UNIVERSITY OF MANITOBA

# Sex and Similarity of Interests of Stimulus Person as Determinants of Interpersonal Attraction in Third Grade Children

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A Thesis

Submitted to the Faculty of Graduate Studies

in partial fulfillment of the requirements for the degree

of Master of Arts

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# SEX AND SIMILARITY OF INTERESTS OF STIMULUS PERSON AS DETERMINANTS OF INTERPERSONAL ATTRACTION IN THIRD GRADE CHILDREN

BY

PATRICIA L. WHITEHOUSE

A dissertation submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of

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# ABSTRACT

Children have been shown to have a bias against choosing opposite sex peers as friends. In the present study, similarity of stimulus persons' activity preferences was manipulated in an attempt to modify this bias. Information about the activity preferences of third grade boys and girls, obtained from questionnaires, was used to compose descriptions of same and opposite sex stimulus persons whose interests were 100% similar, 50% similar, or 0% similar to the subjects' interests. Subjects then rated their liking for each stimulus person. A repeated measures analysis of variance revealed that subjects preferred same sex stimulus persons to opposite sex stimulus persons, and stimulus persons with similar interests to stimulus persons with less similar interests. The three-way interaction, involving sex of subject, sex of stimulus person, and similarity of interests, was also significant, and post hoc comparisons showed that while same sex stimulus persons were in general preferred to opposite sex stimulus persons, opposite sex stimulus persons with 100% similar interests were preferred to same sex stimulus persons with 0% similar interests. The results were interpreted to suggest that children's bias against opposite sex peers may be modified by information regarding similarity of activity preferences.

# CHAPTER I

## INTRODUCTION

Modification of biases that exist between members of different social and racial groups has been an important focus of research on interpersonal attraction. Since liking for a stimulus person has been found to be a function of the proportion of similar attitudes held by the stimulus person (Byrne & Nelson, 1965), and is influenced by the degree to which the stimulus person supports the subject's opinions (Lombardo, Weiss, & Stich, 1971), similarity of attitudes has been studied as a means of modifying social and racial biases. Griffitt, Nelson, and Littlepage (1972) found that, for teenagers and elderly people, attraction was positively related to the proportion of attitudes held in common by the subject and the stimulus person regardless of their respective ages. Others have established that subjects are attracted to stimulus persons who have agreeing attitudes regardless of their race (Johnson & Johnson, 1972), and even that similarity of attitudes can overcome biases highly prejudiced individuals have against working with and liking members of another race (Byrne & McGraw, 1964; Byrne & Wong, 1962).

Such biases are by no means exclusively characteristic of adults. Durojaiye (1969) found that children in the 8 - 11 year age range from a multiracial district of Manchester, England, most often chose friends from amongst children of their own ethnic group (Caucasian, Negro, or of mixed parentage). Clore and Johnson

(Note 1, cited in Byrne, 1971) also found evidence of racial bias in Negro and Caucasian children who took part in a summer camp. During the first part of the camp, children took many more photographs of camp counsellors and other children of their own race than of individuals of the other race. In addition, children chose members of the same race as partners in a three-legged race much more often. Subjects in a study by Schaller (1973) were biased against newcomers; his fourth and fifth grade subjects were negative in their attitudes regarding newcomers to their school. Boys tended to be more negative than girls, and attitudes toward opposite sex newcomers were more negative in the fourth grade than in the fifth grade.

Perhaps the most consistent bias children display is the tendency to choose friends from among children of the same sex. Investigators have found that children choose same sex peers as friends from as early as three years of age (Parten, 1933). The purpose of the present study was to examine the extent to which similarity of attitudes toward games and activities might influence subjects' ratings of same and opposite sex peers.

The research which provides a framework for this investigation falls into two main categories: (a) studies of children's preference for same sex friends; and (b) studies of interpersonal attraction in children.

## Preference for Same Sex Friends

Children have been consistently observed to have a tendency to choose children of the same sex as friends. This pattern begins very

early in life. Parten (1933), studying preschool-age children, found that 81% of her female subjects and 62% of her male subjects chose same sex peers as their first five favourite playmates, and 27 of 34 pairs of "best friends" were unisexual.

More recently, Durojaiye (1969), whose subjects were 8 - 11 years of age, and Haskett (1971), studying first graders, found that friendship choices were dependent on sex. In Haskett's study, 95% of subjects chose a child of the same sex as a first best friend, and 82% chose children of the same sex as their first four best friends.

Meyer (1959) conducted a study which examined children's perceptions of the degree to which same and opposite sex classmates satisfied two social-psychological needs. The needs he studied were "succorance", the desire to be dependent, and to seek protection or sympathy; and "playmirth", the need to be amused or entertained. His subjects, who were students in grades 5 - 12, perceived social interactions with same sex peers as more reinforcing than interactions with opposite sex peers. The subjects also perceived same sex classmates as being more able to satisfy the social-psychological needs under consideration.

A number of investigators have suggested explanations for this bias. Goodenough (1934) attributed preferences for same sex peers to differences between boys and girls in play activities. Campbell (1939) found sex differences in the rate of social-sex maturation and suggested that this might account, in part, for the

bias. In his 1959 study, mentioned above, Meyer proposed that such sex-typed behaviours as choosing same sex friends are "maintained throughout the school years by means of a system of social reinforcement" (p. 56) such as the satisfaction of particular social needs.

It is apparent from the research discussed above that children begin to acquire preferences for same sex peers at a very early age. This preference continues into adolescence. Suggestions as to the cause of the preference have ranged from a relation to physical maturation (Campbell, 1939) to differences among boys and girls in play activities (Goodenough, 1934) and social needs (Meyer, 1959).

Interpersonal Attraction Research with Children

Investigations of interpersonal attraction in children have included both correlational and experimental studies. In the correlational studies, investigators have looked at the similarity between sociometrically determined pairs of friends on variables such as attitudes or IQ. The experimental studies, on the other hand, have attempted to manipulate subjects' attraction to real or fictional stimulus persons.

Correlational studies. In one of the early studies of attitude similarity between friends (Pintner, Forlano, & Freedman, 1937), elementary school children were asked to provide information on their attitudes about various topics. They were also asked to name their best friends. When the choice of best friends was restricted

to classmates, no evidence for attitude similarity between friends was found. However, when subjects were asked to name their best friends in or out of class, friends were found to have similar attitudes about art and music as well as similar mental and chronological ages and IQs.

Carville (1968) obtained sociometric measures of mutual liking in fourth, fifth, and sixth grade subjects and correlated mutual liking with attitude similarity. He found greater agreement on attitudes between subjects with high mutual liking than with no mutual liking and, for boys, greater persistence in mutual liking among pairs of subjects with high attitude agreement. Greater mutual liking was also correlated with more frequent proximity on rank orders of a teacher-rated "utilization of intelligence" scale and on the degree to which peers perceived subjects as cooperating with the teacher.

In a study by Cavior and Dokecki (1973), fifth and eleventh grade subjects rated classmates on physical attractiveness and ranked them on popularity. Subjects also completed a questionnaire which reflected the extent to which they believed their attitudes agreed with those of each member of their class. Cavior and Dokecki found that physical attractiveness and perceived atttitude similarity were both significantly correlated with popularity.

Experimental studies. Children's liking of and attraction to stimulus persons, like that of adults, has been successfully manipulated in experimental settings. Clore and Johnson (Note 1,

cited in Byrne, 1971) studied the effect of interracial interaction on subjects' attraction to individuals of different races. Negro and Caucasian girls and boys who were eight to twelve years of age attended a week-long summer camp. Cameras were given to half the children during the first half of the camp and to the rest of the children during the second half. The films were developed and the experimenters recorded the race of the child taking the picture and of the people in the picture. The percentage of opposite race photographs taken of children increased from 32.1% during the first half of the week to 44.9% during the second half, while opposite race photographs of counsellors increased from 42.1% to 50.2% A more direct sociometric analysis was provided by the choice of partners for a three-legged race held on three different occasions. Again, there was a marked increase in the number of opposite race choices made over the time spent at camp.

