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AN EXPERIMENTAL STUDY OF THE EFFECTS OF
NEGATIVE SOCIOMETRIC CHOICES ON INTER-
PERSONAL RELATIONSHIPS IN
GRADE FIVE STUDENTS

by


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CHAPTER I

INTRODUCTION TO THE PROBLEM

Educators have attempted to keep pace with the societal trend toward more democratic interpersonal relationships during the past generation, and modern educational literature is replete with admonitions that teachers acknowledge and accept the responsibility of maintaining a classroom climate which facilitates positive social and emotional growth. In Laycock's terms, the school "has no choice but to teach pupils how to live, work, and play together in school so that both the needs of the individual and of the group may be met" (1960, p. 5). How well the miniature society fulfills this obligation will be reflected in the cooperative and creative manner in which today's children, as adults, work together to achieve common purposes in a democratic society.

Central to the theme of wholesome personal adjustment is a description of developmental tasks by Havighurst. He proposed that the process of learning to get along with age-mates is really the process of learning a "social personality" or acquiring social stimulus value (1953, p. 30). In recognizing man to be primarily a social being, Dinkmeyer and Dreikurs further developed this concept,

indicating their belief that the characteristics which make man distinctly human are "a result of his social interaction with his fellow man," as it is "only within the group that he can function and fulfill himself" (1963, p. 8).

In the preschool period adults set the standards with which youngsters try to cope. During this period the latter develop feelings about themselves and about their relationships with other persons. Security is provided through the child's attachment to significant adults who interpret the actions of age-mates to him, as he knows and understands little of their expectations.

By the time he is of school age the child has often developed socially to the extent that he can now join in some minor cooperative play which calls for loose organization and in which enterprises and membership vary. He is still very much the individualist, as is typically indicated by the games he selects, but he finds certain requirements being established as prerequisites for participation. It is apparent to the youngster, even at this stage, that mere physical presence is insufficient criterion for inclusion in activities.

What of the youngster who has not had an opportunity to enjoy the company of other children in the preschool period? Due to lack of experience in initiating social contacts with age-mates he may encounter early loneliness in the school situation unless the teacher

assumes her vital role of helping him establish rapport with classmates. These first school relationships are of paramount importance in building a sound foundation for later experiences.

Generally, the trauma of exclusion does not begin to manifest itself until the group commences to set its own standards. There is, however, a concomitant possibility that self-appraisal, subsequent to exclusion, may lead to doubts of personal worth and possible withdrawal from any situation in which the individual or his work may be appraised. Also, a reputation of undesirability may follow such an individual, further limiting his opportunities to develop profitable relationships. That this situation is unacceptable and may foreshadow future problems is apparent to Thompson who wrote: "In the American culture . . . Social maturity in children is sought at the expense of almost every other aspect of psychological growth. Social acceptability is the payoff in our society. . . ." (1962, p. 460). From early in the intermediate grades the social acceptability of the individual to his peer group assumes increasing importance.

If children demonstrated the same alacrity in setting about their academic tasks as they do in seeking ways to attain and maintain peer group status, teachers would have few motivational problems. According to Havighurst (1953), the chief concern of the child, whether the teacher pays any attention to it or not, is with the task

of learning how to get along with age-mates. Prescott agreed, in stating that "for certain individuals, the task of winning belonging in this peer group or achieving certain desired roles and status may be the most compelling interest of the school year" (1957, p. 277).

Later, he proposed that "peer group status and roles are of immediate concern to the child, in contrast to the more remote interest that much of the traditional subject matter has for him" (Ibid., p. 374). Such concentration is frequently to the detriment of achievement in subject matter areas, for energy expended on development of satisfactory relationships precludes the availability of this energy for meeting academic requirements in the school situation.

Despite their efforts for acceptance and positive recognition, some children, for a variety of reasons collectively described as "social immaturity," find themselves forced into roles not synonymous with social acceptance. These rejects, isolates, or neglectees experience little opportunity to satisfy either physical or social needs in an acceptable manner. They do not develop a feeling of security in communicating with others in the group. This is reflected in less than optimal group communication and in subsequent diminution of the efficiency with which the classroom group, as a unit, can function.

Awareness of the interpersonal relationships and their manifestations, and of the unique structure of each group with which he interacts may assist the teacher in empathic guidance of students experiencing poor interpersonal relationships. Successful guidance will not only aid their adjustment but may well influence their achievement level and learning potential. This point of view is supported by many writers who testify to the fact that the learning and adjustment of individual pupils and their position in the group structure are inextricably interwoven. Having observed this cyclic relationship in action, Jennings (1948) reflected that "when the emotional shocks due to inadequate or discordant group life are removed and advantage is taken of the existing psychological affinities, there usually results a heightening and release of children's intellectual abilities along with a redirection of their thinking processes. These outcomes are related not only to what happens to individual personalities but also to the place of group or social motivation on performance" (p. 550).

Acknowledgement of responsibility and expression of goals for education for social competence and social acceptance--to be developed by learning social skills and through experience in social interaction--bring the obligation of devising means to provide experiences which facilitate such interaction. Many factors promote

or obstruct acceptance by others, so the educator has the responsibility first, of understanding and subscribing to the philosophy of educating for social growth; second, of being aware of the interpersonal relations and structure of the group; third, of attempting to facilitate positive development in social interaction, with due consideration to the various developmental levels existing in the group; and fourth, of evaluating progress toward the expressed goals and specific objectives.

Many teachers express confidence in their ability to accurately describe the social relationships which exist in the groups that confront them daily. However, this confidence may have a weak foundation, since comparisons of teacher judgment and pupil choice patterns indicate a "general inaccuracy of some teachers and specific inaccuracies by most teachers in judging individual pupils" (Gronlund, 1959, p. 11). Gronlund's review of related studies revealed an average accuracy score of approximately .60 among teachers estimating their pupils' social status. Among elementary school teachers Moreno (1953) found individuals teaching first grade students to provide the most accurate estimations of socio-metric status. The degree of accuracy progressively declined as estimations by teachers of higher grades were observed. Moreno attributed this decline to the social cleavage developing between

youngsters and adults and to the increasing complexity of groups. These findings highlight the desirability of obtaining an objective evaluation of the classroom social structure. A more clearly defined awareness of the social structure in the classroom should result from an understanding and application of sociometric techniques. In general, these techniques are designed to furnish objective information on the actual or desired relationships between group members and provide a basis for a graphic description of the group structure.

The development of sociometry and its measurement devices-- sociometric techniques--are intimately linked with Jacob L. Moreno and the 1934 publication of his basic work, Who Shall Survive? This volume presented the first report of the use of sociometric techniques in the classroom. In employing these techniques the teacher will realize that, while both positive and negative preferences may be obtained, the consensus in the literature pertaining to the school context is that requiring negative nominations is a potentially harmful practice from the point of view of subsequent pupil behaviors and awareness. Specifically, it is contended that the introduction of negative nomination procedures in the form of forced identification of least-preferred or non-preferred classmates may result in the creation of resentment and comment among the group, in more

severe social maladjustment among the less favored members of the group, and in accentuation of any negative feelings which are already part of the group social climate. These proposals, however, appear to be based more upon assumption than upon data. This reviewer of the sociometric literature finds inadequate evidence supporting the "harmful effects" thesis. The present study was undertaken to further examine these "effects."

Statement of the Problem

This study was designed to examine the differential effects of requiring, permitting and not permitting negative sociometric nominations with respect to accentuation of negative feelings among class members.

Five sets of hypotheses, regarding differences between the four treatment conditions, were tested for boys and girls, combined and separately. These hypotheses were related to:

1. Changes in proportions of same-sex peer preferences received by least-preferred classmates on the pre- and post-test administrations of the paired-comparison questionnaire.
2. Changes in variance of proportions of same-sex peer preferences received by classmates on the pre- and

post-test administrations of the paired-comparison questionnaire.

3. Proportions of same-sex peer preferences expected on the post-test administration of the paired-comparison questionnaire by least-preferred students and by all students.
4. Frequency of affirmative responses to questionnaire items concerning student discussion of sociometric nominations following administration of the different sociometric procedures.
5. Frequency of affirmative responses to questionnaire items concerning perceived changes in interpersonal relationships following administration of the different sociometric procedures.

Method of Investigation: Overview

Twelve classes of fifth grade students were assigned to one of four experimental treatment conditions, A, B, C, or D. All classes received two administrations, two weeks apart, of a paired-comparison questionnaire for selection of same-sex classmates as continuing friends. In the intervening period Group A received a sociometric questionnaire requiring student selection of three

same-sex classmates most preferred as continuing friends; Group B, a sociometric questionnaire requiring student selection of three most-preferred and three least-preferred same-sex classmates on the same criterion; and Group C, a sociometric rating scale requiring students to rate all same-sex classmates on a five-point scale of preferred to non-preferred as continuing friends. Group D, designated as control, received no intervening sociometric. Within each same-sex class group students were ranked in terms of the number of paired comparisons favoring them on the first administration of the paired-comparison questionnaire. Those students in the lowest third of their group ranking were identified as least-preferred students.

Following the second paired-comparison administration all subjects estimated the preferences made by classmates with respect to those pairs containing their names. In addition, they completed an eight-item questionnaire focusing on the student's awareness of possible change in his classmates' evaluations of him, or in his evaluations of them, subsequent to the sociometric procedures.

Selected students were interviewed with respect to discussion of sociometric choices, stated perceptions of status change, reasons for changing initial sociometric choices or ratings, high and low

choice expectancies, changes in peer preferences given and/or received and reactions to the experimental procedures employed in the investigation.

CHAPTER II

REVIEW OF THE LITERATURE

The research selections presented are grouped into three principal categories: (1) general definitions of sociometry, (2) measurement of sociometric status, and (3) rejections and negative choices.

Sociometry: General Definitions

When Jacob L. Moreno presented his initial public exposition of sociometry in this country and followed it the following year with the publication, Who Shall Survive? (1934) he laid what he described as the foundation stone of the sociometric movement. In definitional terms, Moreno indicated that "sociometry deals with the mathematical study of psychological properties of populations, the experimental technique of and the results obtained by the application of quantitative methods. This is undertaken through methods which inquire into the evaluation and organization of groups and the position of individuals within them" (1934, p. 10).

That different definitions and interpretations of the term "sociometry" have been accepted and used is apparent from the

literature. Having isolated thirteen different definitions of the term, Berkstedt polled "experts" for the most acceptable of them. All definitions received at least three first choices and twenty-eight experts chose the definition; "Quantitative treatment of "preferential" interhuman relations (i. e., relations possible to describe in terms of attraction-rejection-neutrality with respect to a choice situation)" (1956, p. 20). In operational terms this definition relates primarily to situations requiring the individual to signify his willingness to interact with certain members of the group and his unwillingness to interact with certain other members of the group. Those not specified are regarded as "neutral" with respect to their desirability as associates for that choice situation.

The Sociometric Test

Moreno (1934) described the initial measurement device in these terms:

An instrument to measure the amount of organization shown by social groups is called a sociometric test. The sociometric test requires an individual to choose his associates for any group of which he is or might become a member, . . . (Ibid., p. 11).

In the first reported use of the sociometric test in the public school it was introduced in the following manner:

You are now seated according to directions your teacher has given you. The neighbor who sits beside you is not chosen by you. You are now given the opportunity to choose the boy or girl you would like to have sit on either side of you. Write down whom you would like first best; then, whom you would like second best. Look around and make up your mind. Remember that next term your friends you choose now may sit beside you. (Ibid., p. 13)

This instrument, requiring nominations of only part of the group, has been called the "partial-rank-order" method of measuring sociometric status (Wityrol and Thompson, 1953). It is also frequently known as the "Moreno technique" (Northway, 1952).

The requirements for designation as a sociometric test as initially outlined by Moreno were reinforced by Jennings, who emphasized that "a sociometric test is not sociometric unless the criterion involved exists for the subjects and the 'tested' individuals believe results not only can but will be utilized for the criterion on which they have expressed themselves" (1950, p. 28). To the criterion and utilization requirements Lindzey and Borgatta (1954) added four essential components of the test. These were: delimitation of the group, an unlimited number of choices or rejections, no public identification of individual responses, and, questions used should be at the developmental level of the group.

The desire to retain the term "sociometric test" in the specific context of a meaningful criterion and a restructuring of

the group has met with mixed success. Gronlund appears to have retained the two essential elements in stating that the test "requires individuals to choose a given number of associates for some group situation or activity" (1959, p. 3). Berkstedt allowed more freedom of interpretation in proposing that it "requires individuals to choose associates for a special type of interaction" (1956, p. 35).

Many adaptations of the original instrument qualify under Northway's description of the test as "a means for determining the degree to which individuals are accepted in a group, for discovering the relationships which exist among these individuals and for disclosing the structure of the group itself" (1952, p. 1). One such adaptation is the data-gathering procedure employed by Polansky, Lippitt and Redl (1950) to observe the social relationships of youngsters in a summer camp. In their report they described it as a "near-sociometric" procedure and the editorial board added the following note to the report:

When choice instructions are given which concern notions in contrast with specific situations, (as eating at the same table), this is in the literature called a "near-sociometric test". All hypothetical choosing provides, in this sense, "near-sociometric" data. . . .

. . . . Techniques using a specific criterion but not involving group rearrangement have been designated as "near-sociometric". However, when no criterion is involved in the choosing, as in such questions as "Who is your best friend?" or "Who do you like best?", the data may best be described as neither sociometric or near-sociometric, but rather as

projected "liking" reactions in an undetermined setting.
(Ibid., p. 49)

In general, investigators have deferred to the use of the term "sociometric test" in its original meaning. This has resulted in the adoption of a variety of descriptive terms which have retained the word "sociometric" but which have substituted another word for "test" when describing the procedure employed to observe social relationships. These substitutes include "question" (Croft, 1951), "technique" (Speroff and Kerr, 1952), "instrument" (Clark and McGuire, 1952), "measures" (Levi, Torrance and Pletts, 1955), "device" (Campbell and Fiske, 1959), "questionnaire" (Porterfield and Schlichting, 1961), and "choice technique" (Hoffman, 1962). Each of the procedures cited required positive and negative evaluations of group members.

Levels of Sociometric Status

The specialized terminology associated with the sociometric test and used to describe individuals in terms of the number of choices they receive relative to the number received by other members of the group was developed primarily by Moreno and his associates. Definitions have been stated in general terms, permitting arbitrary limits or classifications to be established by the individual investigator.

In the classroom situation there is a tendency for a small group of students to receive a disproportionate number of choices, leading to their classification as "stars" (Bonney, 1946). Conversely, there are some individuals who receive relatively few choices, and others who receive none. The former are described as "neglectees" and the latter as "isolates." A fourth term, "rejectee" is used to describe "an individual who receives negative choices on a sociometric test" (Gronlund, 1959, p. 5).

Several investigators have developed more specific and objective means of classification. Bronfenbrenner (1944) used deviations from chance expectancy as his basis for differentiation and Jennings (1943) identified high and low status delinquent girls as those whose sociometric scores placed them at a position greater than one standard deviation from the mean.

Differentiation between levels of acceptance in any group depends upon the interpretation of the investigator and the sociometric technique employed (Evans, 1962). Any statement made concerning an individual's sociometric status is specific to the group and to the criteria or choice situations on which the evaluation was made. It should be noted that "group status", "social status" (Gronlund, 1959), "group acceptance" and "social acceptance" (Northway, 1952), are terms used interchangeably with "sociometric status."

In general, the more spontaneity of response permitted in the technique, the more valid the description of the individual's status (Jennings, 1950). A technique requiring a small number of positive choices may lead to classification of group members in accordance with the definitions stated previously. However, requiring choices may preclude the selection of some individuals or result in choices being received which would not have been available from an unlimited choice sociometric (Borgatta, 1951). Further, as Thompson and Powell (1951) have noted, unless provision is made for rejections, it will not be possible to positively differentiate between the "isolate" and the "rejectee."

Various procedures have been employed to establish the social status of group members. The ensuing discussion will elaborate on these procedures.

Measurement of Sociometric Status

Sociometric status may be established by several methods. Those discussed in this presentation are partial-rank-order or partial-rank, paired-comparison and rating scale. The present investigation is primarily concerned with the method of partial-rank-order and the rating scale as they have been employed to obtain negative or "rejection" evaluations of group members.

Studies employing rating scale procedures to elicit negative evaluations of group members are presented as a unit in the literature review section: Rejections and Negative Choices.

Method of Partial-Rank-Order

This method originally (Moreno, 1934) required a specific number of choices of group members, listed in preferential order, as associates in a specified activity or situation. Seatmate(s) and work companion(s) were two choice situations frequently used in this method. Modifications of the method emanated from the desire to allow freedom of choice and from the desire to employ criteria which would not necessarily result in reassignment of group members.

Number of Choices

In 1956 Berkstedt summarized a series of one hundred sociometric investigations in which subjects made choices on a social preference situation. The series was drawn from the journal "Sociometry" for the period 1945-1954. In his summary Berkstedt indicated a methodological trend toward use of unlimited choices. Twice as many unlimited as limited choice procedures were used in the latter half of the period compared with equal popularity of the two types of choice procedure in the former half. This development

was attributed to a growing awareness of research potentialities in unlimited choices.

There has also been a growing awareness of the limitations of using restricted choice procedures. Advocates of freedom of choice claim it yields a "truer" sociometric picture of the group "since people will only choose those who they really feel positive towards and will reject only those they actually dislike or reject," (Lemann and Solomon, 1952, p. 15), permitting the potential number of choices or rejections made by one person to range from $n-1$ to zero. Observations by Gronlund (1959) and Northway (1952) suggest that the statement by Lemann and Solomon should perhaps be couched in less positive terms. The former observed that unlimited choices are essential when attempting to determine an individual's drive for social interaction. One cannot, however, make the assumption that each nomination made by the socially expansive individual represents only those to whom that person "really feels positive." Northway questioned whether individuals may expect to receive as they give: do group members expect others to choose them more because they, in turn, have chosen freely?

A further limitation of restricted choices is the possible lack of reliability, derived on the one hand from restriction of choices in instances where individuals have "clear-cut" feelings over and

above the number stipulated; and on the other from the forced desire for interaction, inherent in the procedure (Borgatta, 1951). Forced choices, then, may lack reliability, and they may also lack spontaneity, which was emphasized by Jennings (1950) as a prerequisite to sociometric nominations.

Gronlund (1959) has pointed out that when provision is made for unlimited positive and negative nominations most students will not choose everybody, for there are group members with whom they do not interact and about whom they do not have well defined feelings. By a process of elimination the observer is enabled to differentiate those to whom the ranker is indifferent from those to whom he displays a positive or a negative reaction.

Choice limitation has its critics. It also has its supporters. Utilization of a specific type of measurement is contingent upon the aims of the investigator. It is possible a limited choice procedure will best meet his needs. Reasons which support a decision to employ limited choices include: ease of administration (Bronfenbrenner, 1944), the fact that scores based on chance expectancy may provide confusion (Northway, 1952), and Berkstedt's observation that "empirical status scores worked out from the two primary methods (limited and unlimited choice) usually show very small differences." (1956, p. 57) This last reason, however, gets little

support from a study by Eng and French (1948) who demonstrated a wide variation in status scores of a group of college women when two choice, five choice and unlimited choice rankings were obtained in terms of others' desirability as roommates. Their criterion was a ranking derived from administration of a paired-comparison procedure on the same question, and on this basis unlimited choice showed a relationship of .90, five choice a relationship of .73 and two choice a relationship of .54.

Reviews of investigations using limited choices have noted a predilection for three choice, followed by five choice and two choice procedures (Berkstedt, 1956; Gronlund, 1959). Gronlund suggested, in a more specific manner, that if interest lies in reliability of choice in the upper elementary grades, more stable results may be obtained from a five-choice question (Gronlund, 1955; Gronlund and Barnes, 1956). Evans supported this suggestion in stating that "if an even moderately accurate assessment is needed, less than five choices would appear to be unsatisfactory" (1962, p. 32).

Same Sex Choices

A characteristic of the social development of boys and girls is the cleavage which occurs between the two sexes when making choices of companions or associates for various activities. The

extent of the cleavage is contingent upon the type of criterion activity, the age of the group and the prevailing attitude in the class, school and community toward heterosexual relationships. Homogeneity of choice is noted at the pre-school level (Lippitt, 1941) and is markedly accentuated when youngsters reach the "gang age" (Campbell, 1939), which typically occurs during the intermediate grades (Stone and Church, 1957) of the elementary school.

Moreno (1934) reported intersexual choices to be virtually non-existent among fifth grade pupils. A similar observation in choices made by sixth grade pupils was made by Bronfenbrenner (1944). Kuhlen and Lee (1943) obtained choices from sixth, ninth, and twelfth grade students and found a progressively higher percentage of cross-sex choices among older students. This finding was corroborated to some extent by Gronlund (1959) who showed boys' choices of girls to vary from eleven to eighteen percent in grades three through ten, followed by a relatively progressive increase to almost one third of the choices made in a college population. Choices by girls demonstrated a greater overall range and much more fluctuation after grade eight. These observations were made on criteria of seating companion in the elementary school, work companion in the secondary school and teaching companion among the college students.

