 167).

With the exception of the present study, the influence of children's books upon children and their sex-role typing has not yet been empirically studied. Key and other educators feel, however, that children's books do have a great influence in the shaping of attitudes, beliefs, and self-concepts in regard to sex-roles (Heyn, 1969; Key, 1971; Miles, 1971; Nilsen, 1971; Weitzman, 1972; West, 1971; Staven, 1971).

Statement of Purpose

The general purpose of this study, then, was to measure the influence of children's literature on sex-role typing. The investigator was interested in whether or not children consistently exposed to either traditional

or nontraditional literature would change their sex-role typing in accordance with treatment. The Flannel Board Sex-Typing Test was used as a pretest and posttest measure to determine change.

Statement of Major Hypotheses

There were six hypotheses researched in this study. The major hypothesis was that children exposed to nontraditional literature will become more nontraditional in their sex-typing of figures while children exposed to traditional literature will become more traditional in their sex-typing of figures.

The six hypotheses researched, then, were:

Hypothesis I

Children exposed to List I, nontraditional literature, will become more nontraditional in their sex-typing of figures while children exposed to List II, traditional literature, will become more traditional in their sex-typing of figures.

Hypothesis II

Children from 32-47 months of age will be less sexrole stereotyped in their responses than children from 48-72 months of age.

Hypothesis III

Children from 32-47 months of age will show greater change in sex-role stereotyping as a result of the treatment conditions than children from 48-72 months of age.

Hypothesis IV

Boys will show greater traditional sex-typing than girls.

Hypothesis V

The traditional male occupations or activities will be more sex-typed by the children than the traditional female occupations or activities.

Hypothesis VI

The number of male heads chosen will be greater than the number of female heads chosen on the pretest.

Assumptions

Two major assumptions were made for this study. They were:

- 1. Children's sex-typing can be measured by the Flannel Board Sex-Typing Test.
- 2. Children's literature contributes to the acquisition of sex-typing and sex-typed behaviors.

Limitations of the Study

The major limitations of this study included the sample size and selection, the length of treatment, and the measure used to determine sex-role typing.

Due to the nature and scope of this study, the sample was relatively small and nonrandomly selected,

eliminating the possibility of generalizing the results across class, race, and educational boundaries.

paratively short and dictated by two main factors: the unavailability of nontraditional literature needed for treatment, and the improbability of imposing the treatment and its restrictions on a university training classroom for longer than five weeks. The study is also limited by the lack of control over the other environmental and home factors influencing the children during the treatment period in regard to their sex-typing.

The measure used follows the example of other toy, activity, and sex-preference tests (Brown, 1956; De Lucia, 1963; Rosenberg & Sutton-Smith, 1959). These tests have been severely criticized by Kohlberg on eight points outlined in the review of literature. Kohlberg's criticisms of masculinity-femininity preference tests in terms of their lack of relation to parental models and the presence of a same-sex parent model in the home are especially applicable to this study.

The final limitation of the measure is that it has no formal validity. The instrument was checked on a test re-test reliability score to establish the neutrality of the figures and the recognition of the male and female heads by the children. Other reliability

tests such as internal consistency were impossible to use on the instrument as there were no right or wrong answers.

Definition of Terms

Nontraditional female sex-role. -- For the purpose of this study, nontraditional female sex-role will be defined in a limited and specific sense as the traditional male role, i.e., dominant, independent, active, aggressive, emotionally inhibited, task-oriented, and instrumental.

Nontraditional male sex-role.--For the purpose of this study, nontraditional male sex-role will be defined in a limited and specific sense as the traditional female role, i.e., submissive, dependent, passive, service-oriented, expressive, nurturant, and emotional.

Traditional female sex-role. -- The traditional female role as defined by Kagan and others determines females to be passive, nurturant, emotional, expressive, dependent, submissive, and service-oriented (Kagan, 1964; Mussen, 1971; Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968).

Traditional male sex-role. -- The traditional male role as defined by Kagan and others determines males to

be active, aggressive, dominant, independent, taskoriented, instrumental, and emotionally inhibited
(Kagan, 1964; Mussen, 1971; Rosenkrantz, Vogel, Bee,
Broverman, & Broverman, 1968).

Older children. -- For the purposes of this study, older children arbitrarily are defined in relation to overall sample age as children from 48 to 72 months of age.

Younger children. -- For the purposes of this study, younger children arbitrarily are defined in relation to the overall sample age as children from 32 to 47 months of age.

Sex-typing. -- Sex-typing, as defined by Mischel, is "the process by which the individual acquires sex-typed behavior patterns: first he learns to discriminate between sex-typed behavior patterns, then to generalize from these specific learning experiences to new situations, and finally to perform sex-typed behaviors" (Mischel, 1966, p. 57).

For the purpose of this study, traditional and nontraditional sex-role stereotyping are terms used to describe the scores on the Flannel Board Sex-Typing Test.

A low score on the flannel board test indicates traditional sex-typing as defined by the definitions of the

traditional roles in this study, and a high score indicates nontraditional sex-typing as defined by the definitions of nontraditional roles in this study.

Overview

The following chapter will be a review of the literature in the following areas: (a) sex-role socialization theory, including the sex-typing process and the sex-role standard, (b) assessment of sex-role differences in young children, and (c) children's literature as a sex-role socialization tool. The third chapter reviews the methods procedures including a description of the sample, a description of the measure and treatments, design of the study, and general procedure. The fourth chapter is an analysis of the data. The fifth chapter includes the summary, discussion, implications, and recommendations for further studies.

CHAPTER II

REVIEW OF LITERATURE

In this chapter the literature is reviewed by considering the issues of (a) sex-role socialization theory, including the sex-typing process and the sex-role standard, (b) assessment of sex-role differences in young children, and (c) children's literature as a sex-role socialization tool.

Sex-Role Socialization Theory

The Sex-Typing Process

Mussen views sex-typing as a "process by which the individual develops the attributes (behavior, personality characteristics, emotional responses, attitudes, and beliefs) defined as appropriate for his sex in his own culture" (Mussen, 1969, p. 708). Sex-typed behaviors, then, are those "that typically elicit different rewards for one sex than for the other" (Mischel, 1966, p. 56).

There has been a great deal of controversy concerning the extent of the influence which biological or cultural forces play in the acquisition of sex-typed behaviors. Rosenberg and Sutton-Smith, however, use an ontogenetic approach in dealing with sex-role development. Rather than emphasizing biological or cultural origins in their framework of sex-role development, they integrate the genetic and environmental factors in six areas: (a) comparative psychology, (b) psychoanalysis, (c) biology, (d) social-learning theory, (e) sociology, and (f) anthropology. Each theory in sex-role development is partially correct, providing a useful perspective of the entire question.

Thus, summarizing, Rosenberg and Sutton-Smith assert that:

Sex role identity is for the present authors a transactional question involving the gross controls of the media (heredity and culture) and the five controls of the unit (the psychosexual individual) functioning within the limits of those media (Rosenberg & Sutton-Smith, 1972, p. 7).

Social-Learning Theory

The basis of the social-learning theory in terms of sex-role development is that sex-appropriate responses are learned through reward and punishment. Thus, sex-appropriate responses are rewarded, and hence repeated and generalized, while sex-inappropriate behavior is punished and hence extinguished. The social-learning theory includes two specific processes—imitation and identification. The differences between these two are debatable. Bandura and Walters (1963) maintain that the

only difference between the two processes is one of labelling, "imitation" being the term used in experimental psychology and "identification" being the term used in personality theories. The two terms will be discussed here as two processes, however, as identification stems from psychoanalytic theory.

Imitation

Traditionally, imitation is the basis of social-learning theory. Though the why and how of the imitation process has not been answered to the satisfaction of social-learning theorists, the simplicity of the theory leads to its wide acceptance and its subsequent integration into popular child-rearing techniques.

Imitation has also been called observational learning, vicarious learning, and modeling. All of the terms are descriptive of the process; through imitation a child acquires sex-typed responses that are reinforced or extinguished by his/her caretakers on the basis of their appropriateness.

Kagan lists three factors to be considered when predicting the degree of sex-appropriate behavior to be acquired through imitation: " . . . a) the degree of identification with the same-sexed parent, b) the degree of sex-typed behavior displayed by each parent, and c) the pattern of rewards issued by each parent" (Kagan,

1964, p. 151). Bandura and Huston (1961) also found that powerful and nurturant models facilitated imitation.

Identification

The main difference between imitation and identification seems to lie in the child's perception of his/her model. During the imitation process, the child may acquire the behavior of a number of models. During the identification process, however, the child acquires behaviors without "specific training or direct reward," but rather through an intimate relationship with his/her model with whom he/she feels he/she shares the same attributes and feelings (Mussen, 1969, p. 718).

The concept of identification originally was developed by Freud and stemmed from his Oedipus complex theory. The theory holds that the young boy has strong feelings of love towards his mother and, therefore, begins to see his father as a competitor and rival for his mother's love. The father becomes an object of envy and hostility first, and then fear, as the boy begins to feel the father will castrate him in retaliation. The resolution of this Oedipal conflict comes with the boy's realization that he cannot win against his father, so he identifies with him. The young girl, on the other hand, identifies with her mother out of fear of losing her love and a dependency need.

Maccoby (1959) sees identification as synonymous with role-playing, its purpose being to practice significant adult behavior. She lists two factors that determine the strength of a child's identification:

(a) the frequency and the degree of intimacy in the child-model relationship, and (b) the degree to which the model controls the resources which are valuable to the child.

Cognitive-Developmental Theory

Kohlberg (1966) has developed a theory concerning the development of sex-typed behaviors and their related attitudes that is closely tied to the general cognitive-developmental theory. His theory "assumes that basic sexual attitudes are not patterned directly by either biological instincts or arbitrary cultural norms, but by the child's cognitive organization of his social world along sex-role dimensions" (Kohlberg, 1966, p. 82).

Kohlberg hypothesizes that the child's development of sex-typing is a part of his/her basic cognitive growth involving the qualitative changes with age in the child's modes of thinking, perception of the physical and social world, and perception of self and his/her sex-role. Some observational learning plays a part in the development of the sex-role, but it is mainly from the child's cognitive activity that the child's sex-role develops.

The child begins organizing his/her world by recognizing his/her sex label, i.e., "boy" or "girl" at a very early age. The label, the subsequent activities, values, and attitudes attached to it by society serve as a guide to the child. "I am a boy, therefore I want to do boy things, therefore the opportunity to do boy things (and to gain approval for doing them) is rewarding" (Kohlberg, 1966, p. 89).

Kohlberg neatly identifies the cognitivedevelopmental process in eight steps:

- 1. Gender identity or self-categorization as a boy or girl is the basic organizer of sex-role attitudes.
- 2. This gender identity results from a basic physical reality judgment made relatively early in the child's development.
- 3. While this cognitive judgment is crystallizing into a conception of a constant, or categorical, gender identity during the years two to seven, the child's sex-role and body concepts may be influenced by certain environmental variables, with significant consequences for current and later sex-role attitudes.
- 4. Basic self-categorizations determine basic values. Masculine-feminine values develop out of the need to value things that are consistent with or like the self.
- 5. Basic universal sex-role stereotypes develop early in young children. These stereotypes arise from the child's conceptions of body differences, conceptions that are supported by visible differences in the sex assignment of social roles.
- 6. These basic sex-role stereotypes, then, lead to the development of masculine-feminine values in children. Although in general these stereotypes award superior prestige-competence values to the male role, they also award a number of superior value attributes to the female role. Since an awareness of these prestige values and stereotypes develops in the years four to eight, there is a tendency for both sexes to attribute greater power and prestige to the male role . . .