Eaton and Clore (1975) also studied children at a summer camp. Again, the subjects were Caucasian and Negro boys and girls eight to twleve years of age. The children participated in a "ceremony" in which each had the opportunity to imitate one of two models, one Negro and one Caucasian, on each of thirteen tasks. Half the children were tested on their day of arrival at the camp (low interracial contact), and half after five days at the camp (high interracial contact). Eaton and Clore found that the children who had experienced a higher degree of interracial contact engaged in more cross-race imitation of models than did the children who had experienced less prior contact.

Some investigators have used operant conditioning methods to modify children's racial biases. Best, Smith, Graves, and Williams (1975) noted that both Caucasian and Negro children tend to exhibit a positive bias toward stimulus persons of European ancestry and a negative bias toward those of African ancestry (abbreviated as E+/A-). They attempted to modify this bias in Negro and Caucasian preschoolers using a teaching machine which provided reinforcement for pro-Afro/anti-Euro responses; the subjects were rewarded for assigning positive adjectives to Negro stimulus persons and negative adjectives to Caucasian stimulus persons. This procedure resulted in a decrease in E+/A- bias for both Caucasian and Negro children which was still present, though not as strongly, when the children were tested again a year later. A special race-related curriculum which was designed to develop positive associations to dark-skinned persons was presented at another preschool. Neither the special curriculum nor familiarity with teachers of other races resulted in a reduction of E+/A- bias in these children.

Robinson (1977) objected to modification studies such as that by Best et al (1975) on the grounds that such studies trained race as an appropriate cue for evaluating people. In Robinson's study, racial cues were irrelevant for making correct evaluative decisions. Stimulus persons of different races were presented, but the subjects, Negro and Caucasian five and six year olds, were required to make evaluations in response only to cues such as facial expression, gesture, and pictured activity. Over the training procedure,

Robinson found an increased probability of the subjects' making evaluative decisions in the presence of appropriate cues only, and a decrease in E /A- bias.

Another approach to modifying racial bias in children has been to have the children participate in a special curriculum through which they are made familiar with aspects of the culture and heritage of the racial group in question. Best et al (1975) did not find any reduction in E /A- bias as a result of the special curriculum presented in their study. Van der Keilen (1977) had more success. She studied the effects of a special curriculum on the attitudes of the fourth to eighth grade children, 15% of whom were native Indian, and the rest of whom were Caucasian. These children, all of whom had attended a separate school in Ontario together for a considerable time, were tested with a social distance scale before and after they experienced a special curriculum which integrated Ojibway language, history, arts, and so on into the regular school programs. Van der Keilen found that the expressed attitudes of non Indians improved toward members of different ethnic groups, especially toward Indians, over the experimental period. However, sociometric analysis showed that interracial relationships within class groups were not affected by the curriculum.

Not all studies of interpersonal attraction in children have been racially oriented, of course. Haskett (1971) looked at the effects of various types of interaction on interpersonal attraction. First grade boys and girls provided sociometric data on their

liking for classmates. Subjects were then matched with same or opposite sex children who were neither extremely well-liked nor extremely disliked by each other. Subjects carried out a construction task in one of three conditions: cooperation, in which subjects were seated together and instructed to work together; contiguity, in which subjects were seated together but were instructed to work individually; and control, in which subjects were not seated together and were instructed to work individually. Post-treatment sociometric analysis of subjects' liking for classmates showed that subjects' liking of opposite sex (but not same sex) peers were significantly increased when subjects engaged in cooperative interaction.

The interpersonal attraction paradigms developed by the Lotts and their associates and Byrne and his associates (see chapters by Lott & Lott and Clore & Byrne in Huston, 1974) have also generated research in which children's attraction to each other or to fictitious stimulus persons has been manipulated.

The research of the Lotts and their associates has concentrated on the premise that liking for a stimulus person will result when the subject receives reinforcement in the presence of the stimulus person. In an experiment by Lott, Lott, and Matthews (1969), the effects of vicarious reward on liking was studied. Third grade children were assigned to groups of six consisting of three unacquainted pairs of friends. One member of each pair participated in four bingo games while the other watched. Outcomes were controlled

by the experimenter so that players won four, three, two, one or no games. Players (but not observers) received prizes for winning games. Subjects then rated their liking for other members of the play group.

Both players and observers were more attracted to the other members of their group when they were rewarded (i.e., won bingo games) than when they were not. The effects of vicarious reinforcement (watching a partner win a game) were just as pronounced as the effects of direct reinforcement (winning a game onesself). Further, how the subjects felt about winning or losing and measures of incidental learning were reliably associated with attitudes toward group members.

Lott, Aponte, Lott, and McGinley (1969) measured first grade children's attraction to adult male stimulus persons who were associated with immediate or delayed reward in a single game situation. The stimulus persons gave "ready", "start", and "stop" signals to the subject for each trial, but were not instrumental in influencing the subject's performance or in delivering the reward. In the presence of one stimulus person, the subject was always given the reward immediately after the "stop" signal. In the presence of the other stimulus person, delivery of reinforcement was always delayed for ten seconds.

Following completion of the last trial, subjects were asked to indicate their liking for the stimulus persons on three measures of interpersonal attraction: a direct "who do you like better?"

question, a rating scale, and semantic judgements on four evaluative scales. Subjects reliably indicated greater attraction on all three measures to the stimulus person associated with immediate reward.

Byrne and Griffitt (1966), who were interested in testing the generality of the relationship between attraction and attitude similarity, had elementary and secondary school students rate their attraction toward imaginary peers who were presentdd as having different proportions of agreeing attitudes. The students were in grades four to twelve and ranged in age from 9 to 20 years. The subjects first filled out an eight-item scale dealing with various topics arranged as six-point attitude items. Following the collection of the attitude scales by the experimenter, the subjects were told that "the experiment dealt with how much one person could learn about another on the basis of his responses to an attitude scale" (p. 701), and that they would have the opportunity to look at the attitude scale of another person from the same grade and of the same sex. Subjects were then given a response sheet constructed by the experimenter in which the number of similar attitudes expressed by the "other person" varied from one to seven (proportions) of .12-.88 similar attitudes). After examining the attitude scale, subjects rated the stimulus person on seven-point evaluation scales with respect to perceived or estimated intelligence, morality, liking, and desirability as a work partner. Byrne and Griffitt found that attraction increased with proportion of similar attitudes at each subject/age level. The relationship between attitude

similarity and attraction followed the same linear function as had been found in research with college students.

Interpersonal Attraction Paradigms

Research both with children and with adults has contributed to the development of several models of interpersonal attraction. Perhaps the most well-known of these is the model proposed by Byrne and his associates (Clore & Byrne, 1974). This paradigm, based on reinforcement theory, asserts that association of a potentially rewarding (or punishing) stimulus, such as agreement (or disagreement) with one's attitudes, with a stimulus person elicits a positive (or negative) feeling toward the stimulus person which in turn mediates evaluative responses such as attraction to the stimulus person. The rewarding stimulus most often used by Byrne and his associates has been similarity of attitudes, which has been considered to provide two kinds of reinforcement (Lott & Lott, 1974). First, the knowledge that the stimulus person is like onesself generates the expectation that interaction with the stimulus person will provide positive outcomes, and thus, provides the potential of future reinforcement. Second, similarity of a stimulus person's attitudes to one's own can of itself be reinforcing; it provides the reassurance that one's views are shared, thereby increasing the probability of one's competence and the validity of one's views.

The Lotts and their associates (Lott & Lott, 1974) have adopted a similar model, different only in "its stronger committment to the

specifics of the Hull-Spence theory (Byrne, 1971, p. 268). In this formulation, an individual experiencing reward is assumed to react to the reward with some overt or covert goal response which becomes conditioned to all discriminable stimuli, including a stimulus person, present at the time. The stimulus person then will be able to evoke the goal response, or "its fractional and anticipatory component, which is an expectative response or a positive attitude" (Lott & Lott, 1974, p. 172). The Lotts' research has been designed to demonstrate the effectiveness of associating reward with neutral, noninstrumental stimulus persons in increasing the attractiveness of the stimulus persons.