Buswell (1950) noted that instances of best-liked students rating others negative on the Ohio Social Acceptance Scale were infrequent. However, she also noted that some boys automatically classified all girls as disliked. By using same-sex populations in ranking and rating sociometrics McCandless et al., (1956) and Reese (1961) did not encounter this "problem".

Number of Criteria

A further decision made by the investigator employing the partial-rank method concerns the number of criteria or choice situations on which responses are elicited. Again, the purpose of the investigation will determine the number of criteria to be employed.

Kerstetter and Sargent (1940) used a single criterion preparatory to making classroom reassignments in accordance with a plan for therapy. A single question was also asked by Byrd (1951) in a study of validity and constancy of sociometric choice. Responses have been requested of school students on as many as nine criteria, as in a study of same-sex social acceptability among adolescents by Kuhlen and Lee (1943).

Method of Paired Comparisons

A second method employed to observe the social preferences of group members is the method of paired comparisons (Thurstone, 1927). In this method "the name of every individual in a social group is paired with each of the others in the group in all possible combinations, the potential number of pairings being defined by the formula $\frac{n(n-1)}{2}$ where n equals the number of individuals. Each member of the group then expresses preferences on all the pairings" (Wityrol and Thompson, 1953, p. 243).

The number of relevant sociometric studies that has employed this approach is relatively small. Both Koch (1933) and Lippitt (1941) used paired comparisons to observe popularity among young children. Koch further employed this procedure in a study of social distance between the sexes in the elementary school (1944) and in a survey of the social position of minority groups of children in public schools (1946). In 1953 Wityrol and Thompson administered a paired-comparison instrument to sixth grade children, requesting that they select the individual they liked better in each pair. Data reported by these writers in describing the stability of the paired-comparison scores is discussed in the presentation of procedures in Chapter III.

Rejections and Negative Choices

The terms "negative choices" and "rejections" tend to be used interchangeably in current sociometric literature. Negative choices, or rejections, have been obtained using different data-gathering techniques, including identification by "least like" and "last choice" instructions, and by permitting spontaneous positive or negative choices.

Different Connotations of "Rejection"

Gronlund defined a rejected person as "an individual who receives negative choices on a sociometric test." He continued by defining negative choices as "those resulting from a sociometric question requesting individuals to indicate those whom they least prefer for a group activity" (1959, p. 5). A similar viewpoint was expressed by Northway and Weld who termed the question "Who would you least like to associate with?" (1957, p. 13) a rejection criterion. Further support for this viewpoint was gained from McLelland and Ratliff (1947), Norman (1953) and Shaw (1962), all of whom equated "least like" and "rejection," and from Thompson and Powell (1951) who suggested that when an individual completes the negative portion of a partial-rank-order scale he is expressing social rejection.

Three studies reporting use of last choices are illustrative of investigator prerogative in classification of individuals identified by this procedure. Last choices in Northway's (1940) summer-camp investigation were classified by the investigator as rejections. They were obtained by asking campers their last choices for cabin-mates and canoe-trip mates from the camp population. A somewhat similar request was made by Gronlund (1955), whose group of teacher trainees indicated the five classmates they would consider first and the five they would consider last as future teaching companions. Through this procedure he attempted to "obtain both positive and negative sociometric choices without implying rejection of any group members" (1955 c., p. 123). A rating scale devised by Thompson and Powell to overcome criticism directed at the use of the negative portion of the partial-rank-order procedure included the category "would be the very last one I would choose" (1951, p. 444). In this instance the last choice was not considered to be a rejection.

Rejections have been stated in more specific terms. Bedoian required the "rejectee" to be "actively disliked by his peers" (1954, p. 516). Trent (1957) and Clarke and McGuire (1952) defined a rejection as "an expressed desire to avoid interaction" (1952, p. 130). Trent's use of "desire" is difficult to interpret for he obtained

rejections from institutionalized delinquent lads through the instruction, "I want you to give me the names of three boys in your cottage who you don't like." (Ibid., p. 381)

More freedom of response was apparent when Emerson (1953) provided youngsters with an opportunity to indicate others with whom they did not like to play, and when Smucker (1949) asked college girls to list others in the dormitory with whom they preferred not to associate.

Inferences drawn from positive-only choices have resulted in some individuals, accorded very low or zero scores on sociometric tests, being identified as "rejected" (Florence B. Moreno, 1942) and "repulsed" (Kuhlen and Lee, 1943). It is probable that some were, in fact, rejected, but inferences drawn from positive-only nominations must, at best, be deemed speculative (Bronfenbrenner, 1944).

On logical grounds it would be difficult to defend the inference that every person identified by the "least liked" and "last choice" nomination procedures is psychologically rejected by the subject making the nomination. It is conceivable that an adaptation of a distinction made by Snoek may have application in sociometric terminology. He stated:

. . . we will speak of invidious rejection whenever exclusion from a group can be taken to mean that the individual is not worthy of membership in it. We shall call the rejection non-invidious when it is based on other reasons that do not reflect on the individual's self-esteem; when an individual is excluded because all membership positions in the group are filled we have an example of non-invidious rejection. (1962, p. 175)

Support for Inclusion of Negative Choices

A progressive growth in the inclusion of rejection reports in investigations was observed by Berkstedt (1956) in his examination of one hundred articles from "Sociometry" for the period 1945-1954. These articles were divided into thirds relative to their date of publication. In the early period thirty-three percent of the studies employed negative reports. This percentage grew to fifty-two in the middle period, and further increased to sixty-five in the most recent period. This development, however, does not appear to have been reflected in attitudes of researchers toward employing negative evaluations in investigations in school settings (cf. Thompson and Powell, 1951; Gronlund, 1959).

Although the use of negative choices in sociometric procedures has not met with general approval in educational circles, advocates for their inclusion may be found at each level of educational endeavor. At the preschool level Dunnington's observations led her to conclude that "sociometric status is not accurately measured by a system

which does not include rejection and 'forced' responses" (1957, p. 100). A similar conclusion was reached by Phillips and DeVault (1955) from their study of the relationship between choices received and pupil adjustment. These writers reported their understanding of seventh grade pupils to be "distinctively enhanced" through the use of both positive and negative evaluations. At the college level Smucker (1947) investigated the possibility that spontaneous positive and negative choices received and made by students with adjustment problems may provide important bases for guidance. His results furnished basic information helpful in planning programs of guidance therapy.

The non-use of negative sociometrics in spite of research evidence of more comprehensive student identification is evidenced in Cornwell's (1962) report of ambivalent feelings regarding the inclusion of rejections among teacher trainees in England. Although Cornwell's prospective teachers "recognized that the inclusion of rejections as well as choices gave a truer picture of the group and was fairer to the great majority who, though not chosen, were also not rejected" (p. 14), and although they realized that identification of rejected individuals made it possible for them to be helped, sixty-two percent of them voted against the inclusion of rejections in a sociometric procedure.

Practical utilization of information received from negative nominations is to be noted in a number of studies. Utilizing information derived from negative choices Gronlund (1959) evaluated efforts to integrate minority group members and to locate subtle but revealing interpersonal conflicts in the classroom. Brickell (1950), seeking more efficient working groups, used negative sociometric data to locate secondary school students in groups in which members were not antagonistic toward one another. Particularly interesting in this vein is Roff's (1961) study of servicemen cited for bad conduct. From a review of their child guidance records Roff found the best predictor of this type of behavior to be reaction of peers to these persons when in grade school. Unacceptable social behaviors had led to their rejection at that time. It should be noted that the behaviors identified by Roff were paralleled in reports of behaviors unacceptable to fellow-delinquents in a girls' training school (Jennings, 1947; 1950).

Subsequent to their observation that a substantial number of rejects in the grade school population are emotionally disturbed, Sells and Roff (1963) suggested that initial observations should be conducted early in the school life of the child in order to identify children rejected by their peers. They further suggested that,

following identification, these rejected children should take part in a therapy program designed to assist them to develop socially acceptable behaviors.

Two of the pioneers of sociometric study in this country have recommended that negative choices have an integral place in sociometric evaluation. Jennings has proposed "that the negative aspect of choice merits equal consideration with the positive" (1950, p. 21) as they form not a dichotomy, but "one choice process and bear particular relationship to each other" (1943, p. 58) and in 1954 Moreno reported that the prevailing custom in sociometric laboratories was to ask for both choices and rejections.

Support for the inclusion of negative choices, then, is based upon desire to measure sociometric status accurately, to obtain more productive evaluations of adjustment, to differentiate between those not chosen and those actively disliked, to identify undercurrents in the social structure of the group, to structure groups in which members are not antagonistic, and to identify potentially disturbed or socially maladjusted children. Evans summarized the desire to incorporate negative evaluations in sociometric administrations by stating that "if a complete study of a group is to be made, rejections and choices should both be obtained, whether the aim is social engineering, therapy, or research" (1963, p. 55).

Opposition to Inclusion of Negative Sociometric Choices

The use of negative choices in sociometric studies has not met with general approval in educational circles. The ensuing discussion elaborates on an investigation which has greatly influenced attitudes toward inclusion of negative choices. In addition, it outlines the reservations individuals have expressed concerning this aspect of the study of social relationships.

A survey of bibliographies of sociometric investigations indicates the source from which many generalizations pertaining to use of negative choices have emanated to be Northway's (1940) study of social development in a girls' summer camp. Generation of resentment and comment among campers was reported to be a concomitant of the request for "last" choices, convincing Northway that "negative" choices were inappropriate in sociometric procedures. It should be noted that the investigator asked for "absolute last choice" and "next to last choice" (1940, Appendix, p. 61). In turn, she has influenced sociometric procedures by providing a central reference for non-incorporation of negative choices in investigations of group relationships. In her discussion of negative choices at that time, Northway counseled that they could be eliminated or given in a less

objectionable form if adapting the procedure for use in different contexts. In a later publication she proposed that last choice investigations may be artificial "in so far as most people are not actively interested in those with whom they do not associate" (1952, p. 5). Artificiality was noted by Northway when reporting camper reaction to the sociometric instrument, for one girl had never considered last choice:

There was considerable resentment toward filling in "last choices" - in fact, one camper put on her form, "I never thought of having a last choice, if I had, I could never write it down." When the meeting for the second test was arranged, there were a few campers who announced they were not coming. . . . Except for the temporary stir created on each occasion when the test was given, it seemed to create very little impression, and was very seldom discussed (1940, p. 17).

Observation of the distribution of last choices, of which two apparent "scapegoats" initially received thirty-nine percent and subsequently received forty-six percent, suggested a reference point for Bronfenbrenner (1944) to state his position on incorporation of negative choices. He avoided them on the grounds that they may focus attention on the less favored, thereby promoting discrimination and resulting in accentuation of social maladjustment of these group members. These sentiments were echoed by Wertheimer (1957) in an investigation of choice consistency in adolescents.

That negative choices may be discussed outside the classroom (Thompson and Powell, 1951), may crystallize existing antipathies (Baller and Charles, 1961), and may undermine the emphasis on the development of a positive approach to interpersonal relationships (Phillips and DeVault, 1955) are reasons cited for reluctance to request negative evaluations in a school context. Individual classroom teachers have endorsed the contention of Northway and Weld that "children's groups are free enough that an individual is not forced to be continually with a person he dislikes" (1957, p. 13). This may be the reason why Young (1947) found elementary school children disinclined to "speak ill" of classmates on "reputation-type" tests even when identifications were expressed in an anonymous manner.

Lundberg, Hertzler and Dickson (1952) encountered a corresponding response among college women. They administered a questionnaire to these students, requesting respondents to list the three persons now living in the house they least preferred as roommates for the following year. Students were also asked to list three on-campus women as least-preferred on the same criterion. The question "Why?" followed each choice and subjects were informed choices would be taken into consideration when room assignments were made the following year. The questionnaire,

administered in this manner, resulted in only a twenty-six percent response. It was apparent that some respondents were antagonized by it for their written responses included: "questions like this encourage intolerance," "uneasy feeling about this whole questionnaire . . . entirely contrary to what I have been taught . . . I don't like to admit even to myself . . . much less set down their names for other people to see," and "I think it very unfair to deliberately dig out of my mind three people that I don't like especially" (1949, p. 164). A follow-up "logical" explanation, designed to counter objections to negative choices, resulted in a twenty percent increase in responses.

A similar reaction was noted among resident students at an English teacher training institution (Cornwell, 1962). They found the making of rejections "repellent and repugnant, causing bad feelings in the mind and leaving a sense of inward guilt" (Ibid., p. 14). Cornwell observed that students found difficulty in avoiding prejudice, an observation leading to the inference that the students were instructed to make a specified number of "rejections" in a forced-choice procedure.

The Lundberg et al. investigation required negative choices. A study by Smucker (1947) with a similar population permitted negative choices. Each study typifies the reaction, at this educational

level, to the stated difference in data-gathering technique. Smucker received a ninety percent response when he asked campus girls to name their best friends and those with whom they did not wish to associate, eliciting the negative data by saying "it is an obvious fact we do not like everybody equally well. List here the names of campus girls you don't like so well, wouldn't like to run around with, or feel that your personalities clash. List one, two, or more as you wish" (p. 376). No adverse reaction to this procedure was reported but the investigator cautioned that subjects must have confidence that complete anonymity will be maintained, in order to forestall repercussions which may eventuate should rejection information become common knowledge.

Many sociometric studies conducted in the armed services have employed negative evaluations but few report reaction to requests for these evaluations. Any reaction to the procedures employed was forestalled in a study involving naval personnel (Kogan and Tagiuri, 1958), for least like identifications were asked only of a group that "had been exposed to a great many research procedures and the data [pertaining to a 72-hour liberty] could be obtained without unduly disturbing them" (p. 113). In a different branch of the services some air crews refused to name one of their number as the least desirable survival companion (Levi, Torrance and Pletts, 1955).

Reluctance to employ negative evaluations, then, has centered on the reaction of campers to making "absolute last choices," on the possibility that negative choices might be discussed and thereby result in deepening rejection, on the concern that a positive approach to social relationships is desirable, and on antagonism of respondents to completing negative evaluations. It was noted that adverse reactions of subjects emanated from forced rejection choices and not from sociometric procedures in which the rejection or negative choices were optional. These differing procedures have not resulted in discrete reactions, however, since no display of repugnant feelings by subjects has been reported in the majority of studies which have employed forced negative choices.

Rejections on Unlimited Choice Sociometric Instruments

Patterns of peer relationships show considerable variability. The individual and his group are influenced by many factors that tend to channel responses in particular directions. Some of these factors are inherent in the current nature of the situation; others are founded in the social and emotional climate which prevails in the group. The spontaneity with which individuals accord negative choices to fellow group members when this type of choice is administratively optional

in a sociometric procedure may well be manifestations of these factors in action. Several studies reporting quantitative data on spontaneous rejections at different levels of educational endeavor are noted.

Dunnington (1957) asked a group of youngsters questions concerning the desirability of others as nursery school playmates. The fifteen children in the group volunteered twenty-nine names to a positive question and one fewer to the negative question, (Whom in nursery school don't you like to play with?). It might be noted that greater class agreement--a few classmates receiving most of the nominations--was obtained in the case of the negative question. Following the spontaneous nominations, children responded to the remaining group members in a positive or negative manner. The point scoring system developed to incorporate both positive and negative evaluations demonstrated a retest increase of twenty-nine percent in negative scores and an increase of twenty-four percent in "social expansiveness." A comparison of points awarded subsequent to two interviews revealed several marked instances of group ambivalence. The lad who twice received most rejection points was ranked fourth in choice points, and the lass second in rejection points on both occasions was ranked fifth and second on choice points.

Ambivalence has also been reported by Pope (1953) from prestige choices among a contrasting socio-economic group of children and by Trent (1957) who found that aggressive boys in a truant and juvenile delinquent population were both chosen and rejected frequently. These observations suggest caution when interpreting a net-acceptance composite score derived from plus and minus tallies (cf., Norman, 1953).

Jennings (1943, 1950) has shown that with an increase in socialization there is almost certain to be some increase in negative feelings between particular individuals. This finding was substantiated by Bonney (1953) who inquired into the choice patterns of roommates in a college dormitory male population. The initial inquiry resulted in rejection of twenty-four percent of roommates. In a subsequent inquiry this percentage rose to thirty-five. In the intervening period the positive choices rose twenty-nine percent. A similar rise in positive choices, but not in negative choices, was reported by Drawhorn (1956) among a group of twenty-four women teacher trainees in their final year of college. These women had made 273 choices and only fourteen rejections at the beginning of a four-month period. At the end of the period, following close association for three days a week the number of choices rose to 348 while the number of rejections fell to eleven.

College women also participated in two investigations of friendship evaluations conducted by Smucker (1947, 1949). All-campus choices and rejections of nearly 700 women in the earlier study resulted in a choice average of 2.8 and a rejection average of 1.03. Evaluations were restricted to the dormitory in the second study, and the average choice-rejection ratio was 5.3 to 2.1. Awareness of rejections was also studied in these investigations. In both studies Smucker found mutual rejections almost non-existent, confirming his original observation that very few people are aware of others having hostile feelings toward them. A similar observation was made by Ames (1945), relative to sixth graders' lack of awareness of how well they were liked by classmates. However, observations to the contrary were reported by Dunnington (1957). She interviewed preschool children and the recorded verbalizations of some youngsters clearly indicated their cognizance of the attitudes of others toward them. At this developmental age they were uninhibited in their reciprocity of rejections.

Further studies evidencing choice-rejection ratios are those of Goldstone et al. (1963) and Zudick (1953). In the Goldstone et al. study sophomores in medical school responded to two questions on prestige and friendship, and a resultant choice-rejection ratio of

1.2 to 1.0 was derived. In comparing identifications at the extremes of the acceptance-rejection continuum the investigator noted rejections to be comparatively more concentrated, with the three most rejected students receiving 223 rejections, and the three most chosen receiving 133 choices. Zudick (1953) inquired into the choice patterns of children in the second, fifth and eighth grades and he reported same-sex and other-sex nominations. The average same-sex acceptance-rejection ratio at the fifth grade for seatmates and party companions was 2.5 to 1.0 in favor of classmates of the same sex. Examination of other-sex preferences revealed that second grade children were more accepting, making twice as many rejections as preferences, than were students in the upper grades who rejected other-sex group members on a 3:1 ratio.

The quantitative results presented in this discussion underscore the fact that, given the opportunity, individuals are prepared to make negative evaluations of group members. Frymier (1959) has suggested that these evaluations are meaningful because students only provide such information when they feel this way about others. It is further evident that there are wide variations in the degree of acceptance-rejection manifest in groups and in the willingness of group members to signify the lack of desirability of other group members.

Procedures and Statements Employed
to Obtain Negative Evaluations

Throughout this review, questions to which subjects have been asked to respond, directions given to obtain the data, and manner of scoring this data have been included if they clarify the point at issue. Further procedures and statements are outlined to demonstrate the variety of approach employed to secure information of a negative nature about relationships within existing groups. All studies cited have been classified by their investigator as "sociometric," and have utilized the partial-rank method, or a modification of it.

Prior to the time when children can recognize or write names, identifications for the purpose of sociometric choice may be examined through the use of photographs and individual interviews. During individual interviews children have responded to photographs of individuals (Medinnus, 1962) and of entire social groups (Emerson, 1953; Moore and Updegraff, 1964). The individual interview procedure was also used by Zudick (1953) when obtaining responses from second grade children preparatory to restructuring classroom seating in accordance with stated identifications. In addition to requesting positive and negative identifications, Zudick asked children to name classmates who they felt would rather not sit with them, and he grouped perceived and stated rejections when tabulating the number and proportion of rejections.

A fewer number of rejections than choices has been required in certain studies (cf. Croft, 1951; Phillips and DeVault, 1955). Porterfield and Schlichting (1961) followed this procedure, and ranked sixth grade students on a composite score derived from four positive and one negative questions. McLelland and Ratliff (1947) also requested fewer negative than positive choices. Further, they obtained them at different administrations. Initially their home-room class of ninth grade students stated first preferences on four criteria. Twelve of the thirty-five subjects were unchosen. In order to differentiate between the isolates and rejectees negative preferences were elicited on two of the previously employed criteria. It was reported that greater hesitancy on the part of the subjects was apparent when they were making the negative identifications in the second testing session.

Perhaps the use of fewer negative choices is a compromise between the investigator's desire to obtain negative evaluations because of their utility in describing social relationships in the group, and his hesitancy to use an experimental procedure deemed undesirable by others in the field. It is also possible that procedures such as those used by Cassel and Saugstad (1952) in requesting that optional negative choices be made on the back of the questionnaire

form, and by Young (1947) whose subjects made their identifications anonymously, reflect a similar concern.