- 7. After masculine-feminine values are acquired, the child tends to identify with like-sex figures, in particular the like-sex parent . . .
- 8. While identification with a like-sex person, and the formation of sex-role values in general, may be facilitated and consolidated by appropriate parental behavior, this process seems to take place without the presence of a same-sex parent, and under a variety of child-rearing conditions . . . (Kohlberg, 1966, pp. 164-165).

The Sex-Role Standard

Now that we have discussed how sex-roles are acquired, it seems important, especially to this study, to identify what the sex-role standards are for the male and female roles in our society.

A sex-role standard "refers to a learned association between selected attributes, behaviors, and attitudes, on the one hand, and the concepts male and female, on the other. In effect, a sex role standard summarizes the culturally approved characteristics for males and females" (Kagan, 1964, p. 139).

Kagan (1964) discusses three core areas in terms of sex-role standards: physical attributes, overt behaviors, and covert attributes, i.e., feelings, attitudes, motives. Reviewing the literature, Kagan summarizes the sex-role standard in regard to these three areas.

Preadolescent and adolescent American girls feel that an attractive face, a hairless body, a small frame and moderate-sized breasts are the most desirable

physical attributes, while boys desire height, a large muscle mass, and facial and body hair.

Overt behaviors prescribed by society for women/
girls include an interest in clothes, dolls, babies;
submissiveness to males, inhibition of sexual desire,
and the cultivation of domestic skills. Overt behaviors
seen for men/boys are the development of skill and
interest in gross motor and mechanical tasks, interpersonal dominance over men and women, initiation of
sexual behavior, sexual conquests, and the acquisition
of money and power.

Finally, the covert behaviors Kagan lists for women include inhibition of verbal and physical aggression and the development of dependent, passive, conforming and nurturant feelings, attitudes, motives, and beliefs.

On the other hand, boys are encouraged to be verbally and physically aggressive, independent, active, non-conforming, and nonnurturant.

Assessment of Sex-Role Differences in Young Children

Howe (1971) argues that children learn their appropriate sex-roles before they are eighteen months of age. Familiar patterns such as roughhousing male infants, cradling female infants, and choosing sex-related colors and toys lay the foundation for sex-typed expectations.

Moss (1967) observed mother-infant interactions with 30 first-born infants at three weeks and again at three months of age. He found that mothers behave more contingently with girls than boys; mothers stimulate and arouse male infants more than female infants; and that mothers imitate female infant vocalizations more than they do male infant vocalizations. Moss does not attempt to determine whether the sex of the infant is the cause or the effect of the differing mother-infant interactions. He does present the circular argument that as mothers respond more contingently to female infants the female infants, in turn, become more responsive, reinforcing the mother's behavior. In terms of males, the mother's less responsive behaviors encourage aggression and a nonresponsiveness to socialization.

Good (1974) studied 24 infants from 19 through 24 months of age for sex-role preferences, using her own toy preference test. She found children did exhibit traditional sex-role preferences.

Brown's IT Scale for Children (1956) introduced the toy preference test as a measure for determining a child's sex-role standard. The IT Scale requires the child to choose toys and activities which IT (a neutral cardboard figure) would like best. Testing children entering kindergarten, he found that they were able to make sex-role distinctions and express sex-role

preferences. Boys identified strongly with the male role, and girls with the female role, though not as strongly. Brown also found evidence for the argument that the male role is more highly valued than the female role in this study. Among 16 sex-typed toy object items, 70% of the boys' choices were masculine toys, and only 49% of the girls' choices were feminine toys.

There have been a number of studies showing children develop sex-role preferences by three years of age (Hartup & Zook, 1960; Ward, 1968; Schell & Silber, 1968; Fagot & Patterson, 1969). Ward's (1968) work showed that boys identified more strongly with their sex-roles than girls, and older children were significantly more sex-typed than younger children within his study.

Munger (1971) worked with nursery school children from four to five years of age, using her own toypreference test. Her results showed that boys identify
more strongly with male roles than girls with female roles.
Ward's (1969) work with sex-role typing, using his toypreference test, showed children to be sex-typed by five
years of age. He also found that girls identify with
their sex-role earlier than boys, which conflicts with
his earlier findings (Ward, 1968) and other research
(Brown, 1956; Munger, 1971).

Research conflicting with earlier work is reported by Rabban (1950). Using a toy-preference test

and an identification measure (boy or girl doll preference, wishing to be like mother or father) with children from 30 months to eight years of age, he found no sex-typing among three-year-olds. From four years and upward, males and females identified with their sex-roles. Girls did not identify as strongly, however.

Hartley (1959) found that by the time children are four years old, they understand the primary feminine role to be housekeeping, and the primary male role to be wage-earning. She reports, too, that whenever women are earning wages, children describe them as temporarily helping out the family, even if their jobs are permanent and full-time.

De Lucia (1963) developed her own toy preference test, and her results strongly supported Brown's 1957 work. In testing 113 children of each sex in grades k-4, she found boys identifying consistently with the male role while girls moved steadily from an equal preference in sex-roles to a feminine one.

Rosenberg and Sutton-Smith (1959) devised a game preference test. Their study involved 756 subjects in grades 4-6. Their results showed boys preferred games involving forceful physical contact, dramatization of conflict between male roles, propulsion of objects through space, and complex team games. Girls, on the other hand, preferred games involving the dramatization of static

activity, verbal games, ritualistic noncompetitive games, choral and rhythmic games, and games with a central role for one player.

While Brown's work with the projective-figure toy and activity preference test has led the way for many similar measurements to be developed in regards to sex-role preferences, it should be noted that his technique and measure have been strongly criticized.

Kohlberg and Zigler (1961) asked children to indicate whether they thought IT was a boy or a girl. Half of the girls and almost half of the boys thought IT was a boy. Hartup and Zook (1960) referred to IT as a "her" with girls, and found girls made significantly more feminine choices than in previous studies. When boys were tested, IT was referred to as "him," but there were no differences in the boys' responses as compared to previous studies.

Lansky and McKay (1963) concealed the IT figure in an envelope and asked children to guess its sex.

More boys guessed the figure to be feminine than girls guessed it to be masculine.

Although Brown (1962) argues that the IT figure may be thought of as male because of the strong masculine dominance in our culture, the validity of the supposedly neutral figure toy and activity test must be questioned.

Kohlberg (1966) goes even further in criticizing the popular masculinity-femininity preference tests. He lists eight criticisms of such tests:

- 1. These tests should measure a general learning of sex-role norms. Items in each test should correlate positively with one another, and tests should correlate positively with one another. In fact, correlations between sex-typing items and between tests are extremely low among adolescents and adults, though they are somewhat higher among young children.
- 2. The tests should measure an attitude that is not easily "fakeable."
- 3. The tests should relate to other measures of socialization, norm internalization, or social adjustment. In fact, no general correlations are found between these tests and measures of morality or social adjustment.
- 4. Age development on these measures should be in the direction of increased masculinity-femininity or increased conformity to cultural prescriptions. In fact, at some ages masculinity responses in males, and femininity responses in females, increase; at others they decrease.
- 5. The tests should measure a developmentally stable or irreversible attitude. In fact, it is difficult to predict an individual's masculinity-femininity score on the basis of a test given earlier in his development.
- 6. Scores on masculinity-femininity tests should be related to parental expectations in this area. Studies do not indicate such a relationship.
- 7. Scores on these tests should be related to the masculinity or femininity of parental models. Studies do not indicate such a relationship.
- 8. Scores on these tests should be related to the presence in the home of a same-sex parent model. Studies do not indicate such a relationship (Kohlberg, 1966, pp. 109-110).

Children's Literature as a Sex-Role Socialization Tool

Observational learning from live and symbolic models (i.e., films, television, and books) is the first step in the acquisition of sex-typed behavior (Mischel, 1966, p. 57).

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Children's picture books are an important sex-role socialization tool as they are a vehicle for the presentation of societal values to the young child. Books provide children with examples of adult and child behavior, role models, societal norms, and cultural values.

The Child Study Association (1969) stated that a book's emotional and intellectual impact on a young reader needs to be seriously considered. The Association urged that children's books present positive ethical values.

Nilsen (1971) gave as an example the recent flood of picture books on black or minority children as legitimizing the socialization and educational powers of children's books.

Heyn (1969) stated that children's books influence children in terms of the development of the senses, idea reinforcement, and knowledge expansion. Cianciolo (1973) sees the text and illustrations of picture books as a medium for helping children to view themselves "in an adequate and positive manner" (Cianciolo, 1973, p. 8). Shafer (1965) reports that the important effects of reading include the stimulation and reinforcement of views already held by the reader and the development of selfesteem through character identification. Pilgrim and McAllister (1960) support Shaffer's views; they see one of the most important functions of literature as being the presentation of roles and role models for reader identification.

In regard to the social-learning theory, it seems that children's picture books would be an important sex-role socialization tool as Mischel implies.

In terms of sex-role socialization and children's picture books, it is indeed unfortunate that children's books present a distorted view of female roles in our society, from both the basic principles of child development and a reality standpoint.

Weitzman, Eifler, Hokada, and Ross (1972) studied sex-roles in the highly regarded picture books awarded either the Caldecott Medal or the Newbery award. They also studied the Little Golden Books and popular etiquette books for children. They used only those Golden Books which had sold over three million copies or which were "best sellers." Weitzman et al. felt these sample choices were representative of children's literature because of either (or both) their prestige in literary and educational circles or their popularity. They divided their findings into three categories: the invisible female, the activities of boys and girls, and the activities and roles of adult men and women in picture books.

In terms of the invisible female, Weitzman et al. found females under-represented in the titles, central roles, pictures, and stories of the sample books they surveyed. They found most children's books to be about

boys, men, and male animals, centering on traditionally male adventures. Weitzman et al. found most pictures showed men either singly or in groups. It seems that even when pictures of women were found in books, their roles were insignificant.

Weitzman et al. state that as women comprise 51% of our population, they should be represented in roughly half of the pictures in children's books. In their sample of 18 Caldecott winners and runners-up from 1967-1972, however, they found 261 pictures of males compared to 23 pictures of females or a ratio of 11:1. The bias for male and female animals pictured was even greater, 95:1.

Since the inception of the Caldecott award in 1938, the winners show an 8:3 male/female title ratio. There have been eight winners with titles featuring male names, three winners with titles featuring female names, one winner with both a female and male name in the title, and 22 winners without the names of either sex in their titles. There have been 49 books that have received the Newbery award since 1922. Out of these 49 books, 20 have had titles with male names, six have had titles with female names, and the balance has had titles without the names of either sex.

As their representation in pictures and titles indicates, females are not written about very often.