A model proposed by Tedeschi (1974) places more emphasis on the cognitive aspects of attraction. Tedeschi defines attraction as an attitude with "cognitive, affective, and dispositional properties" (p. 197). The cognitive component is characterized as "The expectancy that the other person will altruistically provide benefits or favours of various types and values across a number of situations, and over time" (p. 198), and is the central factor determining the strength and type of attraction. Thus, attraction in this model is determined not by association of a stimulus person with a rewarding stimulus, as in Byrne's and the Lotts' views, but by the expectation that the stimulus person will provide rewards. Tedeschi points out that inherent in this approach is the potential for differentiating types of attraction through classifying the different types of benefits provided by the stimulus person.

Each of these models makes similar predictions about the effects of attitude similarity on liking or attraction for a stimulus person, although the rationales for making the predictions differ.

Present Experiment

Since attitude similarity has proved effective in manipulating adult subjects' attraction to individuals against whom they were initially prejudiced (Byrne & Wong, 1962: Byrne & McGraw, 1964), and has influenced children's attraction to same sex peers (Byrne and Griffitt, 1966), it seemed reasonable to use a similar technique to attempt modification of children's bias against opposite sex peers. The attitudes used were children's preferences for games and activities.

Information obtained from questionnaires on third grade children's activity preferences was used to compound descriptions of stimulus persons who had interests of varying similarity to the subjects' interests. McKinney (1968) has shown that the stability of children's game and leisure activity preferences increases with age. Accordingly, stability of activity preferences was assessed by administering the questionnaire twice to make sure that the children were reasonably stable in their interests.

In the experimental situation, the subject was required to rate the attractiveness of each of six stimulus persons described by the experimenter. Three of the stimulus persons were male and three were female. One stimulus person of each sex had activity preferences which were completely similar to the subject's preferences, one of each sex had completely dissimilar preferences, and one of

each sex had preferences half of which were similar to the subject's and half of which were dissimilar.

It was hypothesized that: (a) subjects' attraction to stimulus persons would be directly related to the proportion of similar activity preferences held by the stimulus person; (b) attraction to a stimulus person would be dependent upon the stimulus person's sex such that subjects would be more attracted to persons of the same sex than to persons of the opposite sex; and (c) there would be an interaction between the effects of sex of stimulus person and similarity of the stimulus person's activity preferences resulting in a decrease in the tendency to be more attracted to same sex than to opposite sex stimulus persons as the proportion of similar activity preferences held by the stimulus person increased.

# CHAPTER II

# METHOD

## Subjects

Participants were 32 girls and 24 boys who were third grade students in a Winnipeg public school. The data from one girl were eliminated from the analysis because she did not understand the experimental instructions, leaving data from 31 girls and 24 boys.

## Materials

Questionnaire. Subjects were administered a questionnaire of activity preferences in classroom groups. Appendix A contains a copy of the questionnaire. The questionnaire consisted of two identical lists of 30 activities. All but two of these were selected from Sutton-Smith and Rosenberg's list of children's game preferences (Sutton-Smith and Rosenberg, 1961). The two exceptions were watching T. V. and playing hockey, which seem to be consistently popular activities among Winnipeg school children.

Stimulus person descriptions. For each subject short descriptions of stimulus persons were made up from the subject's responses on the questionnaire. Each description stated the stimulus person's age, sex, and activity preferences. The stimulus person was described as liking two activities and disliking two activities which were selected from the activities the subject circled on the questionnaire. The stimulus person's likes and dislikes were in 100% agreement, 50% agreement, or 0% agreement with the subject's

stated preferences. In the 100% agreement condition the stimulus person was described as liking two activities the subject liked and disliking two activities the subject disliked. In the 50% agreement condition the stimulus person was described as liking one activity the subject liked, liking one activity the subject disliked, disliking one liked activity, and disliking one disliked activity. In the 0% agreement condition, the stimulus person was described as liking two activities the subject disliked and as disliking two activities the subject liked. Six descriptions were prepared for each subject presenting a stimulus person of each sex at each of the three similarity levels. The activities used for each description were selected at random without replacement from the stated likes and dislikes of the subject.

The order in which the stimulus person descriptions were presented to each subject was determined by consulting a table of random numbers. Each description condition was assigned a number from one to six, and the order in which the conditions were presented was determined by putting down the numbers from one to six in the order in which they occurred in the table of random numbers. The process was repeated until enough randomized orders of presentation were obtained from all the subjects.

Rating scale. Subjects indicated attraction toward stimulus persons on a five point rating scale similar to that used by Cantor (1972). The rating scale consisted of five circles on which were line drawings of faces with expressions ranging from a large smile

to a large frown. Appendix B contains an example of the scale. The subjects were asked to put an X on the face that best represented how they would feel about bringing the stimulus person home to play with and to spend time with them and their families.

Procedure

The procedure consisted of three phases; the pretest administration of the questionnaire, the experiment, and the posttest administration of the questionnaire (included to check on the stability of the subjects' activity preferences).

Pretesting. Questionnaires were administered to subjects in their classrooms by a male graduate student. The subjects were told that the experimenter wanted to find out what kinds of things third grade students like and dislike doing. The following instructions were printed at the top of the first page of the questionnaire and were read out loud to the class:

"On this page is a list of some things that some people like to do. Please circle the six things you like doing best. If there are some things that you like to do very much that aren't on this list, write them at the bottom of the page."

The person giving the questionnaire then read out the list of activities and offered to help any child who needed it.

When the children had completed the first list they were asked to turn to the next page, on which there was an identical list of activities. The following instructions were printed at the top of the page and read out loud to the subjects:

"Now please circle six things that you really don't like to do. If there is something you don't like doing that isn't on the list, write it at the bottom of the page."

Again, the questionnaire administrator offered help where it was needed.

Experimental situation. Subjects were read descriptions of six stimulus persons and asked to indicate how much they thought they would like to play with each stimulus person. For each subject, three of the stimulus persons were male and three were female. Two stimulus persons (one of each sex) were described as having activity preferences which were completely similar to the subject's preferences, two had completely dissimilar preferences, and two had some similar and some dissimilar preferences.

The experimental sessions took place a minimum of three days following the questionnaire administration. Subjects were brought individually into an empty classroom and were seated across a table from the experimenter, a female graduate student. A small barrier shielded the experimenter's papers from the subject. The experimenter told the subject,

"I'm going to read you some stories about some children, and I want you to show me how you think you would feel about bringing each child home to play with and to spend some time with you and your family."

The experimenter then gave the subject a rating sheet, and explained that an X was to be placed (a) on the face with the "large frown" if the subject "really would not want" to bring the

described child to play with; (b) on the face with the "small frown" if the subject "kind of would not like" to play with the child; (c) on the face that "isn't smiling or frowning" if the subject "would not care one way or the other"; (d) on the face with the "small smile" if the subject "kind of liked" the idea of playing with the child; and (e) on the face with the "large smile" if the subject "liked the idea a whole lot". As the experimenter described the judgements to the subject, she marked the appropriate face on the rating sheet and asked the subject to mark on her or his own sheet the same face as the experimenter had marked.

The experimenter asked the subject whether he or she understood what the experimenter wanted her or him to do, then said that they would do a few more "just for practice". The experimenter gave the subject five fresh rating sheets, one at a time, and asked the subject to mark the appropriate face for each of the five judgements. As each rating sheet was completed, the experimenter removed it from in front of the subject and placed it face down on the table. The experimenter corrected any incorrect responses subjects made. By the end of the five practice trials, subjects were marking the faces appropriate to the expressed judgements.

When the subject had completed the training procedure, the experimenter said,

"Good. Now I'm going to tell you stories about six children. Listen carefully, because after I tell you about each child, I want you to show me how you would feel about bringing him or her

home to play with by putting an X on a face like you have just been doing. O.K.? Do you understand what I want you to do?"