No studies have focused upon the subject and the psychological meaning to him of instructions given during the administration of the negative portion of a sociometric instrument. It is clear, however, that certain instructions have been stated in more direct terms than others. The writer assumed "not suitable" and "definitely not choose" (Goldstone et al., 1963) and "definitely don't want in your group" (Jennings, 1943) to be statements with little inherent ambiguity. Similarly, directions of "if there aren't any just leave this space blank," on a negative question (Zudick, 1953), and "if you do not feel really close to any girl in the dormitory, write no name" (Smucker, 1949), clearly indicate freedom to nominate or freedom to abstain from nominating.

Less definite statements were made by Clarke and McGuire, who asked students to name "the ones with whom you would prefer almost never to run around," and "if you were going to have a party who are the boys and girls you might not prefer to have along? They could go elsewhere," and finally "who are the ones you probably would not choose for your very best friends?" (1952, p. 135).

Further diverse ways in which instructions to elicit negative evaluations have been expressed include opportunity to identify

persons "liked least" (Fiedler et al., 1952); naval aviation cadets "not wanted" as part of a unit (Hollander and Webb, 1955); the "least likable three," to test an hypothesis on similarity of personality profiles prior to acquaintance (Izard, 1960) and "least of all" in a class of secondary school students (Croft and Grygier, 1956). Trent asked institutionalized delinquent youths for "the names of three boys in your cottage who you don't like. First name the boy you dislike most. . . . Think carefully before you answer" (1957, p. 381). This parallels a request made by Davids and Parenti (1958) of emotionally disturbed youngsters in a camp situation. They asked for the names of three campers "disliked the most." Drawhorn's (1956) teacher trainees responded to the request for others whom they "would not choose" as associates for several different projects. In his investigation of group cohesiveness conducted in the armed services, Goodacre (1951) varied his eliciting instructions for different criteria. On desirability of group members as associates for chow or a party, identifications were made on "want" and "not want". However, when the selection of a tentmate was requested, identifications were made following the direction of "choose" and "not choose". No reason was given for the change in terminology.

Rating Scale Procedures for Identification
of Negatively-Preferred Group Members

The controversy over using negative choices in the observation of interpersonal relationships is centered on the use of the partial-rank instrument in educational contexts. Rarely is opposition noted when the data-gathering device is what is typically known as a "rating scale". Generally these scales provide opportunity for raters to evaluate other members of the social group on scales ranging from three-point to nine-point. The present review is included to provide some examples and contrasts of the negative classifications employed in these scales in an educational setting.

Perhaps the most popular classification procedure is one similar to that used by Ausubel et al. (1952), providing for ratings of (1) "do not want as a friend at all" and (2) "would not like to have this person as a friend" at the negative end of the scale. In this study the fifth grade students classified six percent of their classmates in the lowest category and seven percent in the next lowest category. The same scale classifications were used by Schiff (1954) and Reese (1961) but no comparative results were reported.

The original Ohio Acceptance Scale has been used quite extensively (cf. Cunningham, 1951; Buswell, 1953; Bond and Brown, 1955). Evaluations range from "very, very best friends" to "don't

care for them" and "dislike them". Buswell observed that in general the best liked students did not use these last two categories, although some boys automatically declared they disliked girls. The Revised Ohio Scale has since modified the categories assumed to be indicative of negative peer relationships to; "know them but they are not friends" and "not okay to you" (Forlano, 1964). A similar approach by McCandless, Castaneda, and Palermo (1956) permitted classification of same-sex classmates on a five-point scale in which the most negative category, 5, was, "is not my friend".

Two negative classifications were noted on the Classroom Social Distance Scale which was employed by Singer (1951) and Goslin (1962) to evaluate the social status of adolescents. On this scale a rating of "4" is; "don't mind him being in our room but I don't want anything to do with him" and a "5" means the rater wishes the ratee "weren't in our room". In using the Classroom Social Distance Scale, Cunningham (1951) reported eleven of thirty-two children did not classify anyone in the study in the negative categories of four and five. A somewhat different negative classification was that presented to ninth grade students by Scandrette (1958). Three of the six evaluation items were: "would like to be with him once in a while, but not very often"; "don't, or wouldn't mind him being in our room but I don't want to have anything to do with him" and,

"wish he weren't, or glad he isn't, in our room" (p. 368). Bonney's (1954) rating device, "How I Feel Toward Others" afforded a further variation. Each of his categories was defined in terms of rater-ratee interaction, concluding with the evaluation statements, "know, but they are not my friends", and "children I do not want to have as friends - as long as they are like they are now".

Though somewhat removed from a strict rating scale procedure, Tuddenham's (1952) modification of the Guess Who Technique developed by Hartshorne and May (1929), is of relevance to this review because of observer and participant objections to negative identifications required by this test. Tuddenham presented children with a Reputation Test which included such items as "Who are the ones everyone likes?" and "Who are the ones nobody likes very much (the ones nobody seems to care about)?" Objections were voiced by some participants and by several administrators to certain items on this test. Consequently, interviewers were advised to watch for possible signs of discomfort in their informants. Tuddenham reported "the alacrity with which nominations were volunteered soon made it clear that the Reputation Test was merely tapping attitudes already crystallized in each classroom group" (1952, p. 7).

Does the rating scale approach overcome some of the alleged shortcomings of the partial-rank procedure? Thompson and

Powell (1951) stated that opposition to use of the negative portion of the partial-rank instrument is based primarily on the premise that it causes children to "crystallize their opinions about rejected children, discuss them with their friends and possibly lead to an even greater rejection of certain children" (1951, p. 449). These investigators have suggested the rating scale does overcome this problem and they have based this suggestion on observations of a comparison between the two approaches with sixth grade students. Their sixth grade students nominated three companions for four choice situations and rated classmates on four different situations. This rating involved the following evaluations:

1. Would be the very first one I would choose.
2. Would be one of the first three I would choose.
3. Would be one of the first six I would choose.
4. Would be one of those I might or might not choose.
(makes little difference).
5. Would be one of the last six I would choose.
6. Would be one of the last three I would choose.
7. Would be the very last one I would choose.

From their observation of the data they concluded that the "use of the rejection or negative portion of the rating scale does not cause certain children to be stigmatized as 'rejects' by their associates" (p. 452). Further, an increase in the means of low-rated individuals over successive administrations led Thompson and Powell to suggest this was the result of an increased tolerance on the part of the raters for group members previously rated negatively.

Reactions by subjects of a quantitative and qualitative nature to the request for negative nominations of group members have been discussed in this review. Generalizations emanating from results of pertinent investigations, focusing on the "harmful effects" of inclusion of negative nominative procedures, have been extended from summer camp and college populations to include school populations. The succeeding chapters relate to the present investigator's attempts to examine the validity of these "harmful effects" generalizations in a sample of fifth grade students.

CHAPTER III

PROCEDURES

Pilot Study

This investigation began in spring term, 1964, with a pilot study involving two fifth grade classes from Mt. Vernon and Page Elementary Schools, Springfield, Oregon. This preliminary study focused primarily upon the stability of a paired-comparison questionnaire requiring preferences for all classmates in terms of their desirability as friends for a long time, with an intervening sociometric questionnaire on which students listed in preferential order the names of at least three classmates they would most like to have as friends for a long time. Additional concerns included refinement of administrative procedures, amount of class time involved, appropriate analysis of data, practicability of the paired-comparison procedure with large classes, use of other-sex choices, and reaction of subjects and teachers to the procedures.

Observations germane to the study proper were based principally on interaction with one class (N=24), data from the other being subjected to minimal analysis following student absences

at different stages of the study, a smaller N, and the disproportionate number of boys in the class. Stability of the paired-comparison scores was examined in terms of a test-retest product-moment correlation. The correlation between the preference scores obtained from two administrations of the paired-comparison instrument was .98.¹ Similarly, correlations for same-sex and other-sex preferences were computed. Same-sex preferences by boys correlated .92, and the corresponding correlation for girls was .88. Correlations for other-sex choices were .96 and .95 for boys and girls respectively.

The pilot study called for no negative or rejection identifications. However, on the criterion of "good friend for a long time" the investigator found a general sex-cleavage, with most-preferred involving same-sex preferences and least-preferred involving other-sex preferences. This was observed both in the paired-comparison data and in the positive sociometric nominations. The least-preferred third on boys' preferences located three boys and five girls. A similar classification of girls' preferences was composed entirely of boys, while the intervening sociometric questionnaire

¹This correlation is similar to those reported by Koch (1944) with fourth and sixth grade pupils, and by Witryol and Thompson (1953) with a population of sixth grade pupils.

did not furnish a single heterosexual choice. Similar observations have been reported in the review of the literature.

The implications were clear. As the emphasis of the study proper related to the least-preferred third of each sub-group, and as there were strong indications that this classification would be applied predominantly to the opposite sex, it was apparent there would be less effect, if, indeed, any effect at all would prevail, on subsequent expressions of preference behavior if negative nominations were required in cross-sex rather than same-sex social groups. For this reason the decision was made to measure the changes in preference behavior in the more socially significant population of same-sex classroom groups.¹ Requiring negative nominations in same-sex groups would constitute a more stringent test of the major hypotheses.

Major Investigation

Principals of selected schools in District 19, Springfield, Oregon, were provided with a brief overview² of the planned study

¹While this procedure was a deviation from general sociometric practice, it did not create a precedent, other investigators having employed same-sex groupings in the regular classroom (cf. McCandless et al., 1956; Reese, 1961).

²Study outline presented to principals of participating schools is presented in Appendix A, p. 142.

outlining the purpose of the study and the procedures to be employed. Estimates of projected individual and class time involvement were included in this overview. The investigator discussed the study with each principal, who, in turn, discussed it with teachers of fifth grade classes. All teachers agreed to participate in the study.

Sample

The major investigation was conducted in five elementary schools and involved twelve classes of fifth grade students. The schools, and the respective number of participating classes were Brattain (2), Maple (3), Mt. Vernon (2), Page (3) and Thurston (2). Three hundred and nine subjects were enrolled in these classes. The study extended over a period of approximately seven weeks in the months of November and December, 1964.

Each of the twelve classes was assigned to one of four experimental treatment conditions, A, B, C, or D. Administration of sociometric procedures differentiated the treatment groups. Group A received a sociometric questionnaire requiring student selection of three most-preferred same-sex classmates as friends for a long time; Group B, a sociometric questionnaire requiring student selection of three most-preferred and three least-preferred same-sex classmates on the same criterion; and Group C, a

sociometric rating scale requiring students to rate all same-sex classmates on a five-point scale of preferred to non-preferred as friends for a long time. Group D, designated as control, received no intervening sociometric.

Assignment to the four treatment groups was random, with limitations of partial consideration of socio-economic background and boy-girl ratio. In order to obviate possible discrepancies in socio-economic background, and for other obvious reasons, classes within each school were available only for different treatment groups. Further, several classes evidencing disproportionate boy-girl ratios of 17 : 8 and 16 : 7 were not considered for the same treatment group. Groups were relatively homogeneous in level of academic achievement.¹

Method of Paired Comparisons

The method of paired comparisons was selected as a stable, relatively unbiased procedure for measuring the social acceptance of same-sex classmates. The major consideration in selection of

¹Two principals reported a relatively comparable academic achievement level in their fifth grades. Three principals reported a system of ability grouping. At least one of the "comparable" classes was observed in each treatment group. No group was composed of more than one high- or low-achieving class.

a testing procedure was that the procedure would be innocuous in the sense of non-emphasis or non-attention to the rejection aspect of choosing, permitting least-preferred classmates to be identified without the chooser making other than positive choices. The further fact that each student would be required to make numerous choices, tending to obscure any specific singling out of least-preferred classmates, led to selection of the method of paired comparisons as the testing procedure. In terms of the present investigation the method of paired comparisons has several advantages over the more frequently employed method of partial-rank order, including greater stability of measurement, provision of complete rather than partial data, less likelihood of recall of initial preferences and simplicity of the task.¹

¹General limitations of applicability to classroom use include the "labor involved in arranging the pairs and in ordering them to minimize psychological biases of position effect . . . scoring is time consuming, and scaling is laborious, difficult and a highly specialized technique . . . sociograms cannot be constructed. . ." (Witryol and Thompson, 1953(a), p. 243). Further limitations are the geometrically increasing number of choices required, and the concomitant class time involved as the group increases (91 choices for N=15, 171 for N=20, and 276 for N=25), the possible lack of motivation of subjects on a long task, the necessity that subjects can read all names, the possibility that younger children may operate on a position-error basis and the fewer number of criteria on which data may be obtained in a comparable testing period.

Koch (1944) reported test-retest correlations, computed from paired-comparison scaled scores, of .937 from forty fourth grade children and .965 from thirty-five sixth grade children. The period between initial and final administrations was one month and the criterion was selection of the more-preferred child from each pair. Witryol and Thompson (1953), studying friendship in four sixth grade classes, obtained product-moment test-retest paired-comparison correlations of .903 to .987 with the median correlation approximately .96. Correlations were reported over periods of one, four and five weeks. The present investigator similarly obtained a correlation of .978, calculated from raw scores of paired comparisons administered two weeks apart. In general, investigators employing similar groups of subjects and similar criteria have reported a tendency for retest correlations for sociometric data elicited by the method of partial-rank order to range from .60 to .90 (Gronlund, 1959; Mouton, et al., 1960).

A second advantage lies in the results providing a complete rather than partial picture of intra-group preferences. This occurs since the paired comparisons require a reaction to each group member in terms of his acceptance relative to that of each other group member. In contrast, the partial-rank procedure provides for nomination of a limited number (usually less than six) of members

of the respondent's group. A further advantage of particular concern in this study, is that the large number of preferences to be made reduces the likelihood that recall of initial preferences could influence those made on the subsequent administration. Finally, the task is procedurally simple, requiring minimal recall and consideration of only two classmates at one time.

In order to prepare the paired-comparison forms for presentation, current class lists were procured from school secretaries. Teachers indicated the names by which students were known in the classroom and the sex of the student when the name was insufficient identification. It was considered that exposure of names and assistance in their recognition prior to administration of the paired-comparison questionnaire would eliminate difficulties in reading these names in the "test" situation. Several days prior to the investigator's initial visit to each classroom students received a dittoed copy of the first and last names of same-sex classmates,¹ randomly ordered with the name by which they were known in the classroom underlined and preceded by an assigned student number. Names which would appear on the paired-comparison form were repeated at the bottom

¹An example of a pre-test class handout is presented in Appendix A, p. 147.

of this paper. If first names were identical, or similar, the first letter of the last name was added as the distinguishing feature, in the manner of Scott H, Scott O; Ricky P and Rick C. Classroom teachers determined the amount of review of these lists necessary for complete familiarity with the names.^{1, 2}

From these recognition lists supplied to students the combination of names and numbers were retained for use in the preparation of the paired-comparison form. Names of members of same-sex subgroups were paired³ in every possible combination.^{4, 5} Pairings were mechanically arranged to minimize position effect, with both time and space factors controlled following the procedure outlined by Ross (1934), with minor variations.

¹One class, reportedly comprised of high achievers in an ability-grouped grade, did not use the review sheet.

²Students were encouraged to use the lists when completing the paired-comparison questionnaire and several poorer readers did so.

³In general, the total number of different pairings presented on a paired-comparison worksheet is derived from the formula $\frac{n(n-1)}{2}$ when n equals the number of persons or things being compared.² However, in this study subjects were not asked to state preferences in pairs containing their own names. The formula for the number of different pairings available for study, then, reduces to $\frac{(n-1)(n-2)}{2}$.

⁴The number of paired comparisons ranged from fifteen (from a same-sex subgroup of seven) to one hundred and thirty-six (from a same-sex subgroup of eighteen).

⁵An example of a paired-comparison questionnaire completed by subjects is presented in Appendix A, p. 151.

In introducing the paired-comparison procedure¹ the investigator indicated the study was designed to provide information on the decisions made by fifth grade students when required to make a choice between two items, both of which may be liked, or between two people, both of whom may be liked. A practice procedure, designed to familiarize students with the process for making preferences on the paired-comparison form, compared ice cream flavors. Preferences were stated orally by students. During the progressive discussion the positive approach was emphasized.

Following the practice and distribution of the paired-comparison forms, a procedural explanation,² specific to the form, was given. Students were instructed; "from each pair of names make a ring around the name of the person you would most like to have as a friend for a long time." Subjects were encouraged to work as quickly as they could,³ and they were advised that erasing was permitted.

¹Administration of the paired-comparison questionnaire is presented in Appendix A, p. 149.

²Students were informed that questions would be answered individually when classmates had commenced to complete the form. This was done to preclude the class being influenced by questions with a negative connotation, such as: "What do you do if you don't like either of them?", asked during the pilot study.

³The writer considered that spontaneous reaction to each pair of names would best represent the evaluator's feelings.

During the testing session the investigator moved about the room, inspecting worksheets and encouraging slower workers. Papers were checked for omissions and irregularities by the investigator during and immediately after the testing period. On the infrequent occasions when referrals back to respondents were necessary worksheets were returned and completed on the day of administration.

Two weeks after the first administration of the paired-comparison questionnaire it was readministered in all twelve classes. On the second occasion only minimal restatement of instructions was necessary. Approximately thirty minutes of class time was required for completion of the first administration in the slowest class. Requiring less preparatory explanation, the second administration was completed in less than twenty minutes.

Sociometric Treatment Procedures

One week after the first administration of the paired-comparison questionnaire subjects in Groups A, B and C were each administered a different sociometric procedure. Group D served as a control group, receiving no intervening sociometric procedure.

Group A completed a Moreno-type positive partial-rank-order sociometric questionnaire,¹ listing in preferential order² the three same-sex classmates they would most like to have as friends for a long time. Additional choices were permitted. Two deviations from usual sociometric administrative and design practices were incorporated. The first modification was the use of a combination of limited and unlimited choice, requiring three nominations from all students and permitting unlimited additional nominations. This procedure was adopted to allow the investigator to document the willingness of students (in Group B), to make additional negative nominations, and it was incorporated into each partial-rank sociometric to maintain a consistent experimental practice. The second modification, included for the same purpose, involved provision of listings of classmates' names to each nominator, in this instance to conform to the administrative procedure in the Group C rating scale.

The Group B sociometric questionnaire³ involved a negative as well as the positive Moreno-type partial-rank-order sociometric

¹Administration of the positive sociometric questionnaire is presented in Appendix B, p. 153.

²An example of the positive sociometric questionnaire form completed by subjects is presented in Appendix B, p. 154.

³Administration of the positive-negative sociometric questionnaire is presented in Appendix B, p. 155.

questionnaire administered in Group A. The test form¹ for Group B provided a listing of same-sex classmates. Under this listing were two adjacent columns headed "Most" and "Least" in which students were instructed to write, in preferential order, the names of three classmates they would most like to have as friends for a long time, and the names of three classmates they would least like to have as friends for a long time. In both instances, additional choices were permitted. Instructions for completion of both the positive and negative parts of the questionnaire were given prior to students making nominations.

The Group C sociometric procedure differed from the partial-rank questionnaire completed by Group A and Group B in that it required evaluation of group members on a five-point rating scale.² On this scale, comprised of two positive, two negative and one neutral categories, subjects were asked to rate all same-sex classmates in terms of their acceptability as friends for a long time. Subjects were presented with a rating form³ and a supplementary

¹An example of the positive-negative sociometric questionnaire form completed by subjects is presented in Appendix B, p. 156.

²Administration of the rating sociometric questionnaire is presented in Appendix B, p. 157.

³The form for completion of the rating sociometric questionnaire is presented in Appendix B, p. 159.

list of the names of individuals to be rated. Definitions of the five categories were read and discussed, employing a representation of the rating form on the blackboard to facilitate explanation. Each scale category on the form was headed by a pictorial illustration in the form of a "face". The faces served as substitutes for written categories. This was explained to the subjects who were informed that by writing a name under a face this would indicate how the rater felt about having that person as a friend for a long time. For example, by writing a name under the face in the first category the rater indicated he would very much like to have that person as a friend for a long time. Space was provided to permit rating all classmates within a single category and the acceptability of this practice was indicated.

The five categories of the scale were defined as (1) "very much like as a friend for a long time," (2) "like to have as a friend for a long time, but not as much as persons placed in category 1," (3) "don't know whether I would or would not like as a friend for a long time," (4) "not like this person as a friend for a long time, but don't feel as strongly as I do about persons placed in category 5," and (5) "very sure I would not like to have as a friend for a long time."

Choice Expectancy Procedure

The choice expectancy procedure¹ was selected to examine the students' perceived social status. More specifically, this procedure was introduced to the study to permit comparisons of the influence of several sociometric procedures on preference expectations of students. It was proposed that choice expectancy responses would be sensitive to change in group social structure following administration of different sociometric procedures and that accentuation of negative feelings would be subsequently reflected in lower choice expectancy scores of least-preferred subjects.

To provide data to examine this proposal, immediately following the second administration of the paired-comparison questionnaire all subjects received a choice expectancy form^{2, 3} on which each individual was instructed to estimate preferences made by all others in his subgroup on the pairs which involved his name on the post-sociometric administration of the paired-comparison questionnaire.

¹Administration of the choice expectancy procedure is presented in Appendix C, p. 161.