In the sampling of the 18 Caldecott winners and

runners-up from 1967-1972, there were no women at all in five of the books, or close to one-third of the sampling. Often when female characters are part of a story, they are insignificant or inconspicuous. In Keats' (1969) Goggles, the one girl in the story is shown playing quietly in a corner. In The Sun and the Moon by Dayrell (1968), the wife helps to carry wood but never speaks. Females are shown three times in The Fool of the World by Ronsome (1968); however, neither the mother nor the princess is defined or a developed character in her own right. Their pictures in the book reflect their insignificance. The mother is shown waving good-bye, and the princess is shown looking out the castle window and as a part of a wedding scene.

While there are many recent Caldecott books offering exciting adventures for children, the majority of them center around males and male adventures. Seashore Story (Yashimo, 1967), Sylvester and the Magic Pebble (Steis, 1969), Goggles (Keats, 1969), Thy Friend, Obadiah (Turkle, 1969), A Story, A Story (Haley, 1970), and The Angry Moon (Sleator, 1970) are all great male adventures. Only two stories of the 18 Caldecott books from 1967-1972 were about girls and their adventures:

Sam, Bangs, and Moonshine by Ness (1967) and The Emperor and the Kite by Yolen (1967). Distressingly enough, the situation is becoming worse, not better. In the

years prior to 1967, there was an 11:9 male/female character ratio in the Caldecott books. An analysis of Caldecott books from 1967-1972 shows, however, a 7:2 male/female character ratio.

Weitzman et al. summarized their findings on the differences between male/female activities in picture books simply. They found boys to be active and girls to be passive. Boys engaged in active, sometimes riotous play: jumping, running, racing, swimming, sliding, and climbing. Little girls, however, observe. For example, in Sam, Bangs and Moonshine (Ness, 1967) the little girl, Sam, stays inside and directs the activity of the book through Thomas, a little boy.

Little girls were found indoors more often than little boys. In the Caldecott books from 1967-1972, 48 male characters were shown indoors and 105 male characters were shown outdoors. From this same sample, 15 female characters were shown indoors and 26 female characters were shown outdoors.

Boys in these picture books were shown leading their female counterparts (The Angry Moon by Sleator, 1970) or rescuing helpless girls or animals. Boys were shown more often in play with their like-sex while girls in these picture books were shown in relation to other boys or men rather than in relation to their own sex.

Very Little Girl (Krasilorsky, 1962), were designed to teach that little children grow up to be big children. Following the development of the children in these books, the reader finds that the little boy grows up to catch butterflies, mow lawns, march in parades, visit the zoo, and hammer wood. The little girl, however, grows up to water rosebushes, stir cake batters, set tables, play nurse, take milk from the refrigerator, and feed her little brother.

The activities and roles of adult men and women in picture books is the third category Weitzman et al. explore. The picture books Weitzman et al. surveyed portrayed men as active and women as passive. The men were dominant in outdoor activities, while the women were seen almost exclusively indoors.

Men were found in various roles or occupations such as storekeepers, kings, spiders, gods, fishermen, policemen, soldiers, adventurers, fathers, cooks, and farmers. Women, however, were seen almost always as mothers. The picture books portrayed mothers in an unrealistic and limited fashion. Mothers do cook, wash, sweep, and clean. But, they also drive cars, read books, engage in volunteer activities, balance check books, mow lawns, fix things indoors and outdoors, play with their children, and take them to interesting places.

A simple and disturbing survey of adult women in picture books was done by Nilsen (1971). Of the 58 picture books for children on display at her local library, 25 had pictures of women somewhere in them. Of these 25 pictures, all but four of the women had aprons on.

The popular Hallmark books What Boys Can Be and What Girls Can Be by Walley show boys and girls playing in occupational roles. Walley writes that boys can be firemen, baseball players, bus drivers, cowboys, doctors, pilots, clowns, farmers, astronauts, presidents, and sailors. Girls can be nurses, models, actresses, secretaries, singers, brides, mothers, housewives, stewardesses, and teachers in nursery schools.

Stefflre (1969) analyzed primers and texts sold by six publishing houses for use in elementary schools in terms of their depiction of the female character. Characteristics studied were marital status, maternal status, and vocational status. A significant discrepancy in reality, particularly in the area of occupations, was revealed in her results. Stefflre concluded that children need to be exposed to a greater variety of female role models both within the family and the professional world.

Klein (1968) studied typing by occupation and sex of the main character in children's literature and how this affected reader interest and comprehension. He

found the available literature grossly under-representing females and their interests. He concluded that such under-representation limits what girls are able to learn and violates educational principles.

Key (1971) is not interested in the origin of the myths and prejudices she sees in children's literature, but rather in the fact that they continue to be "held by the majority of the members of society" and "are perpetuated in children's literature" (Key, 1971, p. 167).

Summary

The present chapter reviews current literature in the areas of (a) sex-role socialization theory, including the sex-typing process and the sex-role standard, (b) assessment of sex-role differences in young children, and (c) children's literature as a sex-role socialization tool. This literature was reviewed in an attempt to: establish the manner in which sex-roles are acquired; establish that sex-roles may be learned as early as three years of age and most likely by four years of age; and to establish that children's picture books do act as a socialization tool and that picture books generally present a distorted view of females and their roles.

CHAPTER III

METHODS

The method of this study was a field experiment.

This chapter is divided into five sections: (a) description of sample, (b) description of measure, (c) description of treatment, (d) design of study, and (e) procedure.

Description of Sample

The subjects were drawn from three preschool summer session classes; all three classes were from preschools affiliated with the Institute for Family and Child Study, Michigan State University, East Lansing, Michigan. The three classes were composed of mainly white, middle-class children. A third of the sample was composed of Michigan State University student families. The classes were nonrandomly selected.

There were 44 subjects; 25 boys and 19 girls. The children ranged in age from 32 to 72 months. The age distributions are shown by class in Table 1. For the purposes of this study, the terms "younger" and

"older" were operationally defined as 32 to 47 months and 48 to 72 months respectively.

Table 1
Younger/Older Age Distribution by Class*

_	Group			Total
Age	I	II	III	10ta1
32-47 mos. (Younger)	8		12	20
48-72 mos. (Older)	4	16	4	24

^{*}N = 44

The percentages of male and female subjects in the younger and older groups are shown in Table 2. Fifty-six percent of the boys and 32% of the girls were in the younger group. Forty-four percent of the boys and 68% of the girls were in the older group.

Table 2

Percentages of Male and Female Subjects in Younger and Older Groups

	Male	Female	
Younger	56%	32%	
Older	44%	68%	

The subjects were randomly placed in one of two treatment groups. The percentages of the total sample in each of the two treatment groups are reported in Table 3.

Fifty-two percent of the total sample was randomly placed in the nontraditional treatment group, and 48% of the total sample was randomly placed in the traditional treatment group.

Table 3

Percentages of Total Sample in Treatment Groups

	N-T	Т	
Percentage of Total Sample	52%	48%	

Note: N-T = Nontraditional; T = Traditional

The percentages of male and female subjects in each of the two treatment groups are shown in Table 4. Fifty-six percent of the boys and 47% of the girls were placed in the nontraditional treatment group. Forty-four percent of the boys and 53% of the girls were placed in the traditional treatment group.

Table 4

Percentages of Male and Female Subjects in Treatment Groups

	N-T	Т	
Males	56%	44%	
Females	47%	53%	

Note: N-T = Nontraditional; T = Traditional

The percentages of younger and older subjects in each of the two treatment groups are reported in Table 5. Forty-four percent of the younger children and 56% of the older children were exposed to the nontraditional treatment. Forty-eight percent of the younger children and 52% of the older children were exposed to the traditional treatment.

Table 5

Percentages of Younger/Older Subjects in Treatment Groups

	N-T	Т	
Younger	44%	48%	
Older	46%	52%	

Note: N-T = Nontraditional; T = Traditional

Description of Measure

A flannel board test, designed by the investigator, was used to measure the subject's sex-typing during a pretest and posttest situation. The rationale for the use of this measure rather than a toy-preference or projective-figure toy and activity test was based on the investigator's interest in measuring the effects of children's picture books on preschool children. A pictorial test, therefore, would be more appropriate than a toy-preference or projective-figure test.

The Flannel Board Sex-Typing Test consisted of ten headless flannel board figures. The figures were all dressed in similar clothing (tops and pants), and were not defined as male or female by physical characteristics. There were ten activities or occupations rated by five child development experts as representing five traditional male and five traditional female occupations or activities. Traditional female roles were defined as passive, nurturant and/or service oriented. Traditional male roles were defined as active, highly skilled and/or professional. The five traditional male occupations or activities were: farmer, firefighter, football player, doctor, and carpenter. The five traditional female occupations or activities were: parent (caretaker of young children), servant in restaurant (waitress), teacher of young children, grocery store cashier, and secretary. The figures were actively engaged in their occupations or activities and the flannel board pictures included their related materials, e.g., figure at a desk typing, football player running with football, etc. These ten figures were presented in random order.

Two warm-up figures representing a person running and a person waving hello were used to establish the subject's recognition of the male or female head and the interchangability of the neutral figure's sex.

The original flannel board test was done in color.

The colors used were not linked to either sex, e.g., pink and baby blue were not used, men or women did not wear respectively dark or bright colors.

The original flannel board test consisted of 12 x 14 inch flannel pieces mounted on cardboard. Appendix A roughly reproduces the flannel board test figures in black and white on a proportionally smaller scale to fit the paper and margin requirements of this study. The colors used for the figure's clothing are labelled. Reproductions of the heads used to complete the figures by the children are reproduced in black and white in their original size.

The Flannel Board Test was scored from one to ten using the following criteria: a score of ten equalled ten heads placed to complete all nontraditional figures, a score of nine equalled nine heads placed to complete nine nontraditional figures and one traditional figure, etc.

The investigator scored the test while the subject completed it, marking "M" or "F" on a score sheet not in the subject's view. A copy of the score sheet is in Appendix B.

Description of Treatment Conditions

Two reading lists of children's picture books appropriate for three- to five-year-old children were used in the treatment groups. List I consisted of

picture books that depicted male or female children and/or adults in roles contrary to traditional sex-role stereotypes of occupations or activities. In choosing the books for List I, the investigator found many of the available picture books with nontraditional figures depicted strongly traditional figures or centered on the unusual rather than the typical occupations or activities used in this study. The investigator, therefore, wrote four of the books used for the nontraditional treatment.

Appendix C contains the list of nontraditional literature used in this study and Appendix D contains the texts of the books written by the investigator.

List II consisted of picture books that depicted male or female children and/or adults in traditional sex-role stereotypes of occupations or activities. Appendix E lists the books used for the traditional treatment.

In choosing the books for Lists I and II, traditional female roles were defined as passive, nurturant, and/or service-oriented; while traditional male roles were defined as active, highly skilled, and/or professional. The nontraditional roles used were defined as opposite to the traditional roles. For the traditional treatment, there was at least one book read to reinforce the traditional stereotypes presented in the Flannel Board Test. Likewise, for the nontraditional treatment, there was at least one book read to reinforce the nontraditional

according to the Flannel Board Test. For example, a picture book about a woman farmer was read to the non-traditional group during treatment while a picture book about a male farmer was read to the traditional group during treatment.

Design of the Study

Each of the three classrooms received both the traditional and the nontraditional treatment; the classes were divided in half for treatment. The Flannel Board Sex-Typing Test was administered during the first week of the summer session, before the children were exposed to the treatment.