When the subject indicated comprehension of the instructions, the experimenter placed a stick figure drawing of a male or female stimulus person (depending on the experimental condition) on the table in front of the subject. The experimenter told the subject the stimulus person's age (each stimulus person was said to be the same age as the subject) and read the description of the stimulus person. Then the experimenter removed the picture and replaced it with a rating sheet on which the subject was asked to indicate her or his attraction to the stimulus person. The experimenter placed each completed rating scale face down so that previous responses could not be seen. This procedure was repeated for each of the six conditions.

As mentioned earlier, the data from one subject were eliminated from the analysis. This subject marked the rating forms during the experimental trials in the same order as during the training trials, without reference to the content of the stimulus person descriptions, and was unsure what to do in response to the sixth description (the rating scale has only five choices). The experimenter concluded that the child had not understood the experimental instructions and eliminated her data from the analysis.

A typical trial followed this pattern:

"This is a girl who is eight years old. She likes playing baseball and she likes going camping. She doesn't like sewing

and she doesn't like playing hockey.

"Now show me how much you think you would like to play with this girl."

Upon completion of the session, the subject was thanked for cooperating and asked to return to class.

Posttesting. Following all the experimental sessions, the subjects completed the activity questionnaire a second time in classroom groups. The questionnaire administrator followed the procedure which was employed during the pretest administration. A period of about one week separated the two questionnaire administrations.

# CHAPTER III

## RESULTS

The subjects' ratings of the stimulus persons were assigned scores ranging from one for very low liking to five for very high liking. Then two analyses of variance were performed on the liking ratings. The purpose of the first analysis was to determine whether subjects' liking ratings varied in any consistent manner across trials. In the second, the effects of the experimental manipulation on ratings were examined.

A 2 X 6 repeated measures analysis of variance was performed to determine whether subjects' liking ratings varied in any consistent manner as a function of trials. Sex of Subject was the between subjects variable and Trials was the within subjects variable. A significant main effect for Sex of Subject was obtained, $F(5,53) = 5.68$, $p < .05$ However, the main effect for Trials and the Sex of Subject X Trials interaction were not significant, $F(5,265) = 1.15$, and $F(5,265) = .71$, respectively.

A repeated measures analysis of variance was performed on the subjects' liking ratings in each of the experimental conditions. Sex of Stimulus Person and Similarity of the stimulus person's activity preferences (Interests) to the subjects' preferences were the within subjects factors. Sex of Subject was the between subjects factor. The dependent variable was the subjects' rated liking of the stimulus persons in each of the experimental conditions.

The results of this analysis of variance are summarized in

Table I. Main effects for Sex of Subject and Similarity of Interests were statistically significant. Girls, in general, gave stimulus persons higher ratings than boys did, and for subjects as a whole, liking ratings were positively related to similarity of the stimulus person's activity preferences. Significant interaction effects were obtained for the two-way Sex of Subject X Sex of Stimulus Person interaction (subjects gave higher ratings to stimulus persons of the same sex than to stimulus persons of the opposite sex), and the three-way interaction, Sex of Subject X Sex of Stimulus Person X Similarity of Interests, discussed below. Table 4, Appendix C contains the mean liking scores and the standard error of the means for each level of the statistically significant main effects and interactions.

Following the analysis of variance, post hoc comparisons were made to determine which of the cells of the three-way interaction were responsible for the significant $F$ ratio obtained. The test used was the Tukey $HSD$ statistic. The error terms for the Tukey tests were calculated according to procedures recommended by Dewson and Keselman (Note 2) for use with designs containing several within subjects factors. Calculations of the $HSD$ values are summarized in Appendix D. The critical values obtained were $HSD\ (265) = .99$ for horizontal comparisons (those in which the between subjects factor is held constant) and $HSD(318) = 1.01$ for nonhorizontal comparisons (those in which the between subjects factor, sex of subject, is not held constant). The differences among means in the three-way interaction are recorded in Table 5, Appendix E.

TABLE 1

Summary of Repeated Measures Analysis of Variance

of Subjects' Liking Ratings

| Source | df | SS | MS | F |
|---|---|---|---|---|
| Sex of Subject (A) | 1 | 8.62 | 8.62 | 5.68* |
| Error | 53 | 80.53 | 1.52 | |
| Sex of Stimulus Person (B) | 1 | 0.05 | 0.05 | 0.04 |
| A X B | 1 | 14.81 | 14.81 | 13.27** |
| Error | 53 | 59.18 | 1.12 | |
| Similarity of Interests (C) | 2 | 183.30 | 91.65 | 62.13** |
| A X C | 2 | 8.07 | 4.04 | 2.74 |
| Error | 106 | 156.36 | 1.48 | |
| B X C | 2 | 0.08 | 0.04 | 0.04 |
| A X B X C | 2 | 8.40 | 4.20 | 4.15* |
| Error | 106 | 107.34 | 1.01 | |

* $p < .05$

** $p < .01$

Inspection of the means involved in the three-way interaction, plotted in Figure 1, yields a number of observations about the nature of the interaction. Subjects gave both same and opposite sex stimulus persons whose interests were 100% similar higher liking ratings than they gave to stimulus persons whose interests were 50% similar. This difference was statistically reliable for all comparisons except when female subjects rated male stimulus persons. Subjects also rated stimulus persons with 50% similar interests higher than stimulus persons with 0% similar interests, but the mean differences were not statistically significant. However, ratings given same and opposite sex stimulus persons in the 100% interests similarity condition were significantly higher than those given to stimulus persons in the 0% interests similarity condition.

The difference between ratings of same sex and opposite sex stimulus persons varied over similarity of interests conditions. Although the differences were not statistically reliable, same sex stimulus persons were given higher ratings than were opposite sex stimulus persons in the 100% interests similarity condition. This difference was smaller in the 50% interests similarity condition, where same sex stimulus persons received only slightly higher ratings than did opposite sex stimulus persons, and increased again slightly in the 0% interests similarity condition.

Opposite sex stimulus persons were given higher ratings than same sex stimulus persons when the preferences of the same sex stimulus person were less similar to the subject's preferences than