²An example of the choice expectancy form completed by subjects is presented in Appendix C, p. 165.

³The ordering of presentation of names on the choice expectancy is presented in Appendix C, p. 163.

In responding to the choice expectancy form each student was forced to consider a series of questions along the line of "did classmate A choose classmate B or me?", "did classmate A choose classmate C or me?", "did classmate A choose classmate D or me?" and so on through all possible combinations for classmate A as "chooser," and then to continue, "did classmate B choose classmate C or me?", "did classmate B choose classmate D or me?", continuing through all members of the group. In effect, in completing the choice expectancy form each student considered a total of $n-2$ preferences by $n-1$ classmates where n is the number of individuals in the subgroup.¹ The number of times each subject expected to be chosen by his same-sex classmates constituted his choice expectancy score. Approximately twenty-five to thirty minutes of class time were required for administration of the choice expectancy procedure.

Follow-up Questionnaire

A questionnaire^{2, 3} was developed to obtain a report of student interaction and changes in feelings toward others or perceived in

¹ The largest subgroup (18) considered 272 preferences and the smallest subgroup (7) considered 30 preferences.

² Administration of the follow-up questionnaire is presented in Appendix D, p. 168.

³ Follow-up questionnaire items are presented in Appendix D, p. 170.

others, related to the sociometric or paired-comparison administrations during the previous weeks. Eight questionnaire check response items were written. Both Group A and Group B were asked identical questions concerning choices made. Questions asked of Group C were modified to incorporate placement of names rather than choices made. Students in these groups responded to the questionnaire on the basis of the sociometric procedure completed the previous week. Group D frame of reference was the paired-comparison questionnaire administered two weeks previously. A questionnaire form was passed out to each student upon completion of the choice expectancy form. Questions were read to the class and students were instructed to underline the appropriate "yes" or "no" option on the questionnaire form. A third response option, "haven't thought about it" was permitted for items 4-7. This alternative was included to indicate student "unconcern" with administration of the sociometric procedure.

The first three questionnaire items were related to student interaction on choices made. The next four items were related to perceived changes in "liking" due to nominations made and received. The last item was related to possible changes in previously made sociometric choices and was administered only to Group A, B, and C students. To facilitate response to this last item, students were

informed of their actual sociometric choices.¹ Approximately fifteen minutes of class time were required for completion of the questionnaire.

Interview

As soon as practicable after the third classroom visit the investigator interviewed² selected subjects from each subgroup. This facet of the study was designed to permit student explanation of affirmative responses to questionnaire items relating to interaction concerning choices made on the sociometric procedures and to perceived changes in "liking" behavior following completion of the different sociometric procedures. Additional interview time was allowed for discussion of general and specific reaction to the investigation, high and low choice expectancies and changes in paired-comparison preferences given and received. Where possible verbatim responses were recorded by the interviewer. In no instance did a student object to this procedure.

¹A copy of sociometric choices made the previous week was presented to students after completing questionnaire item seven. Group A received their first three choices; Group B their first three positive and their first three negative, and Group C their choices (if any) for the extreme categories of their rating scale.

²Administration of the interview is presented in Appendix E, p. 174.

A priority listing of subjects for interview was made in terms of attendance at all class testing sessions, one or more affirmative responses to questionnaire items 1-7, and placement in the least-preferred third of each subgroup. In addition, students with marked changes in paired-comparison preferences made by them or received from others were interviewed. All interviews were conducted within ten days of the administration of the questionnaire and interview time ranged from five to ten minutes.

CHAPTER IV

RESULTS OF THE STUDY

The purpose of this study was to examine the differential effects of requiring, permitting, and not permitting negative sociometric nominations with respect to accentuation of negative feelings among class members.

Twelve classes, comprising a total of 309 fifth grade students, were assigned to one of four experimental treatment conditions,¹ A, B, C, or D. The distribution of subjects providing paired-comparison data by treatment group, class, and sex, is presented in Table 1.²

¹A school and class listing according to teacher, sex, and group assignment is presented in Appendix A, p. 148.

²The inclusion of a subject's preferences for others in the paired-comparison (PC) tallies was contingent upon his completion of both PC forms and the sociometric procedure, excepting, of course, the control group, which did not receive a sociometric procedure. Data for subjects absent for any one of the experimental procedures were eliminated, resulting in these individuals receiving preferences but not making them. This resulted in 309 subjects receiving preferences from 274 same-sex classmates.

In subgroups evidencing absences it was necessary to prorate total preferences received by absentees since their scores were derived from $n-1$ group members and those of non-absentees were derived from $n-2$ group members, where n represented the number of the group providing complete data. Prorated PC scores were received by 10, 9, 12, and 4 subjects in Groups A, B, C, and D, respectively. Absences ranged from 4 in a subgroup of 12 to 0 in 7 of the 24 subgroups.

TABLE 1. -- Distribution of subjects providing paired-comparison data:
by treatment group, class and sex

	Group A		Group B		Group C		Group D	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Class 1	11	13	16	12	11	11	11	10
Class 2	16	7	16	14	17	14	17	8
Class 3	16	18	15	10	10	13	11	12
Subtotals	43	38	47	36	38	38	39	30
Totals	81		83		76		69	

All classes received two administrations, two weeks apart, of a paired-comparison questionnaire for selection of same-sex classmates as continuing friends. In the intervening period Group A received a sociometric questionnaire requiring student selection of three same-sex classmates most preferred as continuing friends; Group B, a sociometric questionnaire requiring student selection of three most-preferred and three least-preferred same-sex classmates on the same criterion; and Group C, a sociometric rating scale requiring students to rate all same-sex classmates on a five-point scale of preferred to non-preferred as continuing friends. Group D, designated as control, received no intervening sociometric. Within each same-sex class group students were ranked in terms of the number of paired-comparisons

favoring them on the first administration of the paired-comparison questionnaire. Those students in the lowest third of their group ranking were identified as least-preferred.¹ A total of 103 students were identified as least-preferred and the distribution of least-preferred subjects providing paired-comparison data by treatment group, class and sex is presented in Table 2.

TABLE 2.--Distribution of least-preferred subjects providing paired-comparison data: by treatment group, class and sex

	Group A		Group B		Group C		Group D	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Class 1	4	4	5	4	4	4	4	3
Class 2	5	2	5	5	6	5	6	3
Class 3	5	6	5	3	3	4	4	4
Subtotals	14	12	15	12	13	13	14	10
Totals	26		27		26		24	

¹Least-preferred subjects were defined as those individuals whose total preferences received on the first administration of the paired-comparison questionnaire placed them in the lowest third of their subgroup ranking. When the n of the subgroup was evenly divisible by three, all thirds were the same size. When it was not, the low and high "thirds" were comprised of the same number, such that an n of ten produced divisions of 3-4-3 and an n of eleven produced divisions of 4-3-4.

Following the second paired-comparison questionnaire administration all subjects estimated the preferences made by classmates with respect to those pairs containing their names. In addition they completed an eight-item questionnaire¹ focusing on student discussion of sociometric choices made and on the student's awareness of possible change in his classmates' evaluations of him, or in his evaluations of them, subsequent to administration of the sociometric procedures. As soon as practicable following the administration of this questionnaire, selected subjects were interviewed² with respect to affirmative responses to questionnaire items, marked changes in preferences made and/or received on the paired-comparison administrations, high and low choice expectancies, and general reaction to the experimental procedures.

Changes in Peer Preferences Received by Least-Preferred Subjects

The first set of three hypotheses dealt with differences in peer preferences received by least-preferred subjects subsequent to the administration of positive-sociometric, positive-negative-sociometric, rating-sociometric and the no-sociometric treatment conditions.

¹ Administration of the eight-item questionnaire is presented in Appendix D, p. 168.

² Administration of the interview is presented in Appendix E, p. 174.

Critics of the use of forced negative peer preference identifications contend that administration of sociometric procedures requiring these identifications may result in accentuation of any negative feelings currently existing in the group. If these contentions are valid least-preferred members of a group should receive fewer paired-comparison peer preferences subsequent to completion of a sociometric questionnaire requiring negative nominations.

To test these hypotheses the difference between the proportional number of times each least-preferred group member was chosen on the two paired-comparison administrations was computed for each of the 103 least-preferred subjects.¹ The differences were summed for each of the twelve classes, for boys and girls, combined and separately, and divided by the subgroup size to yield a mean difference score for each subgroup. These subgroup mean differences² provided the basic score entries for examining the following set of hypotheses:

¹Initially the data from the major investigation were to be scaled in accordance with the Case V application of the law of comparative judgment (in the manner outlined by Guilford (1954). However, the number of zero scores obtained in the proportions of preferences invalidated the intended scaling procedures.

²Data preliminary to summary of analyses of variance presented in Tables 4, 5, and 6 are presented in Table 3: Differences in mean proportions of peer preferences received by least-preferred boys and girls, combined and separately, on pre- and post-test administrations of the paired-comparison questionnaire.

Hypothesis 1a: There are no differences in changes in proportions of same-sex paired-comparison peer preferences received by least-preferred boys and girls following administration of the different sociometric procedures.

Hypothesis 1b: There are no differences in changes in proportions of same-sex paired-comparison peer preferences received by least-preferred boys following administration of the different sociometric procedures.

Hypothesis 1c: There are no differences in changes in proportions of same-sex paired-comparison peer preferences received by least-preferred girls following administration of the different sociometric procedures.

An analysis of variance, following a groups-within-treatments design (Lindquist 1953) was used to test the above hypotheses. A summary of these analyses of variance is presented in Tables 4, 5, and 6.

As may be noted in Tables 4, 5, and 6, none of the F-ratios achieves significance at the .05 level of confidence. The hypotheses of no differences in changes in peer preferences received by least-preferred boys and girls, combined and separately, subsequent to administration of the positive-sociometric, positive-negative-sociometric, rating-sociometric, and no-sociometric treatment conditions fails to be rejected. These data fail to provide evidence of differences in peer preferences subsequent to administration of the different sociometric procedures.

TABLE 3.--Differences in mean proportions of peer preferences received by least-preferred boys and girls, combined and separately, on pre- and post-test administrations of the paired-comparison questionnaire

Least-preferred Boys and Girls												
	Group A			Group B			Group C			Group D		
Pre-test	.327	.355	.301	.294	.301	.307	.348	.335	.255	.294	.349	.247
Post-test	.313	.329	.321	.344	.302	.289	.413	.306	.256	.308	.341	.254
Difference	.014	.026	.020	.050	.001	.018	.065	.029	.001	.014	.008	.007

Least-preferred Boys												
	Group A			Group B			Group C			Group D		
Pre-test	.294	.347	.238	.307	.296	.338	.325	.344	.243	.292	.384	.225
Post-test	.333	.351	.273	.350	.317	.352	.411	.325	.211	.296	.384	.244
Difference	.039	.004	.035	.043	.021	.014	.086	.019	.022	.004		.019

Least-preferred Girls												
	Group A			Group B			Group C			Group D		
Pre-test	.361	.375	.354	.278	.305	.255	.372	.325	.264	.296	.279	.268
Post-test	.293	.275	.360	.338	.287	.185	.414	.283	.282	.324	.255	.264
Difference	.068	.100	.006	.060	.018	.070	.042	.042	.018	.028	.024	.004

TABLE 4.--Summary of analysis of variance of differences in mean proportions of peer preferences received by least-preferred boys and girls on the pre- and post-test administrations of the paired-comparison questionnaire

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	.678	.226	.21
Within	8	8.464	1.058	
Total	11	9.142		

* F .05 = 4.07; df = 3, 8

TABLE 5.--Summary of analysis of variance of differences in mean proportions of peer preferences received by least-preferred boys on the pre- and post-test administrations of the paired-comparison questionnaire

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	.726	.242	.22
Within	8	8.959	1.119	
Total	11	9.685		

* F .05 = 4.07; df = 3, 8

TABLE 6.--Summary of analysis of variance of differences in mean proportions of peer preferences received by least-preferred girls on the pre- and post-test administrations of the paired-comparison questionnaire

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	6.652	2.217	.91
Within	8	19.595	2.449	
Total	11	26.247		

* F .05 = 4.07; df = 3, 8

Changes in Variance of Peer
Preferences Received

The second set of hypotheses referred to changes in the distribution of paired-comparison proportions subsequent to administration of the different sociometric procedures. It was assumed that increased student focus on negative sociometric choices would lead to increased class rejection of least-preferred students (and a complementary increase in class preference of other than least-preferred students). In effect, this suggests an increased scatter or variance of the paired-comparison proportions within classes receiving the negative sociometric procedure. More generally, it might be anticipated that differences would obtain for classes receiving different sociometric administrations.

To test these hypotheses the proportional number of times each of the 309 students was chosen on the paired-comparison questionnaire was computed for both administrations of this questionnaire. The variances of these peer preference proportions were computed for each of the twelve classes for boys and girls, combined and separately. The differences between these class variances for the two administrations provided the basic score entries for examining the following set of hypotheses:¹

¹Data preliminary to summary of analysis of variance presented in Tables 8, 9, and 10 is presented in Table 7.

- Hypothesis 2a: There are no differences in changes in variance of proportions of same-sex paired-comparison peer preferences received by boys and girls following administration of the different sociometric procedures.
- Hypothesis 2b: There are no differences in changes in variance of proportions of same-sex paired-comparison peer preferences received by boys following administration of the different sociometric procedures.
- Hypothesis 2c: There are no differences in changes in variance of proportions of same-sex paired-comparison peer preferences received by girls following administration of the different sociometric procedures.

An analysis of variance, following a groups-within-treatments design, was used to test the above hypotheses. A summary of these analyses of variance is presented in Tables 8, 9, and 10.

As may be noted in Tables 8, 9, and 10, none of the F-ratios achieves significance at the .05 level of confidence. The hypotheses of no differences in changes in variance of peer preferences received by boys and girls, combined and separately, subsequent to administration of the positive-sociometric, positive-negative-sociometric, rating-sociometric, and no-sociometric treatment conditions fail to be rejected. These data fail to provide evidence of differences in variance of peer preferences subsequent to administration of the different sociometric procedures.

TABLE 7. --Differences in changes in variance of proportions of peer preferences received by boys and girls, combined and separately, on the pre- and post-test administrations of the paired-comparison questionnaire

<u>Boys and Girls Combined</u>												
	Group A			Group B			Group C			Group D		
PC ₁	3.655	8.182	7.215	6.694	6.256	5.092	1.876	5.574	5.237	1.816	6.836	5.282
PC ₂	4.199	8.747	7.465	5.971	5.889	6.104	1.856	7.744	5.809	3.443	7.183	6.275
Diff.	-.544	-.565	-.250	.723	.367	-1.012	.020	-2.170	-.572	-1.627	-.347	-.993
<u>Boys</u>												
	Group A			Group B			Group C			Group D		
PC ₁	4.828	5.915	8.728	6.340	7.068	4.094	3.016	5.129	3.330	3.431	2.673	5.996
PC ₂	4.171	5.426	7.764	4.960	5.950	4.931	2.568	6.249	3.883	4.107	3.138	7.213
Diff.	.657	.489	.964	1.380	1.118	-.837	.448	-1.120	-.553	-.676	-.465	-1.217
<u>Girls</u>												
	Group A			Group B			Group C			Group D		
PC ₁	3.766	.394	5.338	4.881	4.860	2.840	.735	4.882	5.726	2.707	1.932	4.508
PC ₂	2.204	1.132	6.577	5.034	5.352	4.113	1.143	8.326	6.314	2.582	2.024	5.297
Diff.	1.562	-.738	-1.239	-.153	-.492	-1.273	-.408	-3.444	-.588	.125	-.092	-.789

TABLE 8. --Summary of analysis of variance of changes in variance of proportions of peer preferences received by boys and girls on the pre- and post-test administrations of the paired-comparison questionnaire

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	1973	658	1.03
Within	8	5128	641	
Total	11	7101		

* F .05 = 4.07; df = 3, 8

TABLE 9. --Summary of analysis of variance of changes in variance of proportions of peer preferences received by boys on the pre- and post-test administrations of the paired-comparison questionnaire

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	4728	1576	2.73
Within	8	4613	577	
Total	11	9341		

* F .05 = 4.07; df = 3, 8

TABLE 10. --Summary of analysis of variance of changes in variance of proportions of peer preferences received by girls on the pre- and post-test administrations of the paired-comparison questionnaire

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	3322	1107	.78
Within	8	11380	1423	
Total	11	14602		

* F .05 = 4.07; df = 3, 8

Differences in Choice Expectancy Scores

a. Least-preferred Subjects

The third set of hypotheses dealt with differences in choice expectancy scores.¹ It was proposed that the choice expectancy response would be sensitive to actual and perceived change in group structure following administration of the different sociometric procedures and that accentuation of negative feelings would be subsequently reflected in differences in choice expectancy scores of least-preferred subjects.² Since, unlike the group mean of the paired-comparison proportions (fixed at .5) the group mean of the choice expectancy scores is free to vary, (from zero to $(n-1)(n-2)$ where n is the number of subjects in the group) hypotheses relating both to means of least-preferred students and to total class means are testable. The general hypothesis is that of no differences between the mean choice expectancy scores of least-preferred students and of total classes subsequent to administration of the positive-sociometric, positive-negative-sociometric, rating-sociometric and the no-sociometric treatment conditions.

¹Choice expectancy scores were defined as the number of times each group member expected to be chosen over other group members on the second administration of the paired-comparison questionnaire.

²Least-preferred subjects identified on the first administration of the paired-comparison questionnaire.

To test this set of hypotheses each student's individual choice expectancies were tallied and converted to proportions by dividing the sum of his tallies by the maximum possible tally.¹ Individual proportions were summed, according to treatment groups, for the 93 least-preferred subjects. Distribution of least-preferred subjects providing choice expectancy data by treatment group, class, and sex is presented in Table 11. Treatment group means were computed for boys and girls, combined and separately. Mean proportion choice expectancies of least-preferred boys and girls, combined and separately, by group and class, are presented in Table 12. Inverse sine transformations were employed to transform the derived mean proportion choice expectancies into scores appropriate for treatment by analysis of variance (Johnson, 1949; p. 164). These transformed scores provided the basic score entries for examining the following set of hypotheses:

Hypothesis 3a: There are no differences in proportions of same-sex paired-comparison peer preferences expected by least-preferred boys and girls following administration of the different sociometric procedures.

Hypothesis 3b: There are no differences in proportions of same-sex paired-comparison peer preferences expected by least-preferred boys following administration of the different sociometric procedures.

¹Maximum possible tally was derived by multiplying the number of same-sex classmates ($n-1$) by the number of choices made by each classmate involving a given student ($n-2$).

Hypothesis 3c: There are no differences in proportions of same-sex paired-comparison peer preferences expected by least-preferred girls following administration of the different sociometric procedures.

An analysis of variance, following a groups-within-treatments design was used to test the above hypotheses. A summary of these analyses is presented in Tables 13, 14, and 15.

TABLE 11. Distribution of least-preferred subjects providing choice expectancy data: by treatment group, class and sex

	Group A		Group B		Group C		Group D	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Class 1	4	4	5	3	4	4	4	3
Class 2	5	2	5	5	5	4	4	2
Class 3	5	4	4	3	3	4	4	3
Subtotals	14	10	14	11	12	12	12	8
Totals	24		25		24		20	

TABLE 12.--Mean proportion choice expectancies of least-preferred boys and girls, combined and separately, by group and class

Least-preferred Boys and Girls				
	Group A	Group B	Group C	Group D
Class 1	.451	.496	.444	.396
Class 2	.404	.393	.400	.422
Class 3	.415	.317	.344	.407
Least-preferred Boys				
	Group A	Group B	Group C	Group D
Class 1	.511	.494	.358	.392
Class 2	.406	.365	.366	.549
Class 3	.376	.353	.278	.339
Least-preferred Girls				
	Group A	Group B	Group C	Group D
Class 1	.390	.500	.531	.403
Class 2	.400	.421	.442	.167
Class 3	.464	.268	.394	.497

TABLE 13.--Summary of analysis of variance of mean proportion choice expectancies of least-preferred boys and girls

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	4.43	1.48	.15
Within	8	77.98	9.75	
Total	11	82.41		

* $F .05 = 4.07$; $df = 3, 8$

TABLE 14.--Summary of analysis of variance of mean proportion choice expectancies of least-preferred boys

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	63.28	21.09	.97
Within	8	173.08	21.64	
Total	11	236.36		

* $F .05 = 4.07$; $df = 3, 8$

TABLE 15.--Summary of analysis of variance of mean proportion choice expectancies of least-preferred girls

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	63.08	21.03	.45
Within	8	371.94	46.49	
Total	11	435.02		

* $F .05 = 4.07$; $df = 3, 8$

As may be noted in Tables 13, 14, and 15, none of the F-ratios achieves significance at the .05 level of confidence. The hypotheses of no differences in choice expectancies of least-preferred boys and girls, combined and separately, subsequent to administration of the positive-sociometric, positive-negative-sociometric, rating-sociometric and no-sociometric treatment conditions fail to be rejected. These data fail to provide evidence of differences in choice expectancies of least-preferred students subsequent to administration of the different sociometric procedures.

b. Total Subjects

To test the further set of choice expectancy hypotheses dealing with total class choice expectancy, class means, each based on choice expectancy proportions for the 285 subjects providing choice expectancy scores, were computed for boys and girls, combined and separately. The distribution of subjects providing choice expectancy data by treatment group, class and sex, is presented in Table 16. Data preliminary to the inverse sine transformations, the mean proportion choice expectancies of boys and girls, combined and separately by group and class, is presented in Table 17.