After the children were exposed to the treatment, the children were re-tested using the same Flannel Board Sex-Typing Test employed in the pretest to determine any change in their sex-role typing of occupations or activities.

Procedure

In order to test the children, the investigator followed two different procedures for parent permission. For one-third of the sample, the investigator obtained parent permission directly through research release forms specific to this study. For the remaining two-thirds of the sample, the investigator submitted her proposal for research to the Preschool Committee of the Institute

for Family and Child Study, Michigan State University,

East Lansing, Michigan. Approval for testing was then

granted by the Committee. General research release forms

granting the Committee power to approve research projects

had been signed by parents during preschool enrollment.

This study was carried out in three preschool classes operating on a five-week, four days a week, summer session schedule. The first and last weeks of the session for all three classes were used for the administration of the pretest and the posttest, The Flannel Board Sex-Typing Test. The remaining middle three weeks were used for the administration of the two treatments: List I, the nontraditional literature and List II, the traditional literature. The children were exposed to the treatment for 11 days, as one of the treatment days was eliminated by a holiday.

The children were read one story a day, four days a week for three weeks, in a small group situation. In all three classes, the children were randomly divided for treatment. The methodology used in dividing the group randomly for treatment involved first dividing the group according to sex, and then randomly dividing the sexes into the two treatment groups. Half of the children in each class were exposed to List I and half to List II. In any given day, the reader of both stories from List I

or List II was the same person. The reader was not necessarily the same, however, throughout the entire treatment period.

Administration of the Flannel Board Sex-Typing Test was done on an individual basis. The investigator and the subject sat next to one another at a table with the Flannel board test on the table. The figures were randomly ordered and presented to the subjects in the following manner: (a) warm-up figures; person saying hello and a person walking, (b) scored figures; farmer, parent, firefighter, football player, servant in restaurant, teacher of young children, doctor, carpenter, cashier, and secretary.

The investigator presented the figures in the order listed above, explaining each flannel board picture as they were presented, e.g., "Here is a farmer at work in the fields. Pick a head and put it on the farmer."

Every response given by the child was positively reinforced with a "good" or "that's fine." Appendix F includes the test script used by the investigator.

The investigator tested two of the three classrooms used in this study and trained a second person
for the testing of the third classroom. The person
trained was an education major, experienced with and
sensitive to young children. The investigator observed
the tester working as a follow-up and validation of the
training period.

All teachers involved in the three classrooms adopted, at the investigator's request, similar teaching and/or reading styles in regard to all literature experiences. In terms of the picture books read, teachers parroted the children's remarks or positively recognized them, e.g., "The father is going shopping . . . " or "That is right, David," etc. Discussion of the stories was encouraged in a matter-of-fact, accepting manner. For example, after a story about a girl football player, a teacher would say, "Are there any other girls in this class that play football?" rather than "Wasn't she a brave girl to play football?" In answer to children's questions about the story, teachers answered as honestly and to the best of their ability as possible. If specific remarks were made about the sex of the character(s), teachers replied with the bias that all people (male or female, etc.) are equal and equally qualified to perform any occupation or activity (given training). It should be noted that teacher cooperation within this study was extremely high.

A third reading list, List III (Appendix G), consisted of books that were neutral or without defined sex-roles for male or female humans or animals. These books were used prior to, after, and during the treatment period by the teachers for the purposes of story telling and providing the children with bookshelf material. The

investigator provided the teachers involved in the study with a suggested list of neutral books (Appendix F), though the teachers were free to choose their own neutral books according to the following criteria: (a) there were no human, animal, and/or plant males or females with defined sex-roles pictured or referred to in the story, and (b) educational books were acceptable if male and female adult and/or child models were equally represented in the pictures and the texts, e.g., both boys and girls shown using magnifying glasses, etc. The investigator suggested to the teachers that where the above criteria were met pictorially, but not in the text, the teachers could change the text appropriately, e.g., in reading a story about a fish that is referred to in the text as "he," read as "it."

Books from List III were used during the first and fifth weeks of the summer session and during the entire session on the bookshelves. Teachers were free to read books from List III during the treatment period if they wished picture books for additional literature experiences. In regards to any other literature experiences during the summer session such as fingerplays, songs, and flannel board stories, the criteria followed for List III were met as well.

Analysis

Analysis of Covariance, One-Way Analysis of Variance, and descriptive statistics. A probability level of p < .09 was judged significant in this study due to the small sample size and the shortness of the treatment periods.

CHAPTER IV

RESULTS

Hypothesis I

Children exposed to List I, the nontraditional literature, will become more nontraditional in their sex-typing of figures while children exposed to List II, the traditional literature, will become more traditional in their sex-typing of figures.

Using the pretest and posttest scores for total number of nontraditional choices, a Three-Way Multivariate Analysis of Covariance was used to analyze the data.

Treatment, classroom, and age were the independent variables in the first analysis.

Hypothesis I was partially supported by the results of this analysis. Though there was no significant three-way interaction between treatment, classroom, and age, there were significant two-way interactions of treatment by classroom (p < .0001) and treatment by age (p < .0140). In this section, treatment by classroom will be examined.

The results for the Three-Way Multivariate

Analysis of Covariance are reported in Table 6.

Although a significant main effect for treatment

Table 6 Three-Way Multivariate Analysis of Covariance

	Hypothesis Mean Square	F ratio	Degrees of Freedom	Level of Probability
<pre>3-way interaction (treatment, class- room, age)</pre>	3.2620	1.0061	1 & 33	.3232
2-way interaction (treatment x age)	21.865	6.7438	1 & 33	.0140
2-way interaction (treatment x class-room)	44.697	13.786	2 & 33	.0001
2-way interaction (classroom x age)	.2111	.0651	1 & 33	.8002
Group effect	4.181	1.289	2 & 33	.2890
Treatment effect	64.99	20.97	1 & 33	.0001
Age effect	1.686	.5200	1 & 33	.4760

Dependent Variable = Total Nontraditional Responses Independent Variable = Treatment, Classroom, Age Note:

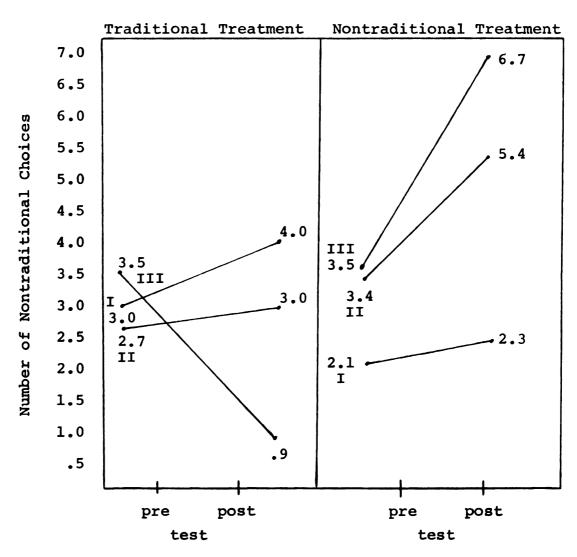
(p < .001) was revealed, a significant treatment by
classroom interaction indicates differential treatment
effects in different classrooms.</pre>

The treatment by classroom interaction for the pretest and posttest nontraditional choices using the unadjusted observed combined mean scores is shown graphically in Figure 1. Of those children receiving the traditional treatment, only children in classroom III became more traditional as predicted. The children in classrooms I and II did not respond as predicted, maintaining or slightly increasing in their traditional responses. Children receiving the nontraditional treatment in all groups increased in the number of nontraditional choices; thus supporting the research hypothesis.

Hypothesis II

Children from 32-47 months of age will be less sex-role stereotyped in their responses than children from 48-72 months of age.

A One-Way Analysis of Variance on the pretest nontraditional choice scores was used for analysis. Age was the independent variable. The pretest score was used to avoid the effects of treatment as change was not of primary interest, but rather initial behavior. The results of this Analysis of Variance are reported in Table 7.



Note: I = Classroom I
II = Classroom II
III = Classroom III

Fig. 1. Unadjusted Observed Combined Mean Scores for Pretest and Posttest Nontraditional Choices by Class-room

Table 7

A One-Way Analysis of Variance for Pretest Scores on the Number of Nontraditional Figures Chosen

Hypothesis	F ratio	Degrees of	Level of
Mean Square		Freedom	Probability
10.3705	3.5006	1 & 42	.0684

The observed cell means for younger and older children's nontraditional pretest figure choices are represented in Table 8. Younger children chose 3.6 non-traditional figures during the pretest while older children chose 2.6 nontraditional figures, a full point less than younger children. Hypothesis II can be supported as it would seem younger children responded in a less stereotyped manner than older children in this study.

Table 8

Observed Cell Means for Younger/Older Nontraditional Pretest Figure Choices

	Younger	Older	_
Pretest Figure Choices	3.6	2.6	

Hypothesis III

Children from 32-47 months of age will be changed more by the treatment conditions than children from 48-72 months of age.

The Three-Way Multivariate Analysis of Covariance for treatment, group, and age discussed under Hypothesis I reveals a significant interaction between treatment and age (p < \$\mathcal{D}\$140). The unadjusted observed combined means for pretest and posttest nontraditional choices by age are shown graphically in Figure 2. The younger children under the traditional treatment became more traditional, moving from an average of 3.6 nontraditional figure choices during the pretest to only 1.7 nontraditional figure choices on the posttest. Younger children, then, chose an average 7.4 traditional figures before the traditional treatment and 8.3 traditional figures after the traditional treatment. Under the nontraditional treatment, younger children moved from an average of 3.6 nontraditional choices to 5.7 nontraditional choices.

The treatments affected the older children also though not as dramatically. The older children moved from an average of 2.6 nontraditional choices to 3.1 nontraditional choices under the traditional treatment. This change does not support Hypothesis I (treatment effects), but it does support the hypothesis under discussion. Not only was the change in the older children less than the change in the younger children; under the traditional treatment, change was in the opposite direction as predicted in Hypothesis I. The older children did change to a more nontraditional typing

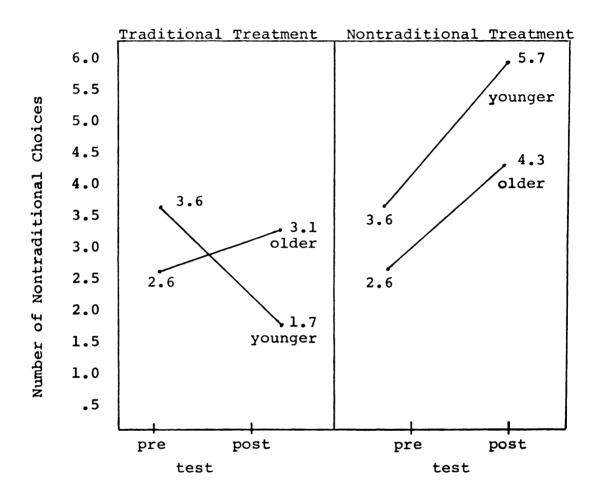


Fig. 2. Unadjusted Observed Combined Means for Pretest and Posttest Scores for Nontraditional Choices by Age

under the nontraditional treatment, moving from an average of 2.6 nontraditional choices to 4.3 nontraditional choices.

Hypothesis IV

Boys will show greater traditional sex-typing than girls.