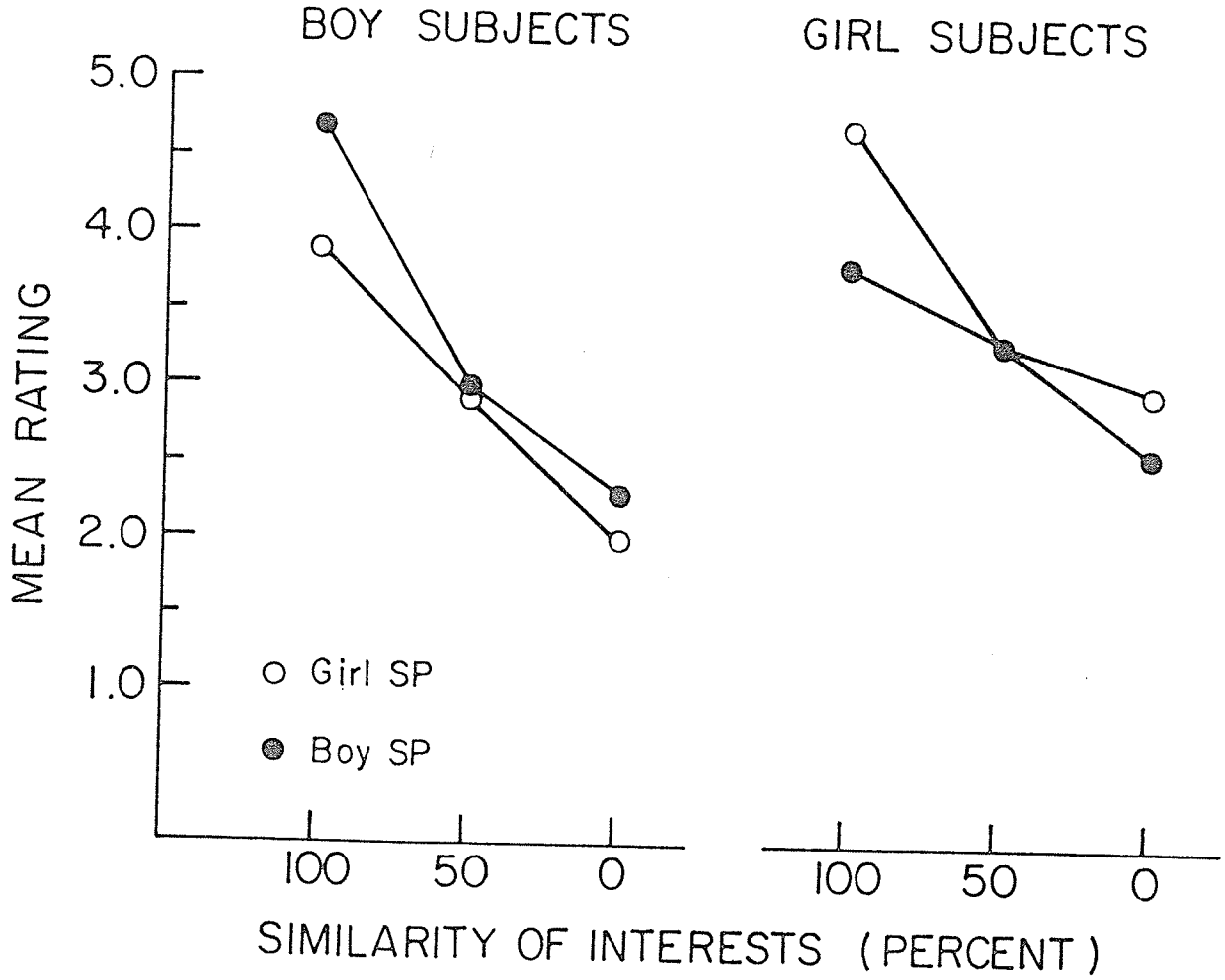



Figure 1. Mean ratings of girl and boy stimulus persons (SP) by boys and girls at each level of similarity of interests.

those of the opposite sex stimulus person. This trend was consistent for subjects of both sexes at the three interests similarity levels, but was statistically reliable only when subjects' ratings of opposite sex stimulus persons who had 100% similar interests were compared with ratings of same sex stimulus persons whose interests were 0% similar.

Stability of activity preferences. The subjects' responses on the first and second administrations of the questionnaire were compared to determine the stability of the children's activity preferences. Cross-administration likes and dislikes were compared for all subjects as a group, and for female and male subjects separately. Only data from those subjects who correctly completed questionnaires in both administrations were used. Due to absenteeism and to subjects making errors in the second administration they did not make in the first, there were fewer subjects in this analysis than in the experiment itself. There were 27 female and 23 male subjects in this analysis, a loss of four females and one male.

The results of the stability analysis are summarized in Tables 2 and 3. Stability of activity preferences was determined by calculating the percentage of same choices for liked and disliked activities made in the first and second questionnaire administration. These percentages are presented in Table 2 for female subjects, male subjects, and all subjects combined. As can be seen in Table 2, nearly three quarters of the activities preferred in the first administration were consistent with choices made in the second

Table 2

Percentage of Agreeing Choices Made Between the Two Questionnaire Administrations

| Preferences | Female subjects | Male subjects | All subjects |
|---|---|---|---|
| Likes | 72% | 76% | 74% |
| Dislikes | 54% | 66% | 60% |

administration, and nearly two thirds of activities disliked on the first administration were also disliked on the second administration.

The percentage of disagreeing choices made in the two administrations were also calculated for all subjects and for female and male subjects. Two types of disagreement were identified and tallied separately. They were crossovers from liking an activity on the first administration to disliking it on the second, and from disliking an activity on the first administration to liking it on the second. As can be seen in Table 3, only a small percentage of crossovers occurred in each analysis group.

The results of the questionnaire of activity preferences are presented in Appendix F, along with the activities the subjects added at the bottom of the questionnaires.

Table 3

Percentage of Crossovers Made Between the Two Questionnaire Administrations

| Crossover | Female subjects | Male subjects | All subjects |
|---|---|---|---|
| Like to dislike | 3.7% | 0.7% | 2.2% |
| Dislike to like | 3.7% | 3.3% | 3.5% |

# CHAPTER IV

## DISCUSSION

The first hypothesis, which stated that subjects' attraction to stimulus persons would be dependent on the similarity of the stimulus person's activity preferences to their own, was supported by the results. Subjects gave higher ratings to stimulus persons with 100% similar interests than to those with 50% similar interests, and to stimulus persons with 50% similar interests than to those with 0% similar interests. This relationship is consistent with the findings of Byrne and his associates (Byrne & Griffit, 1966, Byrne & Nelson, 1965, Griffitt, Nelson & Littlepage, 1972), who have demonstrated that attraction to a stimulus person is positively related to the proportion of similar attitudes held by the stimulus person. Thus, children's rejection of both same and opposite sex peers might be modified by knowledge of activity preferences held in common.

The second hypothesis, which concerned subjects' preferences for same sex stimulus persons, was also confirmed. As was predicted from studies of children's friendship choices (Durojaiye, 1969, Parten, 1933), subjects gave higher ratings to same sex stimulus persons than to opposite sex stimulus persons.

The third hypothesis was that an interaction would be found between sex of subject, sex of stimulus person, and similarity of the stimulus person's activity preferences such that a decrease in

the tendency to be more attracted to same sex than to opposite sex stimulus persons would occur as the proportion of similar activity preferences increased. Given this situation, sex of stimulus person would be seen as less relevant in controlling liking ratings as similarity increased. Thus, we would expect to find the greatest difference between subjects' ratings of same sex and opposite sex stimulus persons at the 0% similarity level and the least at the 100% similarity level. A significant three-way interaction effect involving sex of subject, sex of stimulus person, and similarity of activity preferences was found; however, the predicted trends were not obtained for boys or girls. Instead, sex of stimulus person had a greater effect on liking ratings at 100% interests similarity than at 50% interests similarity.

Although same sex stimulus persons were given higher ratings at each level of interests similarity, opposite sex stimulus persons were preferred to same sex stimulus persons whose interests were less similar. These differences were statistically significant when the 100% interests similarity condition was compared with the 0% interests similarity condition. This result suggests that children's preference for same sex peers is present only when comparing male and female peers with the same proportion of similar interests and that an opposite sex peer with a higher proportion of similar interests is liked better than a same sex peer.

An unexpected result was the tendency for female subjects to give higher ratings than male subjects. A similar tendency was

noted by Schaller (1973), who found that girls are most positive toward newcomers than are boys. The stimulus person in the present study could be seen as a stranger toward whom the girls reacted more positively than did the boys. Girls also tend to place less physical distance between representations of themselves and figures depicting liked individuals in a personal space task (Guardo, 1969). These results point toward a possible general tendency for girls to give more positive evaluations than boys do, whether the medium of evaluation is a rating scale or a measure of personal space.

Stability of the subjects' interests was assessed by readministering the activity preferences questionnaire following the experimental sessions and comparing the results of the second administration with the results of the first. The children were found to be fairly stable in their activity preferences. They chose about three quarters of the same activities as liked on both administrations, and nearly two thirds of the same activities as disliked. Crossovers from liking an activity on the first administration to disliking it on the second, or vice versa, were rare. The stimulus person descriptions, then, probably did reflect the intended similarity or dissimilarity of interest.

The problem for future investigation most directly raised by the results of this experiment is the question of to what extent the relationship between sex of the subject and sex and similarity of interests of the stimulus person found here generalizes across ages. Although other research has suggested that most children will respond

to the similarity of interests factor in much the same way as found in the present study (Byrne & Griffitt, 1966), the response to sex of stimulus person may well vary. In adolescence, for example, the pattern of responding in which same sex stimulus persons are preferred to opposite sex stimulus persons who have just as similar interests could well be reversed as the companionship of the opposite sex becomes more desirable.