Inverse sine transformations were employed as before to transform the derived mean choice expectancy proportions into

scores appropriate for treatment by analysis of variance. These transformed scores provided the basic score entries for examining the following set of hypotheses:

- Hypothesis 3d: There are no differences in proportions of same-sex paired-comparison peer preferences expected by boys and girls following administration of the different sociometric procedures.
- Hypothesis 3e: There are no differences in proportions of same-sex paired-comparison peer preferences expected by boys following administration of the different sociometric procedures.
- Hypothesis 3f: There are no differences in proportions of same-sex paired-comparison peer preferences expected by girls following administration of the different sociometric procedures.

An analysis of variance, following a groups-within-treatments design, was used to test the above hypotheses. A summary of these analyses of choice expectancy proportions is presented in Tables 18, 19, and 20.

TABLE 16.--Distribution of subjects providing choice expectancy data by treatment group, class and sex

	Group A		Group B		Group C		Group D	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Class 1	11	12	16	10	11	9	11	10
Class 2	16	6	14	14	16	13	14	6
Class 3	15	15	14	9	8	13	11	11
Subtotals	42	33	44	33	35	35	36	27
Totals	75		77		70		63	

TABLE 17. --Mean proportion choice expectancies of boys and girls combined and separately, by group and class

Boys and Girls				
	Group A	Group B	Group C	Group D
Class 1	.445	.467	.457	.431
Class 2	.454	.452	.449	.433
Class 3	.460	.409	.481	.469
Boys				
	Group A	Group B	Group C	Group D
Class 1	.504	.509	.467	.450
Class 2	.450	.439	.424	.484
Class 3	.474	.399	.488	.464
Girls				
	Group A	Group B	Group C	Group D
Class 1	.390	.400	.446	.411
Class 2	.467	.466	.481	.317
Class 3	.446	.424	.477	.473

TABLE 18.--Summary of analysis of variance of inverse sine transformations of mean proportion choice expectancies of boys and girls

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	2.44	.81	.58
Within	8	11.31	1.41	
Total	11	13.75		

* F .05 = 4.07; df = 3, 8

TABLE 19.--Summary of analysis of variance of inverse sine transformations of mean proportion choice expectancies of boys

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	3.84	1.28	.30
Within	8	34.68	4.34	
Total	11	38.52		

* F .05 = 4.07; df = 3, 8

TABLE 20.--Summary of analysis of variance of inverse sine transformations of mean proportion choice expectancies of girls

Source	df	Sum of Squares	Mean Square	F-ratio*
Between	3	23.49	7.83	.98
Within	8	63.86	7.98	
Total	11	87.35		

* F .05 = 4.07; df = 3, 8

As may be noted in Tables 18, 19, and 20, none of the F-ratios achieves significance at the .05 level of confidence. The hypotheses of no differences in choice expectancies of boys and girls, combined and separately, subsequent to administration of the positive-sociometric, positive-negative-sociometric, rating-sociometric and no-sociometric treatment conditions fail to be rejected. These data fail to provide evidence of differences in choice expectancies of students subsequent to administration of the different sociometric procedures.

Frequency of Affirmative Responses to Questionnaire Items

The final sets of hypotheses dealt with subject responses to an eight-item questionnaire. This questionnaire was designed to obtain a frequency report of student interaction with respect to the different sociometric procedures and to obtain a measure of the frequency with which individuals thought that their feelings toward others had changed and/or those of others had changed toward them due to the administration of the positive-sociometric, positive-negative-sociometric and rating-sociometric procedures by students in Group A, Group B, and Group C, respectively. Responses of Group D, the no-sociometric treatment group, were necessarily in reference to their first

administration of the paired-comparison questionnaire. The distribution of subjects providing data relating to Questionnaire Items 1, 2 and 3, by treatment group and sex, is presented in Table 21.

TABLE 21.--Distribution of subjects providing data relating to questionnaire items 1, 2 and 3, by treatment group and sex

	Group A	Group B	Group C	Group D
Boys	42	43	35	36
Girls	31	33	35	27
Totals	73	76	70	63

Two general subsets of hypotheses were developed with respect to the questionnaire items; the first dealing with frequency of reported student interaction subsequent to the administration of the positive-sociometric, positive-negative-sociometric, rating-sociometric and no-sociometric treatment conditions, and the second dealing with frequency of reported student change in "liking" behavior subsequent to the administration of positive-sociometric, positive-negative-sociometric, rating-sociometric and no-sociometric treatment conditions.

The first series of three hypotheses dealt with responses to questionnaire item 1, which was related to students asking classmates about their sociometric choices or paired-comparison preferences, by 282 students. Specifically, the hypotheses examined were:

Hypothesis 4a: There are no differences in the number of questionnaire respondents stating that they asked classmates about their sociometric choices or paired-comparison preferences following administration of the different sociometric procedures.

Hypothesis 4b: There are no differences in the number of boy questionnaire respondents stating that they asked classmates about their sociometric choices or paired-comparison preferences following administration of the different sociometric procedures.

Hypothesis 4c: There are no differences in the number of girl questionnaire respondents stating that they asked classmates about their sociometric choices or paired-comparison preferences following administration of the different sociometric procedures.

To test these hypotheses frequency counts were made of responses to questionnaire item 1. Frequency distribution of questionnaire respondents asking classmates about their sociometric choices or paired-comparison preferences by treatment group and sex is presented in Table 22. These frequency data provided the score entries for examination of the stated hypotheses using a 4x2 chi-square analysis. The obtained chi-square of 15.648 for boys and girls combined, and the obtained chi-square of 9.926 for boys achieve significance at the .05 level of confidence.¹ The hypotheses of no differences in frequencies of boys and girls combined, and boys separately, asking classmates about their sociometric choices or

¹ Chi-square for .05, df = 3 is 7.815.

paired-comparison preferences subsequent to administration of the positive-sociometric, positive-negative-sociometric, rating-sociometric, and no-sociometric treatment conditions are rejected at the .05 level. These data provide evidence of differences in number of boys and girls, combined, and boys separately, asking classmates about their sociometric choices or paired-comparison preferences subsequent to administration of the different sociometric procedures.

Data for girls asking classmates about sociometric choices or paired-comparison preferences were not examined by chi-square due to the limited frequency of response in Group C and Group D.¹

TABLE 22.--Frequency distribution of questionnaire respondents asking classmates about their sociometric choices or paired-comparison preferences, by treatment group and sex

	Group A		Group B		Group C		Group D	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Yes	19	10	8	5	7	4	8	4
No	23	21	35	28	28	31	28	23

The second series of three hypotheses dealt with responses to questionnaire item 2 which was related to classmates being asked

¹ Chi-square "is not stable when computed from a table in which any experimental frequency is less than 5," (Garrett, 1958; p. 258).

about their sociometric choices or paired-comparison preferences.

Specifically, the hypotheses examined were:

Hypothesis 4d: There are no differences in the number of questionnaire respondents stating that they were asked about their sociometric choices or paired-comparison preferences following the administration of the different sociometric procedures.

Hypothesis 4e: There are no differences in the number of boy questionnaire respondents stating that they were asked about their sociometric choices or paired-comparison preferences following administration of the different sociometric procedures.

Hypothesis 4f: There are no differences in the number of girl questionnaire respondents stating that they were asked about their sociometric choices or paired-comparison preferences following administration of the different sociometric procedures.

The frequency distribution of questionnaire respondents asked by classmates about their sociometric choices or paired-comparison preferences, by treatment group and sex is presented in Table 23.

Frequency counts of questionnaire responses were employed as before to provide the score entries for examination of the hypotheses using a 4×2 chi-square analysis.

The obtained chi-squares of 6.996, 5.1434, and 2.316 respectively, for boys and girls, combined and separately, fail to achieve significance at the .05 level of confidence (chi-square, .05, $df = 3$ is 7.815). The hypotheses of no differences in numbers of boys and girls, combined and separately, asked by classmates about their

sociometric choices and paired-comparison preferences subsequent to administration of the positive-sociometric, positive-negative-sociometric, rating-sociometric, and no-sociometric treatment conditions fail to be rejected. These data fail to provide evidence of differences in numbers of students being asked about their sociometric choices and paired-comparison preferences subsequent to administration of the different sociometric procedures.

TABLE 23.--Frequency distribution of questionnaire respondents asked by classmates about their sociometric choices or paired-comparison preferences, by treatment group and sex

	Group A		Group B		Group C		Group D	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Yes	21	14	13	9	10	12	12	9
No	21	17	30	24	25	23	24	18

The final series of three hypotheses relating to student interaction dealt with responses to questionnaire item 3. This item asked whether subjects had heard classmates talking about their sociometric choices or paired-comparison preferences. Hypotheses examined were:

Hypothesis 4g: There are no differences in the number of questionnaire respondents stating that they heard classmates talking about their sociometric choices or paired-comparison preferences following administration of the different sociometric procedures.

Hypothesis 4h: There are no differences in the number of boy questionnaire respondents stating that they heard classmates talking about their sociometric choices or paired-comparison preferences following administration of the different sociometric procedures.

Hypothesis 4i: There are no differences in the number of girl questionnaire respondents stating that they heard classmates talking about their sociometric choices or paired-comparison preferences following administration of the different sociometric procedures.

Frequency counts of questionnaire responses were employed, as in the previous series of hypotheses relating to student interaction, to provide the score entries for examination of the hypotheses using a 4 x 2 chi-square analysis. The frequency distribution of questionnaire respondents stating they heard classmates discussing sociometric choices or paired-comparison preferences by treatment group and sex is presented in Table 24.

TABLE 24.-- Frequency distribution of questionnaire respondents stating that they heard classmates discussing sociometric choices or paired-comparison preferences, by treatment group and sex

	Group A		Group B		Group C		Group D	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Yes	27	15	13	10	15	13	13	12
No	15	16	30	23	20	22	23	15

The obtained chi-squares of 11.799 for combined boys and girls, and for boys separately, achieve significance at the .05 level of confidence. Chi-square of 2.460, obtained for girls separately, fails to achieve significance at the .05 level of confidence. The hypotheses of no differences in numbers of boys and girls combined, and boys separately, hearing classmates discuss sociometric choices and paired-comparison preferences subsequent to administration of the positive-sociometric, positive-negative-sociometric, rating-sociometric, and no-sociometric treatment conditions, are rejected. These data provide evidence of differences in numbers of boys and girls combined, and boys separately, hearing classmates discussing their sociometric choices and paired-comparison preferences subsequent to administration of the different sociometric procedures. A summary of chi-square results of the frequency distribution of responses to questionnaire items 1, 2 and 3, by boys and girls, combined and separately, is presented in Table 25.

Inspection of chi-square analyses revealed that in every instance of a significant chi-square in an hypothesis relating to student interaction concerning sociometric choices and paired-comparison preferences subsequent to administration of the different sociometric procedures, the significant chi-square was due to the comparatively larger number of students in Group A reporting "yes" responses.

TABLE 25.--Summary of chi-square results of the frequency distribution of responses to questionnaire items 1, 2 and 3, by boys and girls, combined and separately

	Boys and Girls Combined	Boys	Girls
Item 1	15.648	9.926	
Item 2	6.996	5.143	2.316
Item 3	11.799	11.252	2.460

It should be noted that the response frequencies of questionnaire items 1, 2 and 3, relating to student interaction concerning sociometric choices and paired-comparison preferences are not necessarily independent, since the affirmative response frequency of subjects asking about choices may influence the affirmative response frequency of numbers being asked. Further, the affirmative response frequencies of subjects asking and being asked about their choices or preferences may be reflected in affirmative responses to item 3, which was related to observation of student discussion concerning these choices or preferences.

A further set of hypotheses was stated with respect to the questionnaire. These hypotheses, stated for boys and girls,

combined,¹ dealt with questionnaire items 4, 5, 6 and 7, which were related to perceived changes in relationships between the respondent and his/her classmates. A distribution of subjects providing data relating to questionnaire items 4, 5, 6 and 7, by treatment group and sex, is presented in Table 26. Specifically, the hypotheses stated were:

Hypothesis 5a: There are no differences in the number of questionnaire respondents stating that classmates like them less because of the sociometric or paired-comparison preferences made by the respondent in the administration of the different sociometric procedures.

Hypothesis 5b: There are no differences in the number of questionnaire respondents stating that classmates like them more because of the sociometric or paired-comparison preferences made by the respondent in the administration of the different sociometric procedures.

Hypothesis 5c: There are no differences in the number of questionnaire respondents stating that classmates like them less because of the sociometric or paired-comparison preferences made by classmates in the administration of the different sociometric procedures.

Hypothesis 5d: There are no differences in the number of questionnaire respondents stating that they like classmates less because of the sociometric choices or paired-comparison preferences they (the respondents) made in the administration of the different sociometric procedures.

¹The investigator proposed that affirmative responses to questionnaire items relating to perceived changes in relationships subsequent to administration of the different sociometric procedures would be minimal and hypotheses were stated for boys and girls, combined, only. The interview design called for interview of all subjects providing affirmative responses.

TABLE 26.--Distribution of subjects providing data relating to questionnaire items 4, 5, 6 and 7, by treatment group and sex^a

	Group A	Group B	Group C	Group D
Boys	41	41	34	36
Girls	31	31	29	27
Totals	72	72	63	63

^aDistribution of subjects providing data relating to questionnaire items 1, 2, 3, (Table 21) and the distribution in Table 26 above differ, except with respect to questionnaire item 6. Responses to questionnaire items 1, 2, 3 and 6 were tallied for all students completing the questionnaire and responses to items 4, 5 and 7 were not tallied for students absent for the sociometric administration.

To examine these hypotheses frequency counts were made of responses to questionnaire items 4, 5, 6 and 7. The frequency distribution of responses to questionnaire items 4, 5, 6 and 7, by treatment group and sex, is presented in Tables 27, 28, 29 and 30, respectively. Due to the very small cell frequencies and the fact that chi-square is not stable when computed from data in which any experimental frequency is less than five (Garrett, 1958) no chi-square values were computed for these data. No other statistical examination of these data were made since interview responses¹ revealed

¹Sixty of sixty-four subjects providing affirmative responses to questionnaire items 4, 5, 6 and 7 were interviewed regarding their responses.

affirmative responses to items 4, 5, 6 and 7 to be unrelated to the administration of the positive-sociometric, positive-negative-sociometric, rating-sociometric and no-sociometric treatment conditions. A summary of interview data related to questionnaire items 4, 5, 6 and 7 is reported in the interview results.¹

TABLE 27.--Frequency distribution of responses to questionnaire item 4, by treatment group and sex

	Group A		Group B		Group C		Group D	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Yes	1	1	3	2	2	3	3	2
No	13	11	11	15	11	7	17	11
Haven't thought about it	27	19	27	14	21	19	16	14

TABLE 28.--Frequency distribution of responses to questionnaire item 5, by treatment group and sex

	Group A		Group B		Group C		Group D	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Yes	6	2	3	1	3	4	9	5
No	15	11	15	18	20	14	15	11
Haven't thought about it	20	18	23	12	11	11	12	11

¹Responses, verbatim where possible, to interview questions relating to questionnaire items 4, 5, 6 and 7, are presented in Appendix E. p. 185.

TABLE 29.--Frequency distribution of responses to questionnaire item 6, by treatment group and sex

	Group A		Group B		Group C		Group D	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Yes	1	0	0	1	0	0	0	0
No	29	24	26	20	27	22	28	19
Haven't thought about it	12	7	17	12	8	13	8	8

TABLE 30.--Frequency distribution of responses to questionnaire item 7, by treatment group and sex

	Group A		Group B		Group C		Group D	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Yes	0	1	1	0	6	3	1	0
No	31	21	25	20	20	15	26	22
Haven't thought about it	10	9	15	11	8	11	9	5

No hypotheses were stated for the final item (8) of the questionnaire. This question asked if students would retain or change their sociometric choices made the previous week. It was not asked of Group D. The additional question, "Why?" was asked to provide response data relating to reasons for changing or retaining the choices. These data are discussed in the interview results.¹

¹Responses, verbatim where possible, to questionnaire item 8 are presented in Appendix E, p. 190.

Additional Results

In the presentation of the study procedures in Chapter III it was noted that several modifications in standard administrative practice for the partial-rank sociometric were incorporated. One of these was related to provision for additional nominations above the required three, and was included to permit subjects in Group B (the positive-negative sociometric treatment condition) to make more than the three negative nominations if they desired to do so. All boys and girls in Group B made the required three negative choices. However, in no instance did a boy or girl in this positive-negative sociometric treatment condition make an additional negative choice.

The sociometric rating procedure for Group C was included to provide an observation of the spontaneity with which subjects were prepared to negatively rate same-sex classmates. In Table 31 the distribution of the percentages of ratings of same-sex classmates by boys and girls is presented. This table shows 23% of boys, and 21% of girls were rated negatively by their same-sex classmates on the criterion of a good friend for a long time. Percentages of same-sex subjects rated positively were higher, as 56% of boys and 62% of girls positively rated same-sex classmates on the previously mentioned criterion.

TABLE 31.--Distribution of the percentages of ratings of same-sex classmates, by boys and girls

	Positive		Neutral	Negative	
	1	2	3	4	5
Boys	28.9	26.9	21.2	10.5	12.5
Girls	36.3	26.0	16.7	11.0	10.0

Interview

The final phase of the investigation comprised a follow-up interview.¹ In brief, this interview provided student report on discussion of sociometric choices or preferences, perceived change in interpersonal relationships, reasons for changing previously made choices, changes in paired-comparison preferences given or received, low and high choice expectancies and reaction to the experimental procedures. The distribution of subjects providing interview data, by group and sex, is presented in Table 32. As may be noted in this table, 184 subjects were interviewed by the investigator. Subsequent to administration of the eight-item questionnaire, and to tabulation of responses made on the other experimental procedures, a priority listing of subjects for interview was prepared for each same-sex subgroup.

¹ Administration of the interview is presented in Appendix E, p. 174.

TABLE 32.--Distribution of subjects providing interview data by group and sex

	Group A	Group B	Group C	Group D
Boys	27	23	22	27
Girls	17	22	26	20
Total	44	45	48	47

This listing was prepared principally in terms of affirmative responses to questionnaire items relating to perceived change in relationships, and to interaction concerning sociometric choices. Sixty of the sixty-four subjects reporting perceived change were interviewed. Thirty six of this group had also reported interacting with others or observing interaction with respect to choices made in the different treatment conditions. An additional eighty-one students were interviewed concerning student interaction on sociometric procedures. The remaining interviewees were from the population of least-preferred, from students evidencing marked changes in preference for certain classmates during the course of the investigation, and from one class in which the teacher requested that all students have the interview experience.

Interaction concerning the choices made on the different sociometric procedures provided the basis for initial interview

questions for many subjects. There was relatively consistent agreement between the affirmative response to the relevant questionnaire items (1, 2, 3)¹ and the student response to the same question during the interview. Many reciprocal positive choices were reported when interviewees were asked to comment on their reaction to being asked about their sociometric choices. Also, several negative comments were made. One boy in Group D told a highly preferred classmate, "I didn't put you down once." Another reported saying, "I told him I didn't pick him at all - he calls us names - he says, 'why don't you shut up spas?'" "M didn't pick me - he told me he didn't" was the response from a third lad. Three other boys refused to tell their choices to classmates, while one indicated, "I just marked anyone - it doesn't matter."

Responses in Group B included, "I think it's the person's business who did it and not theirs" and "V said she likes J better than me and I like J better than her so there's no difference." In Group C two lads were overheard discussing "who they picked for choices." They indicated they did not like K or S, so did not select them. Observation of the paired-comparison preferences revealed both K and S had been identified as least-preferred. These two

¹Responses are reported in Appendix E, p. 179.

discussants had placed K twice in the extreme negative category, but S was rated negatively by one lad and positively by the other.

With regard to individuals considering they were liked more because of choices they had made, a group D girl reported that "since the tests M and I have had a ball - prior, she was mad at me." In the positive-negative group a girl suggested she may be liked more as "somebody sitting near me might have looked."

It appeared that the function of making the sociometric choices resulted neither in individuals liking others less nor in their thinking that others liked them less as a result of the latter completing the assigned procedure. No pertinent responses were made.