A One-Way Analysis of Variance for Sex Differences using the pretest total nontraditional scores was used for analysis. This hypothesis cannot be supported by the data (p < .4668). The Analysis of Variance data are reported in Table 9.

Table 9

A One-Way Analysis of Variance for Sex Differences on Pretest Nontraditional Choices

Hypothesis	F ratio	Degrees of	Level of
Mean Square		Freedom	Probability
1.7091	.5394	1 & 42	.4668

The observed cell means are reported in Table 10.

Again, the data do not support the hypothesis, boys

choosing an average of 3.2 nontraditional figures as

opposed to girls choosing an average of 2.8 nontraditional

figures.

Additional analyses were implemented to see if boys and girls responded differently to male and female figures. Total nontraditional choices combines both male and female figures.

Table 10

Observed Cell Means for Boys and Girls on Pretest
Nontraditional Choices

	Males	Females	
Pretest Nontraditional Choices	3.2	2.8	

Two One-Way Analyses of Variance for Sex Differences for total male and total female pretest traditional choices were significant. The data for sex differences on the pretest total of female traditional choices (p < .0099) are reported in Table 11.

Table 11

A One-Way Analysis of Variance for Sex Differences on Pretest Total of Female Traditional Choices

Hypothesis	F ratio	Degrees of	Level of
Mean Square		Freedom	Probability
9.5602	7.3176	1 & 42	.0099

The observed cell means for sex differences on the pretest total of female traditional choices are reported in Table 12. Boys chose fewer traditional female figures on the average (2.5) than girls (3.4).

The data for sex differences on the pretest total of male traditional choices (p < .0898) are reported in Table 13.

Table 12

Observed Cell Means for Sex Differences on Pretest
Total of Female Traditional Choices

	Males	Females	
Average Pretest Total of Female Traditional Choices	2.5	3.4	

Table 13

A One-Way Analysis of Variance for Sex Differences on Pretest Total of Male Traditional Choices

Hypothesis	F ratio	Degrees of	Level of
Mean Square		Freedom	Probability
3.6712	3.0160	1 & 42	.0898

The observed cell means for sex differences on the pretest total of male traditional choices are reported in Table 14. Boys chose more traditional male figures on the average (4.3) than girls (3.7).

The results of these two analyses provide evidence that partially supports Hypothesis IV. It would seem that in looking at total scores (both male and female nontraditional choices), there are no sex differences (the One-Way Analysis of Variance for Sex Differences discussed earlier, p < .4668). However, when looking at responses to male figures separately from

female figures, both boys and girls see like-sex figures in traditional roles. Boys show greater sex-typing with male figures only.

Table 14

Observed Cell Means for Sex Differences on Pretest
Total of Male Traditional Choices

	Males	Females	
Average Pretest Total of Female Traditional Choices	4.3	3.7	

A Three-Way Multivariate Analysis of Covariance for treatment, classroom, and sex did not reveal a significant three-way interaction (p < .8650). There was no significant interaction of treatment by sex (p < .6227), nor classroom by sex (p < .8423). The data for the Three-Way Multivariate Analysis of Covariance are reported in Table 15. Again, Hypothesis IV cannot be supported according to this analysis.

Hypothesis V

The traditional male occupations or activities will be more sex-typed than the traditional female occupations or activities.

Interpretation of the two One-Way Analyses of Variance for sex differences on the pretest female and male traditional choices (Tables 11-14) discussed under Hypothesis IV supports Hypothesis V as well. The

Table 15

Three-Way Multivariate Analysis of Covariance

	Hypothesis Mean Square	F ratio	Degrees of Freedom	Level of Probability
<pre>3-way interaction (treatment, class- room, sex)</pre>	.5507	.1458	2 & 31	.8650
2-way interaction (treatment x sex)	.9334	.2471	1 & 31	.6227
<pre>2-way interaction (treatment x class- room)</pre>	43.37	11.48	2 & 31	.0002
Classroom x sex	.6521	.1727	2 & 31	.8423
Classroom effect	4.214	1.110	2 & 31	.3405
Treatment effect	73.85	19.55	1 & 31	.0002
Sex effect	8.061	2.134	1 & 31	.1541

Dependent Variable = Total Nontraditional Responses Independent Variable = Treatment, Classroom, Sex Note:

mean scores for male figures were higher (more traditional) than the mean scores for female figures.

Chi Square tests for independence of responses on the frequency distribution for total, boys and girls pretest choices on traditional male and female figures were used for analysis. Significant Chi Square values (p < .05) for all three tests: total response, boy responses, and girl responses are revealed in Table 16.

Table 16

Chi Square Values for Pretest Male vs. Female Traditional Choices for Total, Boys and Girls

	Total	Boys	Girls
Chi Square Value	22.98	19.77	8.10
Degrees of Freedom	3	3	3

The frequency distribution for the total group on the pretest male vs. female traditional choices is reported in Table 17. Male figures were more stereotyped as traditional than the female figures with the frequency distribution skewed to the higher values for male figures, but normally distributed for female figures as suggested by Table 17 and Figures 3 and 4.

That boys see male figures as traditional more than they see females in the traditional roles as defined by this study is shown in Table 18 and Figures 5 and 6.

Table 17

Frequency Distribution for Total Responses on Pretest
Male vs. Female Traditional Choices

	Total Traditional Choices				Pretest		
	{0	1	2}	3	4	5	
Traditional Male Figure Choices	0	0	5	11	4	25	
Traditional Female Figure Choices	1	5	10	14	10	4	

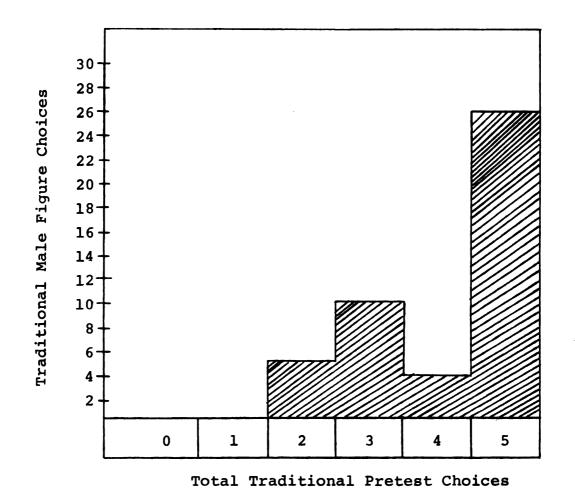


Fig. 3. Frequency Distribution for Total on Pretest Male Traditional Choices

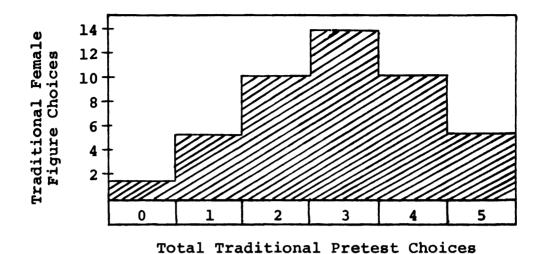


Fig. 4. Frequency Distribution for Total on Pretest Female Traditional Choices

Table 18

Frequency Distribution for Boys' Responses to Pretest
Male vs. Female Traditional Choices

	Total Traditional Pr Choices			Pr	Pretest	
	{0	1	2}	3	4	5
Traditional Male Figure Choices	0	0	2	4	3	16
Traditional Female Figure Choices	1	5	7	7	3	2

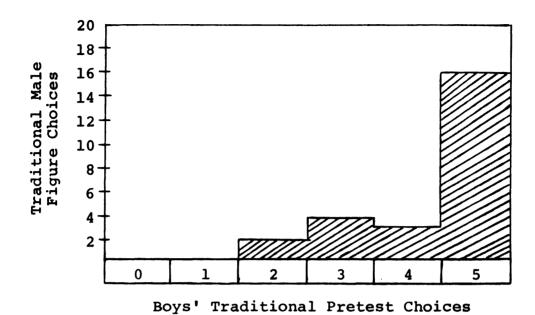


Fig. 5. Frequency Distribution for Boys on Pretest Male Traditional Choices

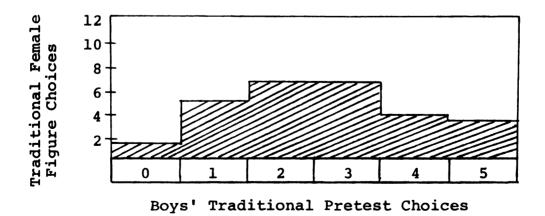


Fig. 6. Frequency Distribution of Boys on Pretest Female Traditional Choices

That girls' responses were less directional and consistent with more male figures in traditional roles than expected and fewer female figures in traditional roles than expected is shown in Table 19 and Figures 7 and 8.

Table 19

Frequency Distribution for Girl Responses to Pretest
Male vs. Female Traditional Choices

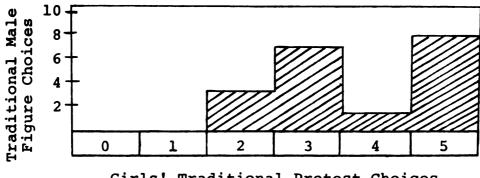
	Total Traditional Pretest Choices					
	{0	1	2}	3	4	5
Traditional Male Figure Choices	0	0	3	7	1	8
Traditional Female Figure Choices	0	0	3	7	7	2

Hypothesis V, then, can be supported. The Chi Square tests for boys and girls on the pretest male vs female traditional choices suggest that boys and girls view males in the traditional roles as defined by this study, while females are seen not as strongly traditional.

Hypothesis VI

The number of male heads chosen will be greater than the number of female heads chosen on the pretest.

Descriptive statistics were used to investigate this hypothesis. This hypothesis was supported as 62%



Girls' Traditional Pretest Choices

Fig. 7. Frequency Distribution for Girls on Pretest Male Traditional Choices

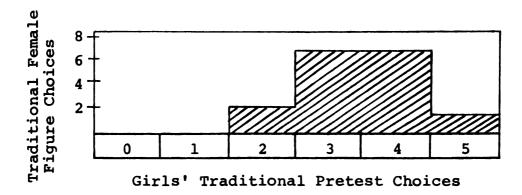


Fig. 8. Frequency Distribution for Girls on Pretest Female Traditional Choices

of the combined traditional and nontraditional choices for the pretest were male heads as compared to 38% of the choices being female heads. These data are reported in Table 20.

Table 20

Percentages of Male and Female Heads Chosen for Pretest
Total of Nontraditional and Traditional Heads

	Males	Females	
Total Nontraditional and Traditional Heads Chosen	61.82%	38.18%	

Summary

The present chapter reviews the results of the data for the six research hypotheses. Appendix H includes the raw data collected for this study.

CHAPTER V

SUMMARY, DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

Statement of Purpose

The purpose of this study was to measure the influence of children's literature on sex-role typing. The investigator was interested in whether or not preschool children consistently exposed to either traditional or nontraditional literature (picture books) would change their sex-role typing in accordance with treatment.

Design of the Study

Three preschool classrooms were used for study. Each classroom was randomly divided in half for administration of the two treatments. Prior to treatment, the Browning Flannel Board Sex-Typing Test, consisting of ten headless flannel board figures representing five traditional male and five traditional female occupations or activities, was administered to measure the children's sex-role typing. The figures were neutral sexually; the children were asked to complete the figures by adding a male or female head. Children were then read books,

for a three-week treatment period, of either a traditional or nontraditional nature. Children were then administered a posttest, using the same Browning Flannel Board Sex-Typing Test employed as the pretest.