Another question which arises from this experiment concerns the effect the degree of same sex preference held by the subject would have on her or his response to the interests similarity manipulation. Goebel and Cole (1975) reported that high racially prejudiced Caucasian subjects perceived a Caucasian stimulus person as being significantly more similar to themselves in attitude and indicated that they would be more friendly toward that person than toward a Mexican-American stimulus person. In an experiment by Byrne and Wong (1962), high and low racially prejudiced Caucasian subjects rated Negro and Caucasian stimulus persons who had similar or dissimilar attitudes. Although Byrne and Wong found a difference between prejudice groups in that high prejudice subjects tended to rate agreeing strangers more positively than low prejudice subjects, regardless of race, they did not find a significant interaction between level of prejudice, race of stimulus person, and similarity of attitudes. A subject with a strong preference for same sex peers, in the absence of contrary information, might expect an opposite sex stimulus person to be completely dissimilar with

respect to activity preferences, and would be less likely to be attracted to her or him. Receipt of information indicating that an opposite sex stimulus person's interests were, in fact, similar might have no effect on the subject's ratings, or it might result in the subject giving the stimulus person either higher or lower ratings than he or she would have given without such information, or than would have been given by a subject with a low sex bias. Thus, the question of the relationship between level of a subject's initial sex bias, the sex of the stimulus person, and the similarity of the stimulus person's activity preferences remains open to and worthy of empirical analysis.

A more general problem which arises is the identification of the factors which control the bias against the opposite sex. In the present experiment, information about the activity preferences of stimulus persons tended to modify children's attraction to opposite sex stimulus persons. This finding gives rise to the hypothesis that rejection of opposite sex peers could be due, at least in part, to an expectation on the part of the child that the activity preferences of an opposite sex stimulus person would be different from the child's own. This hypothesis is consistent with the results of Goebel and Cole's (1975) study of perceived similarity as a function of level of prejudice, cited earlier, and could be tested in a similar fashion. Children exhibiting different levels of sex bias could be asked to indicate the degree to which they thought same and opposite sex stimulus persons would be like themselves

with regard to activity preferences. A finding that highly biased children perceived opposite sex stimulus persons as being different in their activity preferences would support this hypothesis regarding the possible origins of the prejudice.

Investigation of the factors controlling children's attraction to opposite sex peers could well provide insight into the process of prejudice acquisition in general as well as providing information about the process and effects of sex-typing.

## REFERENCE NOTES

Clore, G. L., & Johnson, C. Black-white interactions in a summer camp for children. Unpublished manuscript, University of Illinois, 1971.

Dewson, M., & Keselman, H. J. Practical devises for the computation of Tukey HSD comparisons and for determining appropriate error terms for multiple post hoc comparisons. Unpublished manuscript, University of Manitoba, 1972.

# REFERENCES

Best, D. L., Smith, S. C., Graves, D. J., & Williams, J. E. The modification of racial bias in preschool children. Journal of Experimental Child Psychology, 1975, 20, 193-205.

Byrne, D. The attraction paradigm. New York: Academic Press, 1971.

Byrne, D., & Griffitt, W. A developmental investigation of the law of attraction. Journal of Personality and Social Psychology, 1966, 4, 699-702.

Byrne, D., & McGraw, C. Interpersonal attraction toward negroes. Human Relations, 1964, 17, 201-213.

Byrne, D., & Nelson, D. Attraction as a linear function of proportion of positive reinforcers. Journal of Personality and Social Psychology, 1965, 1, 659-663.

Byrne, D., & Wong, T. J. Racial prejudice, interpersonal attraction, and assumed dissimilarity of attitudes. Journal of Abnormal and Social Psychology, 1962, 65, 246-253.

Campbell, E. H. The social-sex development of children. Genetic Psychology Monographs, 1939, 21, 461-552.

Cantor, G. N. Effects of familiarization on children's ratings of pictures of whites and blacks. Child Development, 1972, 43, 1219-1229.

Carville, D. J. Liking relationships and attitude balance among upper elementary school children. Doctoral dissertation, University of Michigan, 1968. (Dissertation Abstracts International, 1969, 30(1A), 387)

Cavior, N., & Dokecki, P. R. Physical attractiveness, perceived attitude similarity, and academic achievement as contributors to interpersonal attraction among adolescents. Developmental Psychology, 1973, 9, 44-54.

Clore, G. L., & Byrne, D. A reinforcement-affect model of attraction. In T. L. Huston (Ed.), Foundations of interpersonal attraction. New York: Academic Press, 1974.

Durojaiye, M. O. A. Patterns of friendship and leadership choices in a mixed ethnic junior high school: A sociometric analysis. British Journal of Educational Psychology, 1969, 39, 88-89.

Eaton, W. O., & Clore, G. L. Interracial imitation at a summer camp. Journal of Personality and Social Psychology, 1975, 32, 1099-1105.

Goebel, J. B., & Cole, S. G. Mexican-American and white reactions to stimulus persons of same and different race: Similarity and attraction as a function of prejudice. Psychological Reports, 1975, 36, 827-833.

Goodenough, F. Developmental psychology: An introduction to the study of human behaviour. New York: Appleton-Century, 1934.

Griffitt, W., Nelson, J., & Littlepage, G. Old age and response to agreement-disagreement. Journal of Gerontology, 1972, 27, 269-274.

Guardo, C. G. Personal space in children. Child Development, 1969, 40, 143-151.

Haskett, G. J. Modification of peer preferences of first grade children. Developmental Psychology, 1971, 4, 429-433.

Huston, T. L. (Ed.) Foundations of interpersonal attraction. New York: Academic Press, 1974.

Johnson, S., & Johnson, D. W. The effects of other's actions, attitude similarity, and race on attraction towards others. Human Relations, 1972, 25, 121-130.

Lombardo, J. P., Weiss, R. F., & Stich, M. H. Interpersonal attraction as a function of amount of information supporting the subject's opinions. Psychonomic Science, 1971, 24, 79-80.

Lott, A. J., Aponte, J. F., Lott, B. E., & McGinley, W. H. The effect of delayed reward on the development of interpersonal attraction. Journal of Experimental Social Psychology, 1969, 5, 101-113.

Lott, A. J., & Lott, B. E. The role of reward in the formation of positive interpersonal attitudes. In T. L. Huston, (Ed.), Foundations of interpersonal attraction. New York: Academic Press, 1974.

Lott, A. J., Lott, B. E., & Matthews, G. M. Interpersonal attraction among children as a function of vicarious reward. Journal of Educational Psychology, 1969, 60, 274-283.

McKinney, J. P. The development of choice stability in children and adolescents. Journal of Genetic Psychology, 1968, 113, 79-83.

Meyer, W. J. Relationships between social need strivings and the development of heterosexual affiliations. Journal of Abnormal and Social Psychology, 1959, 59, 51-57.

Parten, M. B. Social play among preschool children. Journal of Personality and Social Psychology, 1933, 28, 136-147.

Pintner, R., Forlano, G., & Freedman, H. Personality and attitudinal similarity among classroom friends. Journal of Applied Psychology, 1937, 21, 48-65.

Robinson, C. C. The modification of racial attitudes in black and white preschool children. Doctoral dissertation, Emory University, 1976. (Dissertation Abstracts International, 1977, 37(8B), 4226).

Schaller, J. Children's attitudes to newcomers. Göteborg Psychological Reports, 1973, 3, 6. (Psychological Abstracts, 1974, 51, No. 9051).

Sutton-Smith, B., & Rosenberg, B. G. Sixty years of historical change in the game preferences of children. Journal of American Folklore, 1961, 74, 17-46.

Tedeschi, J. Attribution, liking, and power. In T. L. Huston, (Ed.) Foundations of interpersonal attraction. New York: Academic Press, 1974.

van der Keilen, M. Some effects of a special Indian culture oriented program on attitudes of white and Indian elementary school pupils. Canadian Journal of Behavioural Science, 1977, 9, 161-168.