The final item on the questionnaire asked subjects whether they would retain or make changes in the sociometric nominations made the previous week. An additional question, "Why?", requiring a written response, was asked. Written responses, those written responses clarified during the interview, and interview-only responses were combined for purposes of discussion.¹ One comment made by a girl in the positive sociometric group revealed a change in relationship which may be termed a direct result of choices made on the sociometric questionnaire. She stated she was "in a fight with K - we

¹A comprehensive listing of these responses is presented in Appendix E, p. 190.

had a fight after choosing, but I did choose her-she is jealous of J." Further comments by the respondent indicated she felt this to be a characteristic reaction by K. It is interesting to note that she chose K as her fourth choice, but K did not include her in the three choices that she made. Reasons for retention of identical nominations were stated principally in positive terms. However, some reasons included report of negative relationships. Naturally, these reports emanated from the groups in which negative evaluations were required (B) and permitted (C). The first three responses cited were from the positive-negative group; the remainder, from the group using the rating scale.

Because I still like them the best and least. (boy)

Because I like them the very least. (girl)

Well, C, T, and S are very nice; and T, B, and K are very rude. (girl)

Because G was last. (boy)

S, L, and D are very nice, but J is mean. (girl)

Because I don't like them. (boy)

No indication, either written or verbal, was given by any respondent, that a change would be made, or considered, due to that respondent's knowledge of choices made by others.

On occasion, the preferences of individuals for one another varied markedly in the two administrations of the paired-comparison questionnaire.¹ Subjects were questioned about these deviations on the grounds that they may have been related to knowledge of sociometric choices made by others. No student reported any relationship between the deviations and knowledge of choices of others.

Questions were also posed concerning the number of preferences expected on the second administration of the paired-comparison instrument. In terms of reasons for expectancies expressed, there appeared to be no relationship between the highest and lowest expectancies and sociometric choices made the previous week.² Responses made by interviewed students are presented in Appendix E.

Many subjects responded that they knew more about the way that others felt about them as a result of the activities introduced by the investigator. Observation of the responses³ reveals that these responses, while demonstrating the existence of a variety of positive and negative relationships among participants, bear no specific reference to the experimental procedures.

¹ Student responses are reported in Appendix E, p. 195.

² Student responses are reported in Appendix E, p. 203.

³ Student responses are reported in Appendix E, p. 210.

When asked about their reaction to the appropriate sociometric instrument several subjects in Group B expressed concern over the request for negative nominations. Their specific responses to the question "Did it worry you, or bother you, when I asked you to do this?" (indicating the sociometric form) were:

Yes - a little - I was not sure who to put in "Least" because I like most everybody. (girl)

It was no bother except for "Least" - I don't want people to think I don't like them. (boy)

Two male members of the group found choosing difficult, since they had so many friends, and one girl "didn't know who to pick." Another girl indicated she experienced no trouble in completing the negative portion. Concern was expressed by one girl that it "would be nose-y", further stating that "I don't think it is any of your business." She voiced similar sentiments when asked for her reaction if her teacher were to administer the same procedures. From each of the other treatment groups one response appeared sufficiently singular to be reported. A boy in Group A was concerned that "others might see it"; a girl who completed the rating scale said "I just don't like to pick my friends like that" and a girl in the control group considered "there is no reason why we should do this."

Students were also asked to express their opinions relative to the experimental procedures being administered by their teacher.

Responses were elicited by the following question: "What would you think, or how would you feel, if your teacher asked you to do the things I have asked you to do? Would it bother you? Group A subjects indicating a lack of desire for the teacher to employ the investigational procedures gave reasons of:

I think teacher¹ would be trying something fishy. (boy)

It would be embarrassing - it would bother me with the teacher. (boy)

Just asking who you like bothers me - maybe the teacher might find out we like someone else and shift us. (girl)

More concern appeared to be expressed by the positive-negative group than by others. Opinions voiced were:

I would think teacher is nose - I don't know why teacher would be asking. (boy)

Teacher might talk about it to the other teachers. (boy)

I wouldn't like a teacher to do it - it's getting kind of snoopy. (boy)

It would bother me a little - I like everybody. (girl)

I would think teacher was kind of nose - it's none of teacher's business. (girl)

One girl in Group C would have been bothered because she didn't know whether or not she liked some of her classmates.

¹The single word "teacher" was employed as a substitute for the name of a classroom teacher or for a pronoun employed in reference to that person.

There appeared to be no uncertainty in the minds of two classmates in Group D who stated:

Teacher would think I should like M - I don't - and he doesn't like some of my friends. (boy)

It's prying into other people's affairs - my parents and sister all think it's none of anybody else's business. (girl)

One hundred and eighty-four subjects were interviewed concerning the different procedures administered to them by the investigator. In the course of the interviews, subjects responded to questions designed to provide opportunity for them to elaborate on the effects of the administration of these procedures on the interpersonal relationships of group members. It was readily apparent that changes in interpersonal relationships had occurred since the administration of the different sociometric procedures. However, interview responses demonstrated quite clearly that the changes were not attributable to the administration of the sociometric procedures.

CHAPTER V

SUMMARY, DISCUSSION AND CONCLUSIONS

The general objective of the investigation was to examine the contention that requiring negative sociometric identifications of least-preferred classmates results in accentuation of negative feelings among class members.

The specific objectives were to test five sets of null hypotheses which stated there would be no differences (1) in changes in proportions of paired-comparison peer preferences received by least-preferred classmates, (2) in changes in variance of paired-comparison peer preferences received by all classmates, (3) in expectations of preferences of others for them by least-preferred and by all students, (4) in frequencies of affirmative responses to questionnaire items relating to asking, being asked and observing classmate interaction on sociometric choices made, and (5) in frequencies of affirmative responses to questionnaire items relating to perceived changes in interpersonal relationships, following administration of the different sociometric procedures.

Procedures

The initial phase of the investigation comprised a pilot study involving two classes of fifth grade students twice administered a paired-comparison questionnaire with a positive sociometric questionnaire administered midway during the intervening two-week period. Each procedure asked for choices of classmates as friends for a long time. Results of this study suggested the use of a same-sex population would provide more meaningful results and provide a more stringent test of stated hypotheses. In order to test the five sets of hypotheses twelve classes of fifth grade students, composed of a total of 309 students from five elementary schools in Springfield, Oregon, were assigned to four experimental treatment conditions, A, B, C, or D, with no two classes from the same school assigned to the same treatment group. All classes received two administrations, two weeks apart, of a paired-comparison questionnaire for selection of same-sex classmates as continuing friends. In the intervening period Group A received a sociometric questionnaire requiring student selection of three same-sex classmates most preferred as continuing friends; Group B, a sociometric questionnaire requiring student selection of three most-preferred and three least-preferred same-sex classmates on the same criterion; Group C, a sociometric rating scale requiring students to rate all same-sex

classmates on a five-point scale of preferred to non-preferred as continuing friends. Group D, designated as control, received no intervening sociometric. Within each same-sex class group students were ranked in terms of the number of paired comparisons favoring them on the first administration of the paired-comparison questionnaire. Those students in the lowest third of their group rankings were identified as least-preferred students.

Following the second paired-comparison administration all subjects estimated the preferences made by classmates with respect to those pairs containing their names. In addition, they completed an eight-item questionnaire focusing on the student's awareness of possible change in his classmates' evaluations of him, or in his evaluation of them, subsequent to administration of the different sociometric procedures.

One hundred and eighty-four students were interviewed regarding their stated perceptions of status change, their reasons for changing their initial sociometric choices or ratings, and their reactions to the experimental procedures employed in the investigation.

Results

Hypotheses relating to paired-comparison and choice expectancy procedures, and to variance of paired-comparison proportions were

tested by analysis of variance, following a groups-within-treatments design (Lindquist, 1953).

The first set of hypotheses was related to changes in peer preferences received on the two administrations of the paired-comparison questionnaire by least-preferred boys and girls, combined and separately. In testing this subsample the focus was on the contention that requiring negative nominations may result in accentuation of negative feelings toward less favored group members. This contention was not substantiated in this investigation, the data failing to provide evidence of differences in peer preferences for least-preferred subjects subsequent to administration of the different sociometric procedures.

As the number of preferences available in each paired-comparison questionnaire is defined, a greater proportion of negative preferences, postulated by some investigators as a concomitant of increased focus on negative sociometric choices, should result in a greater variance of paired-comparison proportions in classes receiving the negative sociometric procedure. Analyses of variance conducted on the differences in variance of paired-comparison proportions failed to provide evidence of differences in variance among treatment groups.

To further examine the contention that the request for negative sociometric nominations has a deleterious effect on the interpersonal relationships of group members, students were administered a choice expectancy procedure, which required each individual to estimate preferences made by all others in his subgroup on the pairs which involved his name on the post-sociometric administration of the paired-comparison questionnaire. It was proposed that choice expectancy responses would be sensitive to changes in group social structure following administration of the different sociometric procedures and that any accentuation of negative feelings would be reflected in lower choice expectancy scores of least-preferred students. Examination of the data failed to reveal differences in choice expectancy scores among the four treatment conditions. Further, no differences were revealed when choice expectancy data were examined for total group populations of boys and girls, combined and separately.

The final sets of hypotheses examined dealt with responses to questionnaire items focusing on student discussion and perceived change in relationships subsequent to administration of the different sociometric procedures. Differences among the four treatment conditions, in the number of boys and girls combined, and boys separately, asking others and reporting classmate interaction related

to the sociometric administrations, were found to be significant at the .05 level of confidence using a chi-square test in all instances. Further inspection of the data revealed that the significant chi-squares reported resulted from the greater number of subjects (principally boys) in Group A (the positive-sociometric group) asking others about their sociometric choices.

Questions dealing with perceived changes in status, or "liking" behavior, resulted in response frequencies insufficiently large to be examined by chi-square. No other examination of these data were made since interview responses revealed affirmative responses to be unrelated to the specific questions asked in the administration of the questionnaire.

Approximately 60 percent of the subjects in the study were interviewed with regard to their questionnaire responses, changes in paired-comparison preferences, high and low choice expectancies and reaction to the experimental procedure. This interview clarified questionnaire affirmative responses which had suggested that during the course of the investigation changes had occurred in relationships between subjects. Student responses in the interview sessions showed, however, that these changes were not a result of the experimental procedures. Knowledge of choices made by others was gained by some students but it was, with several exceptions, positive in nature.

In general, responses may be summarized as examples of the dynamics of interpersonal relationships which would probably be apparent among average fifth grade youngsters during a period comparable to that which the study was in progress. Low choice expectancies and marked changes in peer preferences were not attributed to knowledge of sociometric choices by others. For the most part, reaction to the experimental procedures was favorable. However, several students indicated they would be antagonized by their teacher employing the same procedures. These students were located principally in one school which tends to draw from a somewhat higher socio-economic population than the other schools in the study.

Limitations

The general purpose of the study was to examine the contention that the forced negative identification of least-preferred classmates through the use of sociometric techniques results in accentuation of negative feelings among class members. This purpose is only partially met due to a number of limitations of the study. Foremost among these is the study population used. This study population was restricted to twelve fifth grade classes in five elementary schools in the Springfield School District, Oregon. No testing of other than

fifth grade pupils was made. Generalizations from the results of this study to classes of older or younger students must be considered tenuous.

A second limitation is the same-sex subgroup unit used in the study.¹ For purposes of meaningfully identifying least-preferred class members as other than the most extreme non-preferred opposite-sex classmates, it was necessary to restrict the paired-comparison pairings to same-sex classmates. Though the writer would contend that the lack of evidence of accentuation of negative feelings obtained from his same-sex subgroup data would maintain were the paired-comparison, choice expectancy and sociometric choices to be drawn from all classmates, this contention remains beyond the actual data examined.

A third limitation is the use of a single sociometric criterion. It is generally agreed that nominations based on a number of well

¹Scaling procedures normally employed with the method of paired comparisons were not possible in this study due to the occurrence of at least one zero proportion in most of the proportion matrices derived from same-sex subgroups. Neither Guilford's (1954) nor Torgerson's (1958) suggested adjustments for zero proportions appeared adequate for treating peer preference data.

selected criteria will provide for more meaningful interpretation of social status established from resultant nominations (Gronlund, 1959; Northway, 1952). This investigation employed a single criterion upon which preferences were stated, namely, as friends for a long time. This criterion was selected as one providing opportunity for subjects to generalize over many specific considerations which lead to preference of one individual over another.

A fourth limitation of the study is the selection of the period between administrations of the experimental procedures. A time period of one week was selected as the intervening period to allow for presence or absence of characteristic trends in fluctuation of choices and to provide sufficient time for reactions, subsequent to administration of the procedures, to consolidate or dissipate. It was an experimenter's choice. It seemed reasonable to him to assume that if changes in relationships had not been manifest during this period they would be unlikely to be so at some time in the future, and that if changes had come and gone, being self-corrected or unremembered, they were of little practical consequence.

Discussion

Five sets of hypotheses were examined in this investigation. Significant differences in the treatment conditions were found only in student discussion of sociometric choices. In the classes administered the positive-sociometric questionnaire students more frequently asked their classmates about their peer preferences than did students in the other treatment conditions. This finding is contrary to that which might reasonably be expected from the argument of "increased accentuation of negative feelings" following administration of sociometric instruments involving negative selection of classmates.

Conclusion

In 1951 Thompson and Powell reported that one has little to fear concerning harmful effects when using the negative or rejecting portion of the rating scale but they were not able to draw the same conclusion about the rejecting end of the partial-rank-order scale. The findings of the present study tend to suggest that the effects of the administration of the negative portion of the rating scale and of the partial-rank-order are similar. They did not differ from each other, nor from other treatment conditions in changes in peer preferences, in variance of these preferences and in choice

expectancies. Neither produced more student discussion than the other. On the basis of these observations the writer suggests an extension of the Thompson-Powell conclusion to include the positive-negative partial-rank-order sociometric.

The long standing arguments of negative effects of administering the positive-negative partial-rank sociometric are unsupported by the findings of this investigation.

BIBLIOGRAPHY

- Almy, Millie. Ways of Studying Children, (from material prepared by Ruth Cunningham and Associates), New York: Bureau of Publications, Teachers' College, Columbia University, 1959.
- Ames, Viola Caprez. "Socio-psychological vectors in the behavior and attitudes of children," II: Awareness of acceptance status, J. educ. Psychol., 1945, 271-288.
- Austen, Mary C., and George G. Thompson. "Children's friendships: a study of the bases on which children select and reject their best friends," J. educ. Psychol., 1948, 39, 2, 101-116.
- Ausubel, David P. "Reciprocity and assumed reciprocity of acceptance among adolescents, a sociometric study," Sociometry, 1953, XVI, 4, 339-348.
- _____, Herbert M. Schiff, and Edward B. Gasser. "A preliminary study of developmental trends in socioempathy: accuracy of perception of own and others' sociometric status," Child Develpm., 1952, 23, 2, 111-128.
- _____. "Socioempathy as a function in an adolescent group," Human Relations, 1955, 8, 1, 75-84.
- Baron, Dennis. "Personal-social characteristics and classroom social status: a sociometric study of fifth and sixth grade girls," Sociometry, 1951, XIV, 1, 32-42.
- Baller, Warren R., and Don C. Charles. The Psychology of Human Growth and Development, New York: Holt, Rinehart and Winston, 1961.
- Bedoian, Vagharsh Hagop. "Mental health analysis of socially over-accepted and socially under-accepted, overage and underage pupils in the sixth grade," J. educ. Psychol., 1953, 44, 6, 366-371.
- _____. "Social acceptability and social rejection of the underage, at-age and overage pupils in the sixth grade," J. educ. Res., 1954, 47, 7, 513-520.

- Bennis, G., and Dean Peabody. "The conceptualization of two personality orientations and sociometric choice," J. soc. Psychol., 1962, 57, 203-215.
- Bjerstedt, Ake. Interpretation of Sociometric Choice Status, Copenhagen: Lund C.W.K. Gleerup, 1956.
- Bogardus, E. S. "A social distance scale," Sociol. and soc. Res., 1933, 17, 265-271.
- Borgatta, E. F. "A diagnostic note on the construction of sociogram and action diagrams," Group Psychother., 1951, 3, 300-308.
- Bonney, Merl E. "Values of sociometric studies in the classroom," Sociometry, 1943, VI, 3, 251. (a)
- _____. "Personality traits of socially successful and socially unsuccessful children," J. educ. Psychol., 1943, 34, 449-472. (b)
- _____. "A study of the sociometric process among sixth-grade children," J. educ. Psychol., 1946, 37, 359-371.
- _____, R. E. Hoblit, and A. H. Dreyer. "A study of some factors related to sociometric status in a men's dormitory," Sociometry, 1953, XVI, 4, 287-301.
- _____. "Choosing between sexes on a sociometric instrument," J. soc. Psychol., 1954, 39, 99-114.
- _____, and Johnny Powell. "Differences in social behavior between sociometrically high and sociometrically low children," J. educ. Res., 1953, 46, 2, 481-496.
- Bower, E. M. "A process for identifying disturbed children," Children, 1957, 4, 143-147.
- Breck, June. "A sociometric test of status as measured in physical education classes," Unpublished Master's Thesis, University of California at Los Angeles, 1947.
- Brickell, Henry M. "What you can do with sociograms," The English Journal, 1950, 39, 5, 256-261.

Bronfenbrenner, Urie. "A constant frame of reference for sociometric research: Part II, Experiment and Inference, Sociometry, 1944, VII, 1, 40-75.

_____. "The measurement of sociometric status; structure and development," Sociom. Monogr., 1945, 6.

Brown, William H., and Lucille B. Bond. "Social stratification in a sixth grade class," J. educ. Res., 1955, 48, 539-543.

Buswell, Margaret M. "The relationship between the social structure of the classroom and the academic success of the pupils," J. exp. Psychol., 1953, 22, 37-52.

Byrd, Eugene. "A study of validity and constancy of choices in a sociometric test," Sociometry, 1951, XIV, 2-3, 175-181.

Campbell, Donald T., and Donald W. Fiske. "Convergent and discriminant validation by the multi-trait multi-matrix method," Psychol. Bull., 1959, 56, 81-105.

Campbell, E. H. "The social-sex development of children," Genet. Psychol. Monogr., 1939, 21, 461-552.

Cassell, Russell N., and Randolph G. Saugstad. "Level of aspiration and sociometric distance," Sociometry, 1952, XV, 3-4, 319-325.

Clampitt, Richard R., and Don C. Charles. "Sociometric status and supervisor evaluation of institutionalized mentally deficient children," J. soc. Psychol., 1956, 44, 223-231.

Clark, Rodney A., and Carson McGuire. "Sociographic analysis of sociometric valuations," Child Develpm., 1952, 23, 2, 129-140.

Clifford, E., and G. J. Weschner. "The relative severity of different kinds of parental punishments as evaluated by preschool children:" paper read at Midwest Psychological Association, Chicago, April 1951.

Cohn, Thomas S., William Yu, and Virgil Brown. "Attitude change and interpersonal attraction," J. soc. Psychol., 1961, 55, 207-211.

- Cornwell, J. "Sociometric Analysis in a Residential Training College," Unpublished Ph.D. Thesis, University of London Library. Cited by Evans, K. M., Sociometry and Education, London: Routledge and Kegan Paul, 1962.
- Croft, John. "A teacher's survey of his backward class in a secondary modern school," Brit. J. educ. Psychol., 1951, XXI, Part II, 135-144.
- Croft, I. J., and T. J. Grygier. "Social relationships of truants and juvenile delinquents," Human Relations, 1956, 9, 4, 439-466.
- Cronbach, Lee J. "Processes affecting scores on "understanding of others" and "assumed similarity," Psychol. Bull., 1955, 52, 3, 177-193.
- Crow, Wayman J., and Kenneth R. Hammond. "The generality of accuracy and response sets in interpersonal perception," J. abnorm. soc. Psychol., 1957, 54, 3, 385-390.
- Cunningham, Ruth and Associates. Understanding Group Behavior of Boys and Girls, New York: Bureau of Publications, Teachers' College, Columbia University, 1951.
- Dauids, Anthony, and Anita Negrin Parenti. "Personality, social choice, and adult's perception of these factors in groups of disturbed and normal children," Sociometry, 1958, XXI, 3, 212-224.
- Davis, Junius A., and Charles F. Warnath. "Reliability, Validity, and Stability of a sociometric rating scale," J. soc. Psychol., 1957, 45, 111-121.
- Drawhorn, Curtis L. "A study of the sociometric hierarchy of elementary education majors," J. educ. Res., 1956, 50, 4, 287-296.
- Dunnington, Jeane. "Investigation of areas of disagreement on sociometric measurement of preschool children," Child Developm., 1957, 28, 1, 93-102.
- Emerson, Ruth A. "A study of factors related to sociometric status in a group of four and five year old nursery school children," Unpublished Master's Thesis, Cornell University, 1953, (from Dunnington, 1957).