Discussion

The first three hypotheses and the last three hypotheses are interrelated. Discussion, therefore, of the hypotheses will be dealt with in two sections, following a summary of Hypotheses I, II, and III and Hypotheses IV, V, and VI respectively.

Hypothesis I

Children exposed to List I, the nontraditional literature, will become more nontraditional in their sex-typing of figures while children exposed to List II, the traditional literature, will become more traditional in their sex-typing of figures.

It was found that children exposed to traditional or nontraditional literature changed their sex-typing in accordance with the respective treatment. In a Three-Way Multivariate Analysis of Covariance for treatment, classroom and age, there were two-way significant interactions of treatment by classroom (p < .0001) and treatment by age (p < .0140).

Of those children receiving the traditional treatment, only children in classroom III became more traditional as predicted. The children in classrooms I and II did not respond as predicted, maintaining or

slightly increasing their nontraditional responses.

Children receiving the nontraditional treatment in all groups increased in the number of nontraditional choices on the Flannel Board Sex-Typing Test, supporting the research hypothesis. As a result, Hypothesis I cannot be rejected.

Hypothesis II

Children from 32-47 months of age will be less stereotyped in their responses than children from 48-72 months of age.

A One-Way Analysis of Variance on the pretest nontraditional choice scores was used for analysis. Younger children were found to be less stereotyped in their responses than older children on the pretest. As a result, the hypothesis cannot be rejected.

Hypothesis III

Children from 32-47 months of age will be changed more by the treatment conditions than children from 48-72 months of age.

A Three-Way Multivariate Analysis of Covariance for treatment, group, and age revealed a significant interaction between treatment and age (p < .0140).

Younger children were affected more by the treatments than older children. As a result, this hypothesis cannot be rejected.

Discussion of Hypotheses I, II, and III

Although previous research has indicated that children identify with their sex-roles as early as 19 months of age (Good, 1974), there also is additional evidence that children identify more strongly with their sex-roles at four years of age than at three years of age (Schell & Silber, 1968; Rabban, 1950; Ward, 1968).

Thus, the differences in the three classroom's reaction to treatment can be explained by age. Children in classroom III were proportionally younger than children in classrooms I and II (see Table 1). In comparing classrooms I, II, and III, younger children changed their sex-role stereotyping significantly more after the treatment conditions.

Varying teacher styles in the presentation of the treatments in the three classrooms could also account for the differing results in the three classrooms. However, teacher cooperation was extremely high in this study. With teachers cooperating so extensively in terms of presenting uniform treatments to the three classrooms, teacher styles should have had minimal effect on the results of this study.

The research cited above and the results of Hypothesis II itself support Hypotheses II and III.

As younger children respond in a less stereotyped manner than older children, they are more open to treatment and change.

The significance level of Hypothesis II hopefully would have been higher had a larger sample been used in this study. The data provided here indicate a definite trend to be explored in further studies.

Hypothesis IV

Boys will show greater traditional sex-typing than girls.

This hypothesis was partially supported by two One-Way Analysis of Variance. A One-Way Analysis of Variance for sex differences on the pretest total of female traditional choices was significant (p < .0099). The raw data show that boys chose fewer traditional female figures on the average (2.5) than the girls (3.4). A One-Way Analysis of Variance of sex differences on the pretest total of male traditional choices was marginally significant (p < .0898).

The raw data show boys chose more traditional male figures on the pretest (4.3) than female figures (3.7). Both boys and girls see like-sex figures in traditional roles. Boys, however, show greater traditional sex-typing with male figures only. As a result, Hypothesis IV cannot be rejected.

Hypothesis V

The traditional male occupations or activities will be more sex-typed by the children than the traditional female occupations or activities.

Hypothesis V is supported by the two One-Way
Analyses of Variance discussed under Hypothesis IV. In
addition, Chi Square tests for independence of responses
on the frequency distribution for total, boys and girls
traditional pretest choices on male and female figures
were used for analysis of Hypothesis V. The tests and
the raw data underscore the two One-Way Analyses of
Variance discussed under Hypothesis IV.

Male figures were more stereotyped as traditional than the female figures with the frequency distribution skewed to the higher values for male figures, but normally distributed for female figures (Table 17). Boys see male figures as traditional more than they see females in the traditional roles as defined by this study (Table 18). Girls' responses were less directional and consistent with more male figures in traditional roles than expected and fewer female figures in traditional roles than expected (Table 19). As a result, this hypothesis cannot be rejected.

Hypothesis VI

The number of male heads chosen will be greater than the number of female heads chosen on the pretest.

Descriptive statistics were used to investigate this hypothesis. Sixty-two percent of the combined traditional and nontraditional choices for the pretest were male heads as compared to 38% of the choices being female heads. As a result, Hypothesis VI cannot be rejected.

Discussion of Hypotheses IV, \overline{V} , and \overline{VI}

The purpose of Hypotheses IV and V was to show that boys have been socialized to accept their traditional role to a greater degree than girls of the same age and that, subsequently, traditional male occupations or activities are more sex-typed than traditional female occupations or activities.

The investigator expected to find, then, young boys and girls viewed the male and female roles in a traditional manner, with young girls showing a slightly nontraditional trend in regard to their own sex-role. The literature would have supported such a finding (Brown, 1956; De Lucia, 1963; Munger, 1971; Rabban, 1950; Ward, 1968).

The investigator was surprised to find evidence, however, that young boys see the female role in a much less stereotyped manner than young girls themselves.

The investigator hypothesizes that this trend can be explained by two related arguments: (a) the current

movement to change the female sex-role in our society has led to young boys re-defining and broadening their view of the female sex-role, and (b) young girls who are receiving a greater variety of input as to what their sex-role in society should be are less directional and consistent in a sex-role stereotype for their own sex.

Hypothesis VI, then, cannot be rejected; though the reason for the greater masculine stereotype in this study seems to be a result of girls' rather than boys' choices as boys saw females less traditionally than expected.

The significance level of Hypothesis IV probably would have been higher had a larger sample been used in this study. The data provided here indicate a definite trend to be explored in further studies.

Implications

For those interested in changing sex-roles, it seems that beginning the process at an early age is of utmost importance. Children's picture books as a sex-role socialization tool do influence the sex-typing process and need to be evaluated in terms of the changing values of our society.

The results of Hypotheses IV and V suggest that while we have been somewhat successful in changing the female role, little has been done in terms of re-defining and broadening the male role.

At the beginning of this study, it was asked,
"Shall we socialize females to be competent or to be
feminine?" (Sherman, 1972, p. 1). This is not the only
question concerning the sex-role socialization processes.
Sex-role socialization implies a process concerning both
boys and girls. While there is some effort being made to
change the role of males in our society today, the focus
of current social movements is on changing the female
sex-role, with a small movement developing to change
the masculine role.

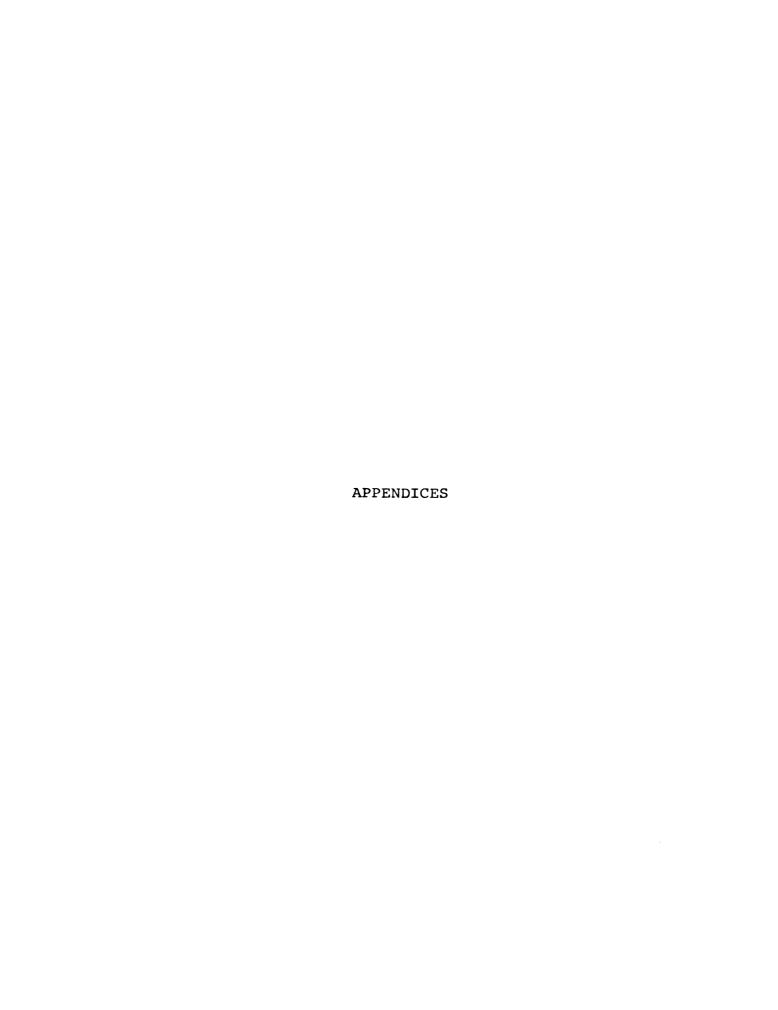
That the efforts being made to change the masculine role are not concurrent with the efforts being made to change the feminine role concerns many, including Myron Brenton.

To be sure, the great outpouring of words about the contemporary American woman these past few years has made it seem as though the male either had no problems or didn't count enough to have them aired. An avalanche of books, magazine articles, television documentaries, radio talk shows and socio-psychological symposiums has been concerned with her troubles. Her psyche-anguished, unfulfilled-has been laid bare for all of us to see. Her basic problem--how to integrate her traditional roles of wife and mother with the wider opportunities now open to her--is being discussed almost without end. These observations aren't meant to disparage or to deny the reality of the American woman's problems. But when the plight of woman is given such intense scrutiny, a curiously distorting effect tends to be created. Suddenly, the world is seen only through the feminist prism (Brenton, 1966, p. 15).

It seems, then, that we need to begin moving to change and re-define the male role as well as the female role in accordance with basic child development principles.

Recommendations

The following recommendations would further study in this area: (a) a larger, random sample including urban, suburban, and rural areas; (b) formal validation of the measure; (c) a longer time period for the administration of the treatment with a minimum of eight weeks; and (d) correlation of the Flannel Board Sex-Typing measure with parental expectations and adult sex models present in the home.