# APPENDIX A

## Activity Preferences Questionnaire

NAME_____ AGE_____

Boy ☐ Girl ☐

---

On this page is a list of some things that some people like to do. Please circle the six things that you like doing best. If there are some things that you like to do very much that aren't on this list, write them at the bottom of the page.

(A) Circle six.

| | |
|---|---|
| Baseball | Jacks |
| Bingo | Knitting |
| Bowling | London Bridge |
| Building forts | Playing Cowboys |
| Crack the Whip | Ring around the rosy |
| Dancing | Scrabble |
| Fishing | Sewing |
| Fox and Geese | Skiing |
| Gardening | Snap |
| Going to the store | Swimming |
| Hiking | Tennis |
| Hockey | Tobogganing |
| Horseriding | Volleyball |
| Hunting | Watching T. V. |
| I Spy | Working with machines |

(B) Now write down anything you like very much to do that isn't on the list.

Now please circle the six things that you really don't like to do. If there are some things you don't like doing that aren't on the list write them at the bottom of the page.

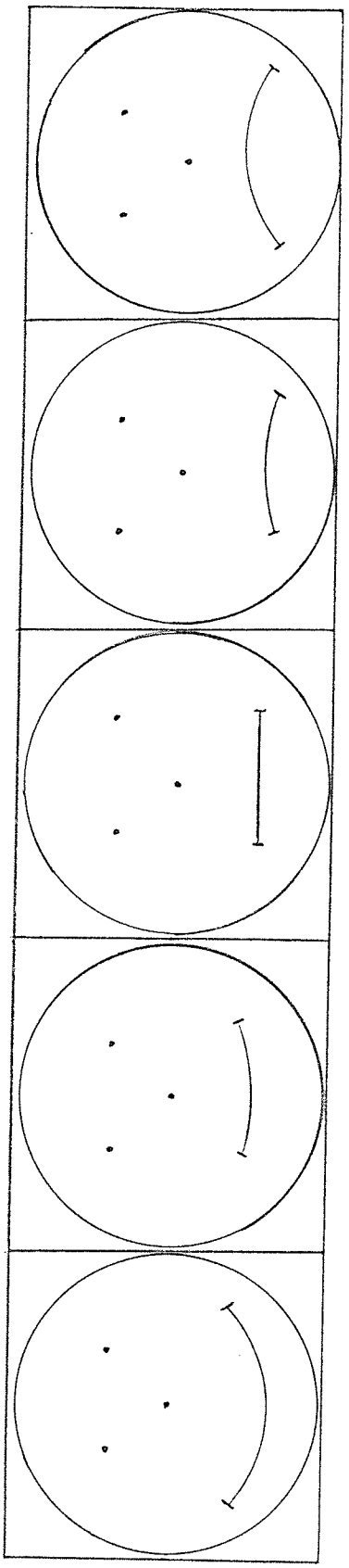
(A) Circle six.

| | |
|---|---|
| Baseball | Jacks |
| Bingo | Knitting |
| Bowling | London Bridge |
| Building forts | Playing Cowboys |
| Crack the Whip | Ring around the rosy |
| Dancing | Scrabble |
| Fishing | Sewing |
| Fox and Geese | Skiing |
| Gardening | Snap |
| Going to the store | Swimming |
| Hiking | Tennis |
| Hockey | Tobogganing |
| Horseriding | Volleyball |
| Hunting | Watching T. V. |
| I Spy | Working with machines |

(B) Now write down anything you really don't like doing that isn't on the list.

# APPENDIX B

## Rating Scale



# APPENDIX C

## Mean Liking Scores and Standard Errors of Means

Table 4

Means and Standard Errors of Liking Ratings for Main Effects and Statistically Significant Interactions.

| Source | Condition | Number of Observations | Mean | SE |
|---|---|---|---|---|
| Sex of Subject (A) | Male (1) | 114 | 3.10 | 0.10 |
| | Female (2) | 186 | 3.43 | 0.09 |
| Sex of Stimulus Person(B) | Male (1) | 165 | 3.26 | 0.08 |
| | Female (2) | 165 | 3.28 | 0.08 |
| Similarity of Interest(C) | 100% (1) | 110 | 4.25 | 0.12 |
| | 50% (2) | 110 | 3.10 | 0.12 |
| | 0% (3) | 110 | 2.45 | 0.12 |
| A x B | 11 | 72 | 3.31 | 0.12 |
| | 12 | 72 | 2.90 | 0.12 |
| | 21 | 93 | 3.20 | 0.11 |
| | 22 | 93 | 3.66 | 0.11 |
| A X B X C | 111 | 24 | 4.71 | 0.20 |
| | 112 | 24 | 2.96 | 0.20 |
| | 113 | 24 | 2.25 | 0.20 |
| | 121 | 24 | 3.88 | 0.20 |
| | 122 | 24 | 2.88 | 0.20 |
| | 123 | 24 | 1.96 | 0.20 |
| | 211 | 31 | 3.77 | 0.18 |
| | 212 | 31 | 3.26 | 0.18 |
| | 213 | 31 | 2.58 | 0.18 |
| | 221 | 31 | 4.64 | 0.18 |
| | 222 | 31 | 3.32 | 0.18 |
| | 223 | 31 | 3.00 | 0.18 |

# APPENDIX D

## Calculations of Tukey HSD Values

Pooled error mean squares for horizontal and nonhorizontal comparisons:

$$MS_e \text{ (horizontal)} = \frac{\sum SS_{B,\ C,\ ABC \text{ error terms}}}{\sum df_{B,\ C,\ ABC \text{ error terms}}}$$

$$= \frac{322.8704}{265}$$

$$= 1.2183$$

$$MS_e \text{(nonhorizontal)} = \frac{\sum SS_{A,\ B.\ C.\ ABC \text{ error terms}}}{\sum df_{A,\ B.\ C.\ ABC \text{ error terms}}}$$

$$= \frac{403.399}{318}$$

$$= 1.2685$$

Honestly significant differences (HSDs) for horizontal and nonhorizontal comparisons:

$$\tilde{n} = \frac{r}{6(1/n_1)\ \ 6(1/n_2)}$$

$$= \frac{12}{6(1/24)\ \ 6(1/31)}$$

$$= 27.64$$

$$\text{HSD (horizontal)} = q_{.05,\ df_{HOR},\ r=12}\sqrt{\frac{MS_e \text{ (horizontal)}}{n}}$$

$$= 4.71\sqrt{\frac{1.2183}{27.64}}$$

$$= .9891$$

$$\text{HSD (nonhorizontal)} = q_{.05,\ df_{NONHOR},\ r=12}\sqrt{\frac{MS \text{ (nonhorizontal}}{n}}$$

$$= 4.71\sqrt{\frac{1.2685}{27.64}}$$

$$= 1.008$$

# APPENDIX E

## Differences Among Group Means in the Three-Way Interaction

Table 5

Pairwise Comparisons of Means Involved in the Sex of Subject X Sex of Stimulus Person X Interests Similarity Interaction.