- Eng, G. E., and R. L. French. "The determination of sociometric status," Sociometry, 1948, XI, 4, 368-471.
- Evans, K. M. Sociometry and Education, London: Routledge and Kegan Paul, 1962.
- _____. "Sociometry in Schools - 1. Sociometric Techniques," Educ. Res., 1963, VI, 1, 50-58.
- Fiedler, Fred E., Willard G. Warrington, and Francis J. Blaisdell. "Unconscious attitudes as correlates of sociometric choice in a social group," J. abnorm. soc. Psychol., 1952, 47, 4, 790-796.
- Feinberg, Mortimer R. "Relation of background experience to social acceptance," J. abnorm. soc. Psychol., 1953, 48, 2, 206-214.
- Flotow, Ernest A. "Charting Social Relationships of school children," Elem. Sch. J., 1946, 46, 9, 498-504.
- Forlano, George, and J. Wayne Wrightstone. "Sociometric and self-descriptive technics in appraisal of pupil adjustment," Sociometry, 1951, XIV, 4, 340-350.
- _____. "Peer acceptance in core and non-core classes," J. educ. Res., 1964, 57, 8, 431-433.
- Frymier, Jack R. "The relationship of authoritarianism to rejection," J. educ. Res., 1959, 53, 1, 33-34.
- Fuller, Elizabeth Machem, and Helen B. Baune. "Injury-proneness and adjustment in a second grade," Sociometry, 1951, XIV, 2-3, 210-225.
- Garrett, Henry E. Statistics in Psychology and Education, New York: Longmans, Green and Co., 1958.
- Green, George H. "Insight and Group Adjustment," J. abnorm. soc. Psychol., 1948, 43, 1, 48-61.
- Greer, F. Loyal, Eugene H. Galantier, and Peter G. Nordlie. "Interpersonal Knowledge and Group Effectiveness," J. abnorm. soc. Psychol., 1954, 49, 2, 411-414.

- Goldstone, Sanford, William K. Boardman, William T. Thamon, Fred L. Fason and Clarence Jernigan. "Sociometric status and apparent duration," J. soc. Psychol., 1963, 61, 303-310.
- Goodacre III, Daniel M. "The use of the sociometric test as a predictor of combat unit effectiveness," Sociometry, 1951, XIV, 2-3, 148-152.
- Goslin, David A. "Accuracy of self perception and social acceptance," Sociometry, 1962, XXV, 3, 283-296.
- Gottheil, Edward. "Changes in social perceptions contingent upon competing or cooperating," Sociometry, 1955, XVII, 2, 132-137.
- Gronlund, Norman E. "The Accuracy of Teachers' judgments concerning the sociometric status of sixth-grade pupils," Part I, Sociometry, XII, 3, 197-225. (a)
- _____. "The Accuracy of Teachers' Judgments concerning the sociometric status of sixth-grade pupils," Part II, Sociometry, 1950, XII, 4, 329-257. (b)
- _____. "The relative stability of classroom social status with unweighted and weighted sociometric status scores," J. educ. Psychol., 1955, 46, 6, 345-354. (a)
- _____. "Acquaintance span and sociometric status," Sociometry, 1955, XVIII, 1, 62-68. (b)
- _____. "Sociometric status and sociometric perception," Sociometry, 1955, XVIII, 2, 122-128. (c)
- _____. "Generality of sociometric status over criteria in the measurement of social acceptability," Elem. Sch. J., 1955, 56, 173-176. (d)
- _____. Sociometry in the Classroom, New York: Harper and Bros., 1959.
- Grossman, Beverly, and Joyce Wrighter. "The relationship between selection-rejection and intelligence, social status and personality among sixth-grade children," Sociometry, 1948, XI, 4, 346-355.

- Guilford, J. P. Psychometric Methods, 2nd ed., New York: McGraw-Hill Book Company, Inc., 1954.
- Guyette, R. "Relationships between children's, parents' and teachers' perceptions of the severity of punishments," Unpublished Master's Thesis, University of Massachusetts, 1957.
- Hartshorne, H., and M. May, and J. B. Maller. Studies in the nature of character: II Studies in service and self-control, New York: Macmillan, 1929.
- Hay, Edward N. "A simple method of recording paired-comparisons," J. appl. Psychol., 1958, 42, 2, 139-140.
- Haythorn, William. "The influence of individual members on the characteristics of small groups," J. abnorm. soc. Psychol., 1953, 48, 2, 276-284.
- Hoffman, L. Richard. "A note on rating versus choices as measures of group attraction," Sociometry, 1962, XXV, 3, 313-320.
- Hollander, E. P. "Peer nominations on leadership as a predictor of the pass-fail criterion in naval air training," J. appl. Psychol., 1954, 38, 3, 150-153.
- _____, and Wilse B. Webb. "Leadership, followership and friendship: an analysis of peer nominations," J. abnorm. soc. Psychol., 1955, 50, 2, 163-167.
- Horowitz, Frances Degen. "The relationship of anxiety, self-concept, and sociometric status among fourth, fifth, and sixth grade children," J. abnorm. soc. Psychol., 1962, 65, 3, 212-214.
- Horrocks, J. E., and G. E. Thompson. "A study of the friendship fluctuations of rural boys and girls," J. genet. Psychol., 1946, LXIX, 189-198.
- Izard, Carroll E. "Personality similarity, positive effect and interpersonal attraction," J. abnorm. soc. Psychol., 1960, 61, 3, 484-485.
- Jennings, Helen Hall. Leadership and Isolation: A study of Personality in Inter-Personal Relations, New York: Longmans, Green and Co., 1943.

- Jennings, Helen Hall. "Leadership-a dynamic redefinition," J. educ. Psychol., 1944, 17, 7, 431-433.
- _____. "Leadership and sociometric choice," Sociometry, 1947, X, 1, 32-49.
- _____. "Using children's social relationships for learning," J. educ. Psychol., 1948, 21, 543-552.
- _____. Leadership and Isolation: A study of Personality in Inter-Personal Relations, (2nd ed.), New York: Longmans, Green and Co., 1950.
- Johnson, Edward E. "Student ratings of popularity and scholastic ability of their peers and actual scholastic performance of these peers," J. soc. Psychol., 1958, 47, 127-132.
- Johnson, G. C. "A Study of the social position of mentally handicapped children in the regular grades," Amer. J. ment. Defic., 1950, 55, 60-88.
- Johnson, Palmer O. Statistical Methods in Research, New York: Prentice Hall Inc., 1949.
- Justman, J., and J. W. Wrightson. "A comparison of three methods of measuring pupil status in the classroom," Educ. psychol. Measmt., 1951, 11, 362-367.
- Katz, Leo. "Punched card technique for the analysis of multiple level sociometric data," Sociometry, 1950, XIII, 2, 108-122.
- Keislar, Evan R. "A distinction between social acceptance and prestige among adolescents," Child Develpm., 1953, 24, 4, 275-283.
- Kelley, Truman Lee. The Kelley Statistical Tables, New York: The Macmillan Company, 1938.
- Kelman, Herbert C., and Morris B. Parloff. "Interrelations among three criteria of improvement in group therapy; comfort, effectiveness, and self-awareness," J. abnorm. soc. Psychol., 1957, 54, 3, 281-288.

- Kerstetter, Leona. "Exploring the environment in the classroom situation," Sociometry, 1946, IX, 2, 149-150.
- Kidd, John W. "An analysis of social rejection in a college men's residence hall," Sociometry, 1951, XIV, 2-3, 226-234.
- Koch, Helen Lois. "Popularity in preschool children: some related factors and a technique for its measurement," Child Develpm., 1933, 4, 164-175.
- _____. "A study of some factors conditioning the social distance between the sexes," J. soc. Psychol., 1944, 20, 79-107.
- _____. "The social distance between certain racial, nationality and skin-pigmentation groups in select populations of American schools," J. genet. Psychol., 1946, 68, 63-95.
- Kogan, Nathan, and Renato Tagiuri. "Interpersonal Preference and cognitive organization," J. abnorm. soc. Psychol., 1958, 56, 1, 113-116.
- Kuhlen, Raymond G., and Beatrice Lee. "Personality characteristics and social acceptability in adolescence," J. educ. Psychol., 1943, 34, 6, 321-340.
- _____, and Howard S. Bretsch. "Sociometric status and personal problems of adolescents," Sociometry, 1947, X, 2, 122-132.
- Lawshe, C. H., N. C. Kephart, and E. J. McCormick. "The paired comparison technique for rating performance of industrial employees," J. appl. Psychol., 1949, 33, 1, 69-77.
- Lemann, Thomas B., and Richard L. Solomon. "Group characteristics as revealed in sociometric patterns and personality ratings," Sociometry, 1952, XV, 1-2, 7-90.
- Levi, Mario, E. Paul Torrance and Gilbert O. Pletts. "Sociometric studies of combat air crews in survival training," Sociometry Monographs, 1955, 32.
- Lindgren, Henry Clay, and Hilda de Almeida Guedes. "Social status, intelligence and educational achievement among elementary and secondary students in Sao Paulo, Brazil," J. soc. Psychol., 1963, 60, 9-14.

- Lindquist, E. F. Design and Analysis of Experiments in Psychology and Education, Boston: Houghton Mifflin Company, 1953.
- Lindzey, Gardner, and James A. Urdan. "Personality and social choice," Sociometry, 1945, XVII, 1, 47-63.
- _____, and Edgar F. Borgatta. "Sociometric measurement," in ed. Gardner Lindzey, Handbook of Social Psychology, Vol. 1, Massachusetts: Addison-Wesley Publishing Company, Inc., 1954.
- Lippitt, Rosemary. "Popularity among pre-school children," Child Develpm., 1941, 12, 4, 305-332.
- Lundberg, George A., Virginia B. Hertzler, and Lenore Dickson. "Attraction patterns in a university," Sociometry, 1949, XII, 1-3, 158-169.
- Lundy, Richard M., Walter Katkovsky, Rue L. Cromwell, and Donald J. Shoemaker. "Self acceptability and description of sociometric choices," J. abnorm. soc. Psychol., 1955, 51, 2, 260-262.
- _____. "Self perception regarding masculinity-femininity and descriptions of same and opposite sex sociometric choices," Sociometry, 1958, XXI, 3, 238-246.
- _____. "The relationship of changes in assimilative projection to accepting and rejecting interpersonal groups and to the order of groups," J. soc. Psychol., 1959, 50, 327-333.
- Lunzer, E. A. "Aggressive and withdrawing children in the normal school," J. Brit. educ. Psychol., 1960, Part I, 1-10.
- McCandless, Boyd R., Alfred Castaneda, and David S. Palermo. "Anxiety in children and social status," Child Develpm., 1956, 27, 4, 385-392.
- McClelland, F. M., and John A. Ratliff. "The use of sociometry as an aid in promoting social adjustment in a ninth-grade home-room," Sociometry, 1947, X, 2, 147-153.
- McMillan, John J., and Jacob Silverberg. "Sociometric choice patterns in hospital ward groups, with varying degrees of interpersonal disturbances," J. abnorm. soc. Psychol., 1955, 50, 2, 168-172.

- McNemar, Quinn. Psychological Statistics, New York: John Wiley and Sons, Inc., 3rd. ed., 1962.
- Manis, Melvin. "Social interaction and the self concept," J. abnorm. soc. Psychol., 1955, 51, 3, 362-370.
- Medinnus, Gene R. "An examination of several correlations of sociometric status in a first grade group," J. genet. Psychol., 1962, 101, first half, 3-13.
- Moore, Shirley, and Ruth Updegraff. "Sociometric status of pre-school children related to age, sex, nurturance-giving and dependency," Child Developm., 1964, 35, 2, 519-524.
- Moreno, Jacob L. Who Shall Survive? Washington, D. C. : Nervous and Mental Disease Publishing Co., 1934.
- _____. "Sociometry in relation to other social sciences," Sociometry, 1937, I, 1, 206-219.
- _____, H. H. Jennings, and J. Sargent. "Time as a quantitative index of inter-personal relations," Sociometry, 1940, III, 62-80.
- _____. "Progress and pitfalls in sociometric theory," Sociometry, 1947, X, 3, 268-272.
- _____. "Old and new trends in sociometry turning points in small group research," Sociometry, 1954, XVII, 2, 179-193.
- Mouton, J. S., R. R. Blake, and B. Fruchter. "The reliability of sociometric measures," Sociometry, 1955, XVIII, 7-48.
- Norman, Ralph D. "The interrelationships among acceptance-rejection, self-other identity, insight into self, and realistic perception of others," J. soc. Psychol., 1953, 37, 203-235.
- Northway, Mary L. "Appraisal of the social development of children at a summer camp," University of Toronto Studies; Psychological Series, Vol. 5, No. 1, 1940.
- _____. "Outsiders: a study of the personality patterns of children least acceptable to their age mates," Sociometry, 1944, VII, 10-25.

- Northway, Mary L. "Sociometry and some challenging problems of social relationships," Sociometry, 1946, IX, 2, 197-198.
- _____. A primary of Sociometry. Toronto, Canada: University of Toronto Press, 1952.
- _____, and Lindsay Weld. Sociometric Testing. Toronto, Canada: University of Toronto Press, 1957.
- Olson, Willard C., and William W. Wattenberg. "The Role of the School in Mental Health," in Mental Health in Modern Education, 1955, Part II, National Society for the Study of Education Yearbook, 100-124.
- Phillips, Beeman N., and Louis A. D'Amico. "Effects of cooperation and competition on the cohesiveness of small face-to-face groups," J. educ. Psychol., 1956, 47, 2, 65-70.
- Polansky, Norman, Ronald Lippitt and Fritz Redl. "The use of near-sociometric data in research on group treatment processes," Sociometry, 1950, XIII, 1, 39-62.
- Pope, B. "Prestige values in contrasting socio-economic groups of children," Psychiatry, 1953, 16, 381-385.
- Porterfield, O. V., and Henry F. Schlichting. "Peer status and reading achievement," J. educ. Res., 1961, 54, 8, 291-297.
- Potashin, Reva. "A sociometric study of children's friendships," Sociometry, 1946, IX, 1, 48-70.
- Radke, Marion, Jean Sutherland, and Pearl Rosanberg. "Racial attitudes of children," Sociometry, 1950, XIII, 2, 154-171.
- Reese, Hayne W. "Relationships between self-acceptance and sociometric choices," J. abnorm. soc. Psychol., 1961, 62, 2, 472-474.
- Reger, Roger. "An attempt to integrate a group isolate," J. educ. Sociol., 1962, 36, 4, 154-158.
- Roff, Merrill. "Childhood social interactions and young adult bad conduct," J. abnorm. soc. Psychol., 1961, 63, 2, 333-337.

- Roff, Merrill. "Childhood social interactions and young adult psychosis," J. clin. Psychol., 1963, XIX, 2, 152-156.
- Ross, Robert T. "Optimum orders for the presentation of pairs in the method of paired-comparisons," J. educ. Psychol., 1934, XXV, 5, 375-382.
- Ryan, F. J., and James S. Davie. "Social acceptance, academic achievement, and academic aptitude among high school students," J. educ. Res., 1958, 52, 3, 101-106.
- Scandrette, Onas C. "Social distance and degree of acquaintanceship," J. educ. Res., 1958, 51, 5, 367-372.
- Schiff, Herbert. "Judgmental response sets in the perception of sociometric status," Sociometry, 1954, XVII, 3, 207-227.
- Sells, S. B., and Merrill Roff. "Problems in the estimation of peer-rejection in the elementary grades," paper presented at American Education Research Association, Chicago, Illinois, 13 February, 1963.
- Singer, Arthur. "Certain aspects of personality and their relation to certain group modes, and constancy of friendship choices," J. educ. Res., 1951, 45, 1, 33-42.
- Sinnett, E. Robert, and Dana B. Hanford. "The effects of patients' relationships with peers in staff in their psychiatric treatment programs," J. abnorm. soc. Psychol., 1962, 64, 2, 151-154.
- Smith, Peter B. "Differentiation between sociometric ranking," Human Relations, 1963, 16, 335-350.
- Smucker, Orden. "Measurement of group tension through the use of negative sociometric data," Sociometry, 1947, X, 4, 376-383.
- _____. "Near-sociometric analyses as a basis for guidance," Sociometry, 1949, XII, 4, 236-240.
- Snoek, J. Diedrick. "Some effects of rejection upon attraction to the group," J. abnorm. soc. Psychol., 1962, 64, 3, 175-182.

- Speroff, Boris, and Willard Kerr. "Steel Mill 'hot strip' accidents and interpersonal desirability values," J. clin. Psychol., 1952, 8, 1, 89-91.
- Stone, Joseph L., and Joseph Church. Childhood and Adolescence, New York: Random House, 1957.
- Tagiuri, Renato. "Relational analysis: an extension of sociometric method with emphasis upon social perception," Sociometry, 1952, XV, 91-104.
- _____. "Relational analysis: an extension of sociometric method with emphasis upon social perception in small groups," in Small Groups, ed. by A. Paul Hare et al., New York: Alfred A. Knopf, 1955, 246-252.
- Thompson, George G., Harold F. Bligh, and Sam L. Witryol. "A critical examination of several methods of determining level of social status," J. soc. Psychol., 1951, 33, 13-32.
- _____, and J. E. Horrocks. "A study of the friendship fluctuations of urban boys and girls," J. genet. Psychol., 1947, LXX, 53-63.
- _____, and Marvin Powell. "An investigation of the rating-scale approach to the measurement of social status," Educ. psychol. Measmt., 1951, 11, 3, 440-455.
- Thurstone, L. L. "A law of comparative judgment," Psychol. Rev., 1927, 34, 273-286.
- Todd, Frances E. "Democratic methodology in physical education," Sociometry, 1951, XIV, 2-3, 203-209.
- Torgerson, Warren S. Theory and Methods of Scaling, New York: John Wiley and Sons, Inc., 1958.
- Trent, Richard D. "The relationship of anxiety to popularity and rejection among institutionalized delinquent boys," Child Develpm., 1957, 28, 3, 379-384.
- Tuddenham, Read D. "Studies in reputation: III. Correlates of popularity among elementary school children," J. educ. Res., 1951, 42, 5, 227-276.

- Tuddenham, Read D. "Studies in reputation: I sex and grade differences in school children's evaluations of their peers, II The diagnosis of social adjustment," Psychol. Monogr., 1952, 66, 1, Whole No. 332, (APA, Inc.).
- Vreeland, Francis McLennan. "Social relations in the college fraternity," Sociometry, 1942, V, 2, 151-162.
- Weber, Lewis C. "A study of peer acceptance among delinquent girls," Sociometry, 1950, XIII, 4, 363-381.
- Wertheimer, Rita R. "Consistency of sociometric status position in male and female high school students," J. educ. Psychol., 1957, 48, 7, 385-390.
- Witryol, Sam L., and George Thompson. "A critical review of the stability of social acceptability scores obtained with the partial-rank-order and paired-comparison scales," Genet. Psychol. Monogr., 1953, 48, 221-260. (a)
- _____, and George G. Thompson. "An experimental comparison of the stability of social acceptability scores obtained with partial-rank-order and the paired-comparison scales," J. educ. Psychol., 1953, 44, 1, 20-30. (b)
- Young, L. L. "Sociometric and related techniques for appraising social status in an elementary school," Sociometry, 1947, X, 2, 168-177.
- Zeleny, Leslie Day. "Sociometry in the college classroom," Sociometry, 1940, III, 1, 102-104.
- _____. "Adaptation of research findings in social leadership to college classroom procedures," Sociometry, 1950, XII, 4, 314-328.
- Zudick, Leonard Lewis. "A comparative study of the group characteristics of second, fifth, and eighth grade students as revealed by social choice patterns," Unpublished Doctoral Dissertation, University of Michigan, Ann Arbor, 1953.

APPENDIX A

PAIRED-COMPARISON QUESTIONNAIRE

STUDY OUTLINE PRESENTED TO PRINCIPALS
OF PARTICIPATING SCHOOLS

An Experimental Study of the Effects of Negative
Sociometric Choices on Interpersonal
Relationships in the Fifth Grade

Purpose of the Study

To examine the effects of administering differing sociometric procedures upon pupils' subsequent peer choice and choice perception behaviors.

The writer's position is that; (1) 'negative' nomination data afford insightful descriptions of group member interaction and are contributing adjuncts (to positive nomination data) in describing inter-person social structure, and that (2) therefore there is need to examine non-research based premises supporting the current practice of limiting sociometric data to positive nominations.

The proposed study is designed to provide pupil response data relating to this examination.

Procedures

From the suggested pool of fifth grade classes in the Springfield School District the 12 classes will be assigned to one of four test

administration groups. All classes will receive two administrations (two weeks apart) of a paired comparison questionnaire for selection of same-sex classmates as preferred friends.

In an intervening test period, Group A will receive a sociometric questionnaire requiring pupil selection of three same-sex classmates most preferred as continuing friends; Group B a sociometric questionnaire requiring pupil selection of three most preferred and three least preferred same-sex classmates on the same criterion; and Group C, a sociometric rating scale requiring pupils to rate all same-sex classmates on a five-point scale of preferred to non-preferred as continuing friends. Group D classes will serve as control and receive no intervening sociometric.