APPENDIX A

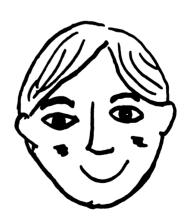
THE BROWNING FLANNEL BOARD SEX-TYPING TEST

APPENDIX A

THE BROWNING FLANNEL BOARD SEX-TYPING TEST

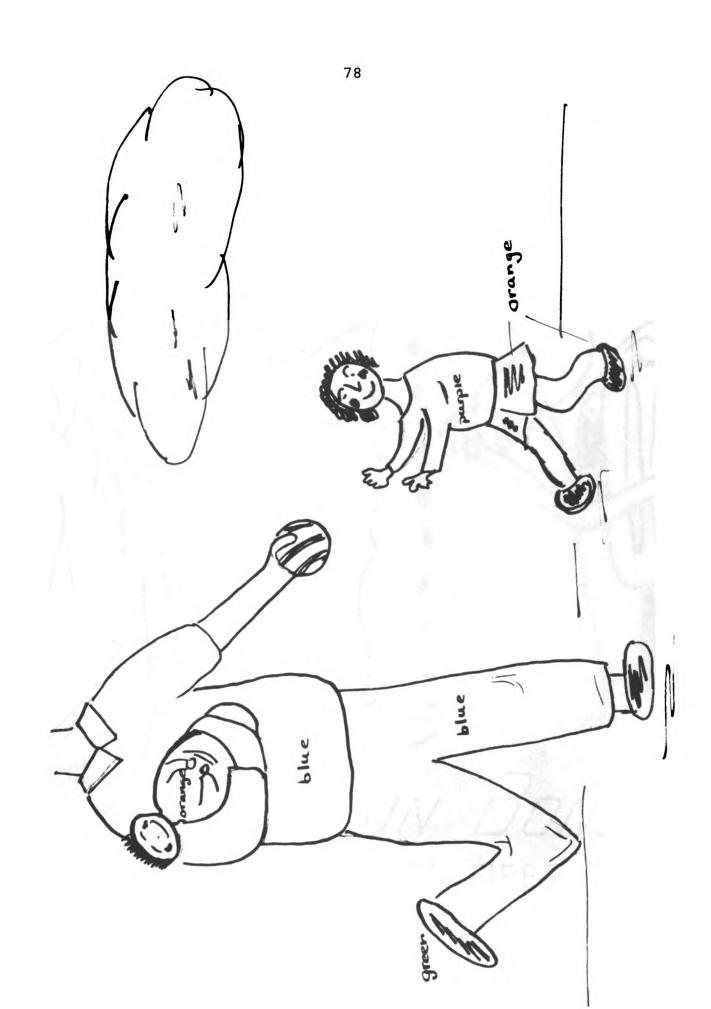
Reproduction of Heads Used for Completion of Figures

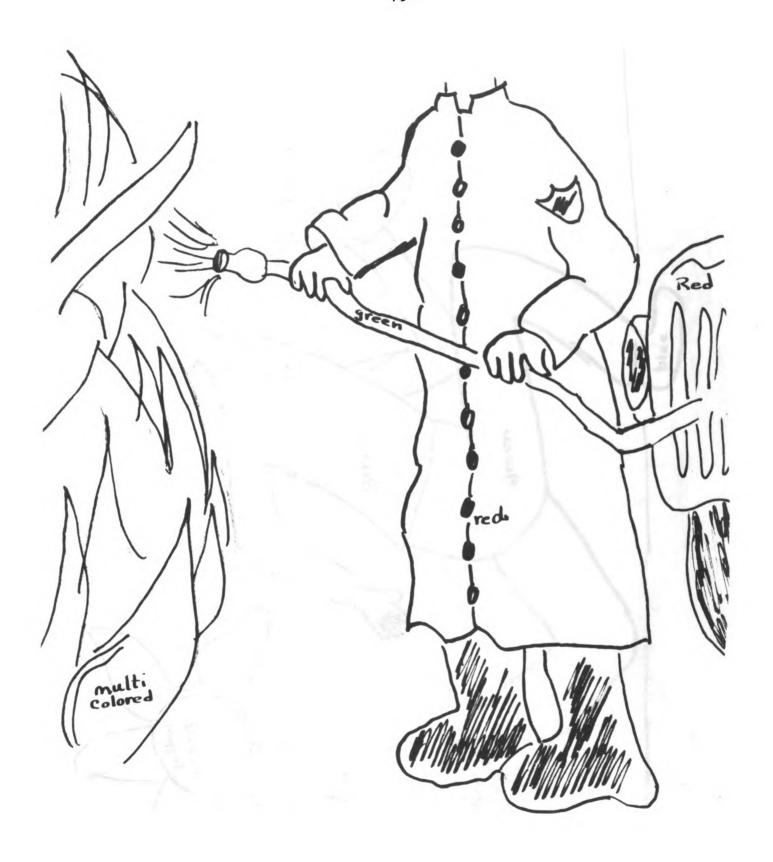


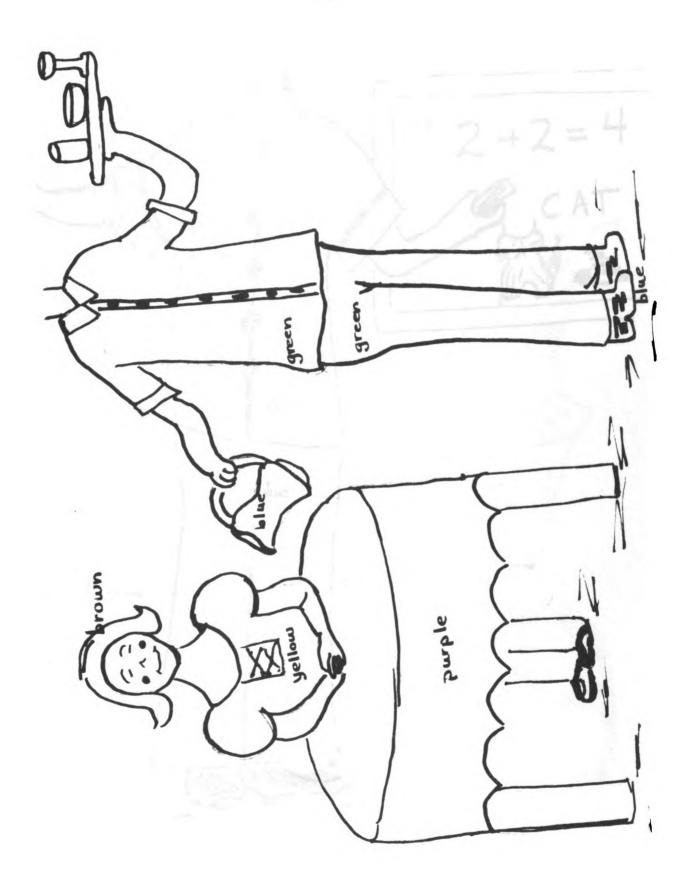


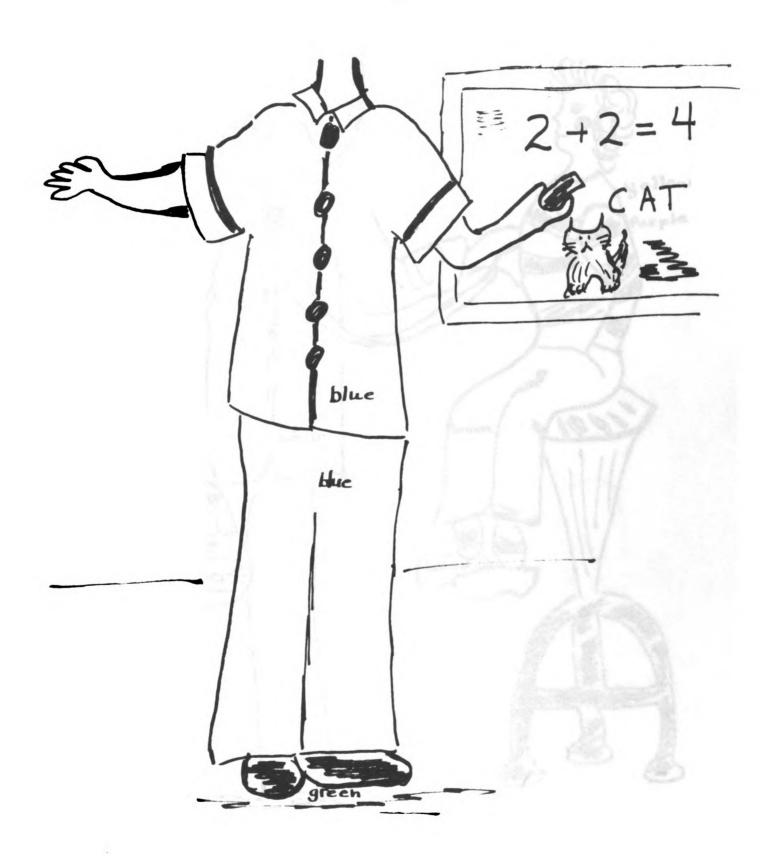
Warm-Up Figures Used to Establish the Neutrality of the Figure's Sex and the Interchangability of the Male and Female Heads

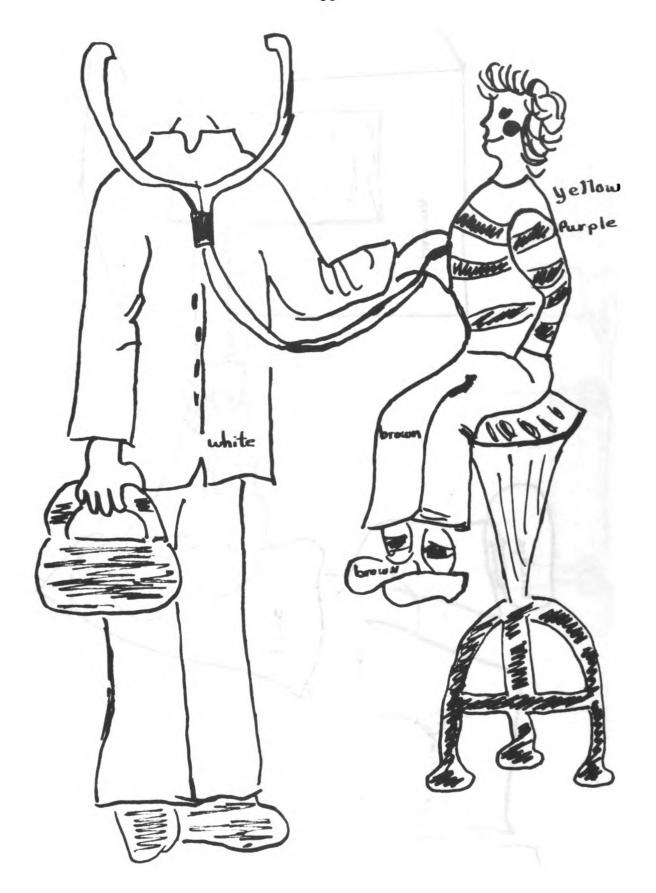
The Flannel Board Sex-Typing Test
Figures To Be Completed