| | $\bar{X}_{111}$[1] | $\bar{X}_{112}$ | $\bar{X}_{113}$ | $\bar{X}_{121}$ | $\bar{X}_{122}$ | $\bar{X}_{123}$ | $\bar{X}_{211}$ | $\bar{X}_{212}$ | $\bar{X}_{213}$ | $\bar{X}_{221}$ | $\bar{X}_{222}$ | $\bar{X}_{223}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $\bar{X}_{111}$ | - | 1.75 | 2.46 | 0.833 | 1.83 | 2.75 | 0.934 | 1.45 | 2,13 | 0.063 | 1.39 | 1.708 |
| $\bar{X}_{112}$ | | - | 0.708 | -0.917 | 0.083 | 1.00 | -0.816 | -0.30 | 0.377 | -1.69 | -0.365 | -0.042 |
| $\bar{X}_{113}$ | | | - | -1.63 | -0.625 | 0.292 | -1.52 | -1.008 | -0.331 | -2.39 | -1.07 | -0.750 |
| $\bar{X}_{121}$ | | | | - | 1.00 | 1.92 | 0.101 | 0.617 | 1.30 | -0.77 | 0.552 | 0.875 |
| $\bar{X}_{122}$ | | | | | - | 0.917 | -0.899 | -0.383 | 0.294 | -1.77 | -0.448 | -0.125 |
| $\bar{X}_{123}$ | | | | | | - | -1.82 | -1.30 | -0.623 | -2.69 | -1.36 | -1.04 |
| $\bar{X}_{211}$ | | | | | | | - | 0.516 | 1.19 | -0.871 | 0.451 | 0.774 |
| $\bar{X}_{212}$ | | | | | | | | - | 0.677 | -1.39 | -0.065 | 0.258 |
| $\bar{X}_{213}$ | | | | | | | | | - | -2.06 | -0.742 | -0.419 |
| $\bar{X}_{221}$ | | | | | | | | | | - | 1.32 | 1.645 |
| $\bar{X}_{222}$ | | | | | | | | | | | - | 0.325 |
| $\bar{X}_{223}$ | | | | | | | | | | | | - |

1. The first subscript refers to Sex of Subject (1-male, 2-female), the second refers to Sex of Stimulus Person (1-male, 2-female), and the third refers to Similarity of Interests (1 - 100%, 2 - 50%, 3 - 0%).

# APPENDIX F

## Results from Activity Preferences Questionnaire

Table 6

Number of Subjects Who Liked or Disliked

Each Activity on the Questionnaire

| Activity | First Administration | | | | Second Administration | | | |
|---|---|---|---|---|---|---|---|---|
| | Like | | Dislike | | Like | | Dislike | |
| | Girls | Boys | Girls | Boys | Girls | Boys | Girls | Boys |
| Baseball | 17 | 15 | 7 | 6 | 14 | 16 | 6 | 5 |
| Bingo | 8 | 0 | 9 | 7 | 11 | 0 | 6 | 10 |
| Bowling | 19 | 10 | 4 | 1 | 13 | 12 | 8 | 5 |
| Building forts | 2 | 6 | 11 | 3 | 1 | 10 | 10 | 2 |
| Crack the Whip | 2 | 0 | 9 | 6 | 1 | 0 | 12 | 11 |
| Dancing | 18 | 2 | 7 | 14 | 18 | 0 | 8 | 11 |
| Fishing | 5 | 15 | 12 | 1 | 3 | 18 | 8 | 2 |
| Fox & Geese | 0 | 0 | 14 | 7 | 1 | 1 | 7 | 10 |
| Gardening | 4 | 2 | 2 | 11 | 3 | 2 | 4 | 4 |
| Going to the Store | 5 | 0 | 7 | 14 | 5 | 1 | 6 | 4 |
| Hiking | 4 | 12 | 5 | 0 | 5 | 7 | 5 | 1 |
| Hockey | 0 | 17 | 20 | 3 | 0 | 15 | 14 | 2 |
| Horseriding | 22 | 9 | 0 | 0 | 17 | 9 | 0 | 0 |
| Hunting | 1 | 11 | 8 | 2 | 2 | 8 | 8 | 0 |
| I Spy | 3 | 0 | 7 | 6 | 1 | 0 | 8 | 10 |
| Jacks | 0 | 0 | 4 | 8 | 1 | 0 | 6 | 9 |
| Knitting | 11 | 0 | 3 | 13 | 11 | 0 | 3 | 12 |
| London Bridge | 1 | 0 | 9 | 9 | 2 | 0 | 9 | 7 |
| Playing Cowboys | 0 | 4 | 15 | 4 | 1 | 4 | 11 | 5 |
| Ring Around A Rosy | 2 | 0 | 11 | 14 | 1 | 0 | 8 | 12 |
| Scrabble | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 0 |
| Sewing | 11 | 0 | 1 | 12 | 9 | 2 | 4 | 10 |
| Skiing | 2 | 3 | 1 | 1 | 3 | 3 | 2 | 1 |
| Snap | 1 | 0 | 1 | 3 | 0 | 0 | 4 | 4 |

continued overleaf...

Table 6 continued.

| Activity | First Administration | | | | Second Administration | | | |
|---|---|---|---|---|---|---|---|---|
| | Like | | Dislike | | Like | | Dislike | |
| | Girls | Boys | Girls | Boys | Girls | Boys | Girls | Boys |
| Swimming | 23 | 19 | 0 | 1 | 25 | 14 | 3 | 1 |
| Tennis | 7 | 4 | 7 | 1 | 6 | 4 | 4 | 1 |
| Tobogganing | 2 | 2 | 2 | 1 | 2 | 0 | 2 | 3 |
| Volleyball | 5 | 6 | 2 | 6 | 2 | 3 | 1 | 1 |
| Watching T.V. | 12 | 11 | 3 | 0 | 17 | 10 | 1 | 0 |
| Working with Machines | 3 | 6 | 8 | 1 | 3 | 7 | 12 | 1 |

Table 7

Activities Added by Subjects to the Questionnaire on the First Administration

| Girls | | Boys | |
|---|---|---|---|
| Likes | Dislikes | Likes | Dislikes |
| Art(2)[1] | The game 7-Up (1) | Soccer(10) | Washing Dishes (4) |
| Skipping(3) | Getting Up Early(1) | Basketball(2) | Checkers(1) |
| Camping(1) | Swimming(1) | Racing(2) | Tag(1) |
| Rollerskating(1) | Skating(1) | Bikeriding(2) | Football(1) |
| Skating(2) | Housework(4) | Catch (1) | Skipping(1) |
| Hopscotch(1) | Fighting(2) | Dodgeball(1) | Singing(1) |
| The game 7-Up(1) | Marbles(2) | Cops&Robbers (1) | Schoolwork(3) |
| Bikeriding(1) | Going to Country(1) | Croquet(1) | Field day(1) |
| Badminton(1) | Football(1) | Wrestling(1) | Housework(1) |
| Playing house(3) | Teeter totter (1) | Football(3) | Playing cars(1) |
| Frozen tag(1) | Math(1) | Marbles(1) | Play with girls(1) |
| Play with cat(1) | Spelling(1) | Art(1) | Cooking(1) |
| King of castle(1) | | Reading (1) | Walking(1) |
| Croquet(3) | | Skidooing(1) | |
| Reading(2) | | Playing war(1) | |
| Baking(2) | | | |
| Crocheting(1) | | | |
| Weaving(1) | | | |

[1]Numbers in brackets following activities indicate the number of subjects who listed that activity.

Table 8

Activities Added by Subjects to the Questionnaire on the Second Administration.

| Girls | | Boys | |
|---|---|---|---|
| Likes | Dislikes | Likes | Dislikes |
| Skipping(5)[1] | Play with Doll(1) | Soccer(7) | Washing dishes (2) |
| Badminton(1) | Going to School(2) | Football(4) | Fighting(2) |
| Playing house(1) | Hopscotch(2) | Marbles(1) | Skipping |
| Frozen Tag(1) | Playing School(1) | Tag(1) | Housework(1) |
| Having dog(1) | Fighting(2) | Wrestling(1) | Play with girls(1) |
| Housework(4) | Soccer(1) | Highjumping(1) | Soccer(2) |
| Croquet(1) | Singing(2) | Art(1) | Racing(1) |
| Skating(2) | Baking(1) | Running(1) | Playing cars(1) |
| Rollerskating(2) | Football(1) | Playing cars(1) | Girls(1) |
| Cooking(2) | Playing house(2) | Cards(1) | Cooking(1) |
| Hopscotch(1) | | Camping(1) | Schoolwork(1) |
| Reading(1) | | Bikeriding(2) | |
| Schoolwork(1) | | | |

[1]Numbers in brackets following activities indicate the number of subjects who listed that activity.