Immediately subsequent to the second paired-comparison administration all classes will also be asked to estimate the preferences made by classmates on the paired comparison (with respect to those pairs containing their names) and will complete an 8-item questionnaire focusing on the pupil's awareness of possible changes in classmates' evaluations made of him, and on changes in his own evaluations subsequent to the sociometric testing. Dependent upon their responses to this questionnaire, an approximate 10-minute interview will be scheduled for some 40 of these pupils to

more clearly delineate reasons for their stated perceptions of status change.

It is anticipated that approximately 20 minutes of class time will be required for the first test session, 15-20 minutes for the second, and a class period of 40-50 minutes (including breaks) for the third and final testing session.

The results of this inquiry will be made available to the co-operating schools at the conclusion of the study.

Additional Information

Visit 1: Each class will complete a paired-comparison instrument. In this procedure each same-sex classmate is paired with every other same-sex classmate, e. g. Joe or Bill, Tom or Dick, Bill or Tom, through every possible combination.

A frame of reference presented during the introduction is planned to establish the understanding that choosing one classmate over another does not necessarily mean that the latter is not liked.

Visit 2: (Not Group D... groups not established until numbers, etc., available for all participating classes)

A sociometric questionnaire.

Group A: All names at the top of the sheet.

'At the bottom of this page are spaces for three names.

Select the three persons from the names above that you would most like to have as friends for a long time, and write your first choice

by number 1, your second by number 2 and your third by number 3.

You may add more names if you wish.'

1. _____

2. _____

3. _____

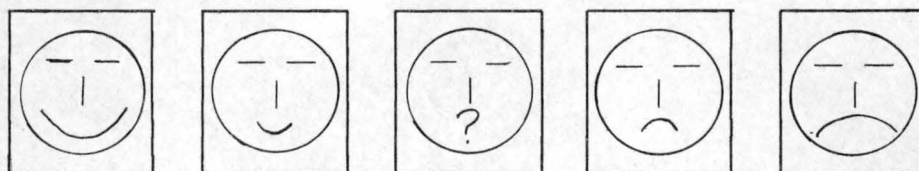
Group B: Two parts to this;

(a) Three classmates most like to have as friends for a long time.

(b) Three classmates least like to have as friends for a long time.

In both cases additional names may be added.

Group C:



The face indicates how you would feel about having the person as a friend for a long time... placement of names from class list...

child may place all names in one category if he so desires. Introduction to clarify meanings of faces... sets a frame of reference.

Visit 3: (2 for controls)

- (a) Paired comparison... re-administration.
- (b) Children estimate how others chose them on the paired comparison.
- (c) Short, oral (check correct answer) questionnaire on the sociometric.

Visit 4: Short (10 min.) interview with selected pupils.

1. Carston
4. Gary Faight
7. David Maish
10. Ricky Pepperburn
13. Danny Roadman
16. David Wagner
5. Leland Pannor
8. Rockey Mank
11. Greg Prociw
14. Rocky Smith
17. Rodney W...
6. Bob Ooggett
9. Bob Lamb
12. John Ovaron
15. Byron Reynolds
18. Barry Thomas

13 1 4 7 10 14 2 8 15 3 6 9 11 5

16 11 3 12 1 13 6 7 8 7 17 10

Sherman Roger ...

Rodney Rick C ...

Rocky S David W ...

PRE-TEST CLASS HANDOUT

Example of same-sex class list, furnished to each student at least two days prior to the administration of the paired-comparison questionnaire.

BOYS

- | | | |
|------------------------------------|-------------------------------|-------------------------|
| 1. <u>Sherman</u> Carston | 2. <u>Rick</u> <u>Cope</u> | 3. <u>Roger</u> Doggett |
| 4. <u>Gary</u> Faught | 5. <u>Leland</u> Fulmer | 6. <u>Paul</u> Lamb |
| 7. <u>David</u> <u>Maish</u> | 8. <u>Rockey</u> <u>Manks</u> | 9. <u>John</u> Overton |
| 10. <u>Ricky</u> <u>Pepperkorn</u> | 11. <u>Greg</u> Prociw | 12. Byron Reynolds |
| 13. <u>Danny</u> Roadman | 14. <u>Rocky</u> <u>Smith</u> | 15. <u>Barry</u> Thomas |
| 16. <u>David</u> <u>Wagner</u> | 17. <u>Rodney</u> Woodcock | |

13	1	6	9	17	14	2	8	15	3	7	10	4
16	11	5	12	1	15	6	3	9	7	17	10	

Sherman	Roger	Leland	David M	John	Greg	Danny	Barry
Rodney	Rick C	Gary	Paul	Rockey M	Ricky P	Byron	
Rocky S	David W						

SCHOOL AND CLASS LISTING OF STUDY POPULATION
 ACCORDING TO SCHOOL, TEACHER, SEX
 AND GROUP ASSIGNMENT

School	Teacher	Boys	Girls	Group
Page	Mr. Brady	15	10	B
	Mrs. Mason	11	13	A
	Mrs. Ruth	11	10	D
Maple	Mrs. Babcock	11	11	C
	Mr. Loe	16	18	A
	Mrs. Sides	16	12	B
Mt. Vernon	Mr. Castleberry	17	8	D
	Mrs. Smith	16	14	B
Brattain	Mr. Edwards	11	12	D
	Miss James	10	13	C
Thurston	Mrs. Schott	17	14	C
	Mr. Warby	<u>16</u>	<u>7</u>	A
Totals		167	142	

ADMINISTRATION OF PAIRED-COMPARISON QUESTIONNAIRE¹

Interaction with the students for the introduction of the study was as follows:

"In the next few weeks I shall be visiting you several times and each time will provide you with some activities which require you to make decisions. These decisions are of the type where you have to choose between two items, both of which you may like, or between two people, both of whom you may like. We hope to obtain information which will help us understand more about the way children think. Twelve fifth grade classes in Springfield are working with us.

"No doubt there will be questions you would like to ask about what we are doing and more about why we are doing it. As I will be visiting you several times it might be better if such questions and explanations were left until my last visit.

"I mentioned that we are interested in decision making, so let us have some practice. A survey of elementary school children showed three very popular ice cream flavors to be vanilla, chocolate, and strawberry. (Write on board.) What choice would you make if you were asked to choose between these two flavors, vanilla or strawberry?" (Write on board. The pairings, chocolate or strawberry, and strawberry or vanilla were added. The pilot study procedure here was to ask a 'number' from the class to make a choice, each individual in the group having been assigned a number on the identification sheets previously distributed. Selections were circled as a 'number' responded. In the study proper "choosers" were designated by the investigator. When choices were completed on the three pairs, students were asked: "When _____ was chosen in the first pair, what did I do?" (This question was repeated for the other two pairs. These circles were erased and to provide the group with more "practice" several more trials on the three pairs were given, with different students making the choices.)

"Some choices are easier to make than others. Some of you discovered this. If we are fond of all these flavors, it is a little more difficult to make a decision, yet we are only permitted to

¹ Explanatory notes and instructions not read aloud are enclosed in parentheses, unless they comprise a paragraph.

circle one in each pair. This is what I mean when I talk about decision making.

"What I have put on the board represents the top part of your page. It has a space for your first name, for your last name, and for the date. Turn over your papers. As you can see, there are many pairs of names of boys or girls in the room, including your own name. Before we see what to do on that part of the paper write your first name, last name and the date in the spaces provided.

"Under your name is the sentence: 'From each pair of names make a ring around the name of the person you would most like to have as a friend for a long time.' I will read that again. . . . Just like what we did with the ice cream flavors isn't it? As you look at each pair, think--which one would I most like to have as a friend for a long time?--then make a ring around that person's name. Although you may like both people very much, you may only circle one name in each pair.

"You will sometimes see your own name on the sheet. Every time you see it, draw a line through it and through the name paired with it.

"Work down each column like this (indicate columns 1, 2, 3). Work as quickly as you can and don't miss any. You may erase if you circle the wrong name.

"When you think you have finished, check back through the lists to make sure you have selected one name from each pair. If you have any questions raise your hand and I will come to you.

"After checking through your paper, turn it over and raise your hand.

"One thing more, I will be the only person to look at the decisions you make. You may start."

EXAMPLE OF PAIRED-COMPARISON QUESTIONNAIRE FORM

First Name:Last Name:Date:

From each pair of names make a ring around the name of the person you would most like to have as a friend for a long time.

Robert <u>or</u> Mike	Greg <u>or</u> Jim	Jim <u>or</u> Elvin
Jim <u>or</u> Gary	Donald <u>or</u> Kelly	Kelly <u>or</u> Robert
Kelly <u>or</u> S. J.	Bert <u>or</u> Elvin	Greg <u>or</u> Jeff
Elvin <u>or</u> Jeff	Robert <u>or</u> S. J.	Donald <u>or</u> S. J.
Bert <u>or</u> Greg	Gary <u>or</u> Jeff	Bert <u>or</u> Gary
Donald <u>or</u> Robert	Mike <u>or</u> Greg	Elvin <u>or</u> Mike
Gary <u>or</u> Mike	Jim <u>or</u> Donald	Kelly <u>or</u> Jim
S. J. <u>or</u> Jim	Kelly <u>or</u> Bert	Robert <u>or</u> Greg
Jeff <u>or</u> Kelly	Elvin <u>or</u> Robert	Jeff <u>or</u> Donald
Greg <u>or</u> Elvin	Jeff <u>or</u> S. J.	S. J. <u>or</u> Bert
Donald <u>or</u> Bert	Greg <u>or</u> Gary	Gary <u>or</u> Elvin
Robert <u>or</u> Gary	Donald <u>or</u> Mike	Mike <u>or</u> Kelly
Mike <u>or</u> S. J.	Bert <u>or</u> Jim	Jim <u>or</u> Robert
Jim <u>or</u> Jeff	Elvin <u>or</u> Kelly	Greg <u>or</u> Donald
Kelly <u>or</u> Greg	Robert <u>or</u> Jeff	Jeff <u>or</u> Bert
Elvin <u>or</u> Donald	S. J. <u>or</u> Greg	S. J. <u>or</u> Elvin
Bert <u>or</u> Robert	Gary <u>or</u> Donald	Gary <u>or</u> Kelly
S. J. <u>or</u> Gary	Mike <u>or</u> Bert	Mike <u>or</u> Jim
Jeff <u>or</u> Mike		

APPENDIX B

SOCIOMETRIC PROCEDURES

ADMINISTRATION OF POSITIVE SOCIOMETRIC QUESTIONNAIRE

GROUP A

"This week's decision-making activity is a brief one. As I indicated last week, nobody at the school will be looking at what you write.

"Turn over your papers. Write your first name, last name, and date in the spaces provided. . . . Find your own name on the sheet and draw a line through it. Then put your pencil down and look to the front of the room so I can tell you are ready. (The investigator places an explanation example of the questionnaire form on the board while students write, and the ensuing discussion statements are made with appropriate reference to this example.)

"Last week you made a ring around the name of the person in each pair that you would most like to have as a friend for a long time. Do you remember that?

"On each paper are the names of all the boys, or girls, in the class. Under these names is the word 'Most,' and under it are the numerals 1, 2, and 3. Opposite each numeral is a line.

"On the line opposite the numeral 1, you write the name of the person you would most like to have as a friend for a long time; opposite the numeral 2, you write the name of the person you would next most like to have as a friend for a long time; and opposite the numeral 3, you write the name of the person you would next most like to have as a friend for a long time.

"If you wish to write more than three names you may do so.

"As soon as you have finished writing the names turn your paper over and raise your hand. There is no need to look at anybody else's paper. If you have any questions, raise your hand; if not, begin."

EXAMPLE OF POSITIVE SOCIOMETRIC
QUESTIONNAIRE FORM

First Name:

Last Name:

Date:

Doneta Sharon Julie Linda Kay Joy Joann Mavis

Jacqueline Debbie Nena Frances Ronda Brenda

Most

1. _____

2. _____

3. _____

ADMINISTRATION OF POSITIVE-NEGATIVE
SOCIOMETRIC QUESTIONNAIRE
GROUP B

"This week's decision-making activity is a brief one. As I indicated last week, nobody at the school will be looking at what you write.

"Turn over your papers. Write your first name, last name, and date in the spaces provided . . . find your own name on the sheet and draw a line through it. Then put your pencil down and look to the front of the room so I can tell you are ready. (The investigator places an explanation example of the questionnaire form on the board while students write, and the ensuing discussion statements are made with appropriate reference to this example.)

"Last week you made a ring around the name of the person in each pair that you would most like to have as a friend for a long time. Do you remember that?

"On each paper are the names of all the boys, or girls, in the class. Under these names there are two sections, headed 'Most' and 'Least.' Let us look at the 'Most' side first. Here you have the numerals 1, 2, and 3 and opposite each numeral is a line.

"On the line opposite the numeral 1, you write the name of the person you would most like to have as a friend for a long time; opposite the numeral 2, you write the name of the person you would next most like to have as a friend for a long time; and opposite the numeral 3, you write the name of the person you would next most like to have as a friend for a long time.

"If you wish to write more than three names you may do so.

"On the other side of the page is the word 'Least,' and there are three spaces provided. Here you write the names of three persons, from the names at the top of your paper, that you would least like to have as friends for a long time.

"If you wish to write more than three names you may do so.

"As soon as you have finished writing the names turn your paper over and raise your hand. There is no need to look at anybody else's paper. If you have any questions, raise your hand; if not, begin."

EXAMPLE OF POSITIVE-NEGATIVE SOCIO-
METRIC QUESTIONNAIRE FORM

First Name:

Last Name:

Date:

Rocky Dale Rick W Steve Jim Gary Lynn
Rich C Tom Rod Ken Sid Bob Dawain Doug

Most

Least

1. _____ x _____
2. _____ x _____
3. _____ x _____

ADMINISTRATION OF RATING SOCIOMETRIC QUESTIONNAIRE

GROUP C

NOTE: Quotation marks have been used at the start of paragraphs of stated instructions. This has been done to differentiate between instructions and paragraphs of explanations (non-stated).

"This week's decision-making activity is a brief one.

"Last week you made a ring around the name of the person in each pair that you would most like to have as a friend for a long time. Do you remember that? The names of these people are on the small paper in front of you. This week we will use the names in a different way.

The investigator drew a copy of the rating scale format on the board, omitting administrative details.

"The faces I have drawn on the board are meant to be the same as those on your larger paper. Look at the list of names. Soon I will be asking you to write those names on the larger paper. This is what you think about before you write a name. (For the purposes of this written procedural explanation the faces are numbered, 4, 3, 2, 1, 0; from most positive to most negative. The number is placed in parentheses following reference to it in the instructions.)

"You say to yourself; how would I like to have this person as a friend for a long time? If you would very much like to have this person as a friend for a long time, you write that person's name under this face (4) that shows you would very much like to have this person as a friend.

"The smile on the next face (3) shows that if you write a person's name under it, you would like to have that person as a friend also, but not as much as anyone whose name you write under this first face (4).

"If you write anybody's name under the last face (0) it means you are very sure you would not like to have that person as a friend for a long time.

"This one next to it (1) means you would not like to have this person as a friend for a long time, but you don't feel as strongly about it as you do when you write a name in this one (0).

"In the middle is the question-mark face (2). If you say to yourself; I just don't know whether I would or would not like to have Joe Blow as a friend for a long time, then this is the place to write Joe's name.

"Before writing the names let us fill in the spaces at the top of the page. Next to "School" print _____ (name of school) and next to the capital "T" print _____, which is the first letter of _____'s name (first letter of the teacher's name). Then write your first name, last name, and the date. When you have done that put down your pencil.

"What you do, then, is copy the names from the small sheet onto the large one, writing them under the face that tells how you would feel about having them as friends for a long time. After you write each name draw a line through it on the small sheet.

"One thing more. There are no right and wrong columns as far as I am concerned. You may write the names in any column you wish. If you wish to write them all under this face (4) you may do so; if you wish to write them all under this face (0) you may do so; if you want to put all names in any box, it is your decision. You may use one, two, three, four or five boxes, depending on how you feel about having the persons as friends for a long time. As I indicated last week, nobody at the school will be looking at what you write or where you write the names.

"Draw a line through your own name on the small sheet. When you think you have written all the names, count them. Boys should have written ___ (n-1) names, and girls ___ (n-1) names. Also, check to make sure all the names are crossed out. When you have done that, turn your paper over and raise your hand.

"If you have any questions, raise your hand; if not, begin writing the names."

APPENDIX C

CHOICE EXPECTANCY PROCEDURE

ADMINISTRATION OF CHOICE EXPECTANCY PROCEDURE¹

Procedure: Choice expectancy forms were distributed, face down, when the slower students were nearing completion of the paired comparison form, and the students were instructed to leave them in that position until told to turn them over.

Administration: "Some people think that boys do a better job of guessing the choices made by classmates than girls do. Other people think that girls are better at guessing whom their classmates choose.

"You have just completed these, (holding up paired comparison forms) on which everybody's name is paired with everybody else's. I am going to give you a chance to guess what choices were made, so we can find out whether boys, or girls, are better at guessing the choices made by others in your group.

"The drawing on the board is similar to the sheet(s) you have been given. Turn over your paper, and write your first name, last name and the date in the spaces provided. When you have done that turn them over again.

When all papers were turned over the investigator explained the choice expectancy procedures through examples written on the board.

"Below your names is a series of boxes, with the underlined name of a classmate at the top of each box. Under this name you will find pairs but this time there is a 'me' instead of the second name."

Board examples:

<u>Joe</u>	<u>Tom</u>	<u>Elaine</u>
Bill <u>or</u> me	Joe <u>or</u> me	Jane <u>or</u> me
Dick <u>or</u> me	Bill <u>or</u> me	Gail <u>or</u> me
Tom <u>or</u> me	Dick <u>or</u> me	Alice <u>or</u> me
etc.	etc.	etc.

"As you can see, the names I am using are not the same as yours. I am writing Tom's name at the top and I will show you how Tom might start his sheet. My name is Tom. In the first box I will guess the choices made by Joe, because his name is at the top. Now, did Joe choose Bill, or me? I think he chose me, so I make a ring

¹ Explanatory notes and instructions not read aloud are enclosed in parentheses, unless they comprise a complete paragraph.

around the 'me.' Did Joe choose Dick or did he choose me? I think he chose Dick, so I make a ring around "Dick."

"My name is in the next pair, so I draw a line through it and through the 'me' that it is paired with. Remember? We did the same thing on this one (hold up PC form). I've finished that box so I move on to the next one.

"This box has my name at the top. This is an easy one to complete because I just cross out the whole box.

"Now I will put on my skirt and become Gail" (explanation similar to that for Tom). "What will happen when Gail comes to a box with her name at the top?" (Answer from the class.)

"Turn over your papers and put your finger on the box which has your name underlined at the top. . . . Cross out the whole box.

"Look at the rest of the page. All the boxes have names paired with 'me.' That 'me' is the person sitting in your seat, so you ask yourself whether the classmate whose name is underlined at the top of the first box chose you or the other person in the pair. If you think she chose you, you make a ring around 'me.' If you think she chose the other person, make a ring around that person's name. Don't forget to draw a line through your own name and through the 'me' paired with it when you see it in each box.

"Because you are trying to guess better than the others I want you to be sure you know just what to do. If there are any questions, ask them now so others can hear the answers . . . should you have any questions after you start, raise your hand and I will come to you.

(If any students are absent:) "Is anybody absent today? Art is not here today? Well, Art did not make any choices on this," (hold up the paired comparison form) "so when his name is underlined as the chooser, guess the choices you think he would have made had he been here.

"Work as quickly as you can, doing this box first, then this one, etc." (Indicate the desired progression of completing one box and then moving to the adjacent one.) "You may start now."

ORDERING OF PRESENTATION OF NAMES ON
CHOICE EXPECTANCY FORM

The ordering of presentation on the choice expectancy blank was completed in the following manner:¹

1. The ordering of "chooser" was randomly obtained.
2. The ordering of names for pairing with "me" (representing the person estimating) was randomly obtained.
3. The ordering from the preceding item was maintained throughout. If the order obtained by random selection was Dena, Susan, Teresa, Shelley, etc., this order was maintained. When Dena's name was in the position of chooser, that is, heading the box, the pairings commenced in the manner of: Susan or me, Teresa or me, Shelley or me. When Shelley was the chooser the last pair in the box was Teresa or me.
4. The procedure, in addition to requiring either the presented name of the "me" to be circled in each pair, also required the chooser to mark out her name and the "me" paired with it each time it was encountered, and to mark out the

¹The subjects in this explanation are also the subjects in Appendix C, p. 165.

EXAMPLE OF CHOICE EXPECTANCY FORM

First Name: _____ Last Name: _____ Date: _____

<u>Janice</u>	<u>Dena</u>	<u>Nina</u>	<u>JoAnn</u>
JoAnn <u>or</u> me	Susan <u>or</u> me	Dena <u>or</u> me	Marilyn <u>or</u> me
Marilyn <u>or</u> me	Teresa <u>or</u> me	Susan <u>or</u> me	Barbara <u>or</u> me
Barbara <u>or</u> me	Shelley <u>or</u> me	Teresa <u>or</u> me	Nina <u>or</u> me
Nina <u>or</u> me	Jeanne <u>or</u> me	Shelley