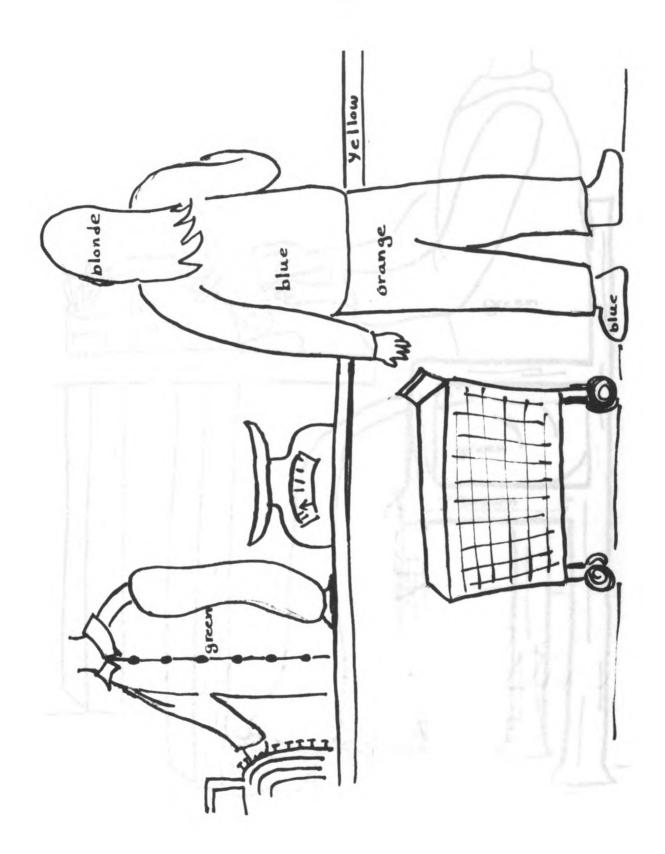












APPENDIX B

THE BROWNING FLANNEL BOARD SEX-TYPING TEST SCORE SHEET

APPENDIX B

Child'	s Name		Date	Classroom	
1.	М	F			
-					
2.	М	F			
3.	М	F			
4.	М	F			
5.	М	F			
6.	М	F		·	
7.	М	F			
8.	М	F			
9.	М	F			
10.	M	F			

APPENDIX C

LIST I, THE NONTRADITIONAL PICTURE BOOKS
USED FOR TREATMENT

APPENDIX C

LIST I

- Browning, M. A. Carrie. East Lansing: Michigan State University, 1974.
- Browning, M. A. Frannie, the football player. East Lansing: Michigan State University, 1974.
- Browning, M. A. Frieda, the fantastic firewoman. East Lansing: Michigan State University, 1974.
- Browning, M. A. The tree-house builder. East Lansing:
 Michigan State University, 1974.
- Eichler, M. Martin's father. Chapel Hill: Lollipop Power, Inc., 1971.
- Goldsmid, P. <u>Did you ever?</u> Chapel Hill: Lollipop Power, Inc., 1971.
- Goodyear, C. The sheep book. Chapel Hill: Lollipop Power, Inc., 1971.
- Mason, J. Stanley, the secretary. Unpublished picture
- Merriam, E. Mommies at work. New York: Scholastic Book Services, 1971.
- Preston, E. M. Pop corn and Ma Goodness. New York: Viking Press, 1969.
- Surowiecki, S. L. Joshua's day. Chapel Hill: Lollipop Power, Inc., 1972.

APPENDIX D

TEXTS OF NONTRADITIONAL PICTURE BOOKS WRITTEN
BY THE INVESTIGATOR AND USED FOR TREATMENT

APPENDIX D

TEXTS OF NONTRADITIONAL PICTURE BOOKS WRITTEN
BY THE INVESTIGATOR AND USED FOR TREATMENT

Carrie

by Margaret A. Browning

Once upon a time, there was a little girl named Carrie Logan. And, one day she had a tummy-ache. It must have really hurt because she didn't even feel like playing on the climber in her backyard. She just stood by it and looked sad. So, her father took her to the doctor. After her visit to the doctor, she felt much better. She decided that when she became a grown-up, she'd be a grown-up doctor! She'd help children feel better when they had tummy-aches or other sickly feelings. So, she studied very hard in school. For years she studied very hard. Finally, when she grew up, she became a doctor. And, when little boys and little girls came to visit her, she helped them to feel better. Larry Shore, her nurse, gave the children a lollipop when they were leaving her office.

Football for Frannie

by Margaret A. Browning

Frannie wasn't just your average football player.

. . . Frannie was the best football player on her whole block. Kids came from up to four and five blocks away just to watch her play. She put wallop in her kick . . . Punch in her pass . . . And, zoom in her runs! Frannie wore her football uniform everywhere . . . shopping . . . to school . . . and to bed! (Well, actually, she only wore her football shirt to bed.) But, best of all, on Halloween, she never had to change into a costume. She always went out trick or treating as the great football player she was!

Frieda, the Fantastic Firewoman

by Margaret A. Browning

On the corner of Main Street and Elm is a little house where Frieda, the fantastic firewoman, lives. That is to say, she lives in the little house on the corner of Main Street and Elm when she isn't living at her place of work, Firehouse No. 1. Frieda wasn't always thought to be a fantastic firewoman. In fact, people laughed at her when they first saw that Frieda was a woman who fought fires! But, soon, she showed them how brave and strong she was and the people knew they had been wrong to laugh at her. Although Frieda liked fighting fires, she thought the best parts of her job as a firewoman were . . helping cats out of trees . . . marching in parades . . and showing schoolboys and schoolgirls her Firehouse No. 1.

The Tree-House Builder by Margaret A. Browning

One day, while the birds were singing, Carolynn McNabb decided to build a fort in her friend. The Tree. As it just so happened, Carolynn's mother owned a lumberyard. So, she went to visit her mother at work. McNabb's secretary, Paul, was a good friend of Carolynn's. She told him of her plans to build a tree-house. pretty excited for Carolynn and thought her idea was a good one. After a little while, Carolynn was able to go into her mother's office. She explained her plans to build a tree-house to her mother. Her mother was very excited for her, too! Ms. McNabb took Carolynn into the lumberyard. They picked out the lumber for her house. And, then, she went to her friend, The Tree, and built a great house. Carolynn was careful where she stuck her nails so that her friend, The Tree, would always welcome her to the Tree-House. And, The Tree did.

APPENDIX E

LIST II, THE TRADITIONAL PICTURE BOOKS

USED FOR TREATMENT

APPENDIX E

LIST II

- Asch, F. I met a penguin. New York: McGraw-Hill, 1972.
- Brown, M. W. The little fireman. New York: Scholastic Book Services, 1973.
- Charlip, R. Mother, Mother, I feel sick. New York: Scholastic Book Services, 1972.
- Krasilovsky, P. The very little boy. New York: Doubleday, 1962.
- Krasilovsky, P. The very little girl. New York: Doubleday, 1962.
- Lenski, L. Papa small. New York: Henry Z. Walck, Inc., 1951.
- Lenski, L. Policeman small. New York: Henry Z. Walck, Inc., 1962.
- Minarik, E. H. A kiss for little bear. New York: Scholastic Book Services, 1972.
- Mizumura, K. <u>If I were a mother</u>. New York: Crowell, 1967.
- Puner, H. W. Daddies, what they do all day. New York: Lothrop, Lee & Shepard Co., 1946.
- Sendak, M. <u>In the night kitchen</u>. New York: Harper & Row, Inc., 1970.

APPENDIX F

THE BROWNING FLANNEL BOARD SEX-TYPING
TEST SCRIPT

APPENDIX F

THE BROWNING FLANNEL BOARD SEX-TYPING TEST SCRIPT

Warm-up

- 1. Here is a man saying hello to you and here is a woman saying hello to you (investigator places male and female heads on figures as she/he is talking). Now, you make this person a woman by putting one of these heads on her. Good. Now, you make this person a man by putting one of these heads on him. Good.
- 2. Here is a person taking a walk; make this person a woman by putting a head on her. Good. Now, make this person a man by putting a head on him. Good.

Test Script

- 1. Here is a farmer at work in the fields. Put a head on the farmer. Good.
- 2. Here is a person playing with a little girl. Put a head on the person playing with the little girl. Good.
- 3. Here is a person putting out a fire. Put a head on the person putting out the fire. Good.
- 4. Here is a football player. Put a head on the person playing football. Good.
- 5. Here is a person working in a restaurant. This person is serving dinner. Put a head on the person serving dinner. Good.
- 6. Here is a teacher at school. Put a head on the teacher. Good.
- 7. Here is a doctor checking a little boy. Put a head on the doctor. Good.
- 8. Here is a person sawing a board. This person is a carpenter. Put a head on the carpenter. Good.
- 9. This person is working in a grocery store. Put a head on the person working in the grocery store. Good.
- 10. This person is typing. This person is a secretary. Put a head on the secretary. Good.

APPENDIX G

LIST III, EXAMPLES OF NEUTRAL BOOKS
FOR CLASSROOM USE

APPENDIX G

LIST III

- Adoff, A. Mandala. New York: Harper & Row, Inc., 1971.
- Beach, S. Good morning-sun's up. New York: Schroll Press, 1970.
- Keats, E. J. Over in the meadow. New York: Four Winds Press, 1971.
- Lewis, R. <u>In a spring garden</u>. New York: The Dial Press, 1965.
- Lionni, L. The biggest house in the world. New York: Pantheon, 1968.
- Lionni, L. Swimmy. New York: Pantheon, 1963.
- Lipkind, W. The little tiny rooster. New York:
 Harcourt, Brace & World, 1960.
- Rand, A., & Rand, P. Sparkle and spin. New York: Harcourt, Brace & World, 1957.
- Rojankovsky, F. Animals on the farm. New York: Alfred A. Knopf, 1967.
- Selsam, M. E. All kinds of babies. New York: Four Winds Press, 1967.
- Spilka, A. Paint all kinds of pictures. New York: Henry Z. Walck, Inc., 1963.
- Wildsmith, B. Birds. New York: Franklin Watts, Inc., 1967.
- Wright, D. Look at a Gull. New York: Random House, 1969.
- Wyndham, R. Chinese mother goose rhymes. New York: World Publishers, 1968.
- Zistel, E. Thistle. New York: Random House, 1967.
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APPENDIX H

SUMMARY OF THE RAW DATA COLLECTED FOR THIS STUDY

APPENDIX H

Table 21
Summary of Raw Data

Subject	Classroom	Treatment Condition	Sex	Younger/Older	Age in Months	Pretest Total of Nontraditional Choices	Pretest Nontraditional Male Choices	Pretest Traditional Male Choices	Posttest Total of Nontraditional Choices	Posttest Nontra- ditional Male Choices	Posttest Traditional Male Choices	Pretest Traditional Female Choices	Posttest Traditional Female Choices
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 33 33 34 35 36 37 38 38 38 38 38 38 38 38 38 38 38 38 38	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2	NTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT		Y Y O O Y Y Y Y O O O O O O O O O O O O	45 40 66 61 33 8 44 47 41 45 86 55 55 57 57 86 56 55 57 67 64 54 83 84 83 83 84 83 83 84 84 84 84 84 84 84 84 84 84 84 84 84	44102503424145065412244422401343311572465443	44102501221123033212124222201213311342334422	5555553352533554355555555555325424535	5 3 0 0 4 5 1 5 2 3 8 0 6 6 6 1 7 4 5 1 4 4 1 6 1 6 1 6 1 8 1 6 1 6 1 8 1 6 1 8 1 8	4 3 0 0 4 5 0 3 1 1 4 0 3 3 0 0 1 3 0 0 1 0 1 0 1 0 1 0 1 0 1	4 5 5 5 5 5 5 4 3 4 3 1 5 2 2 4 1 2 3 3 2 1 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1 1 4 5 3 0 5 4 3 3 4 4 3 2 5 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	12551052441522524231135542551345045054541030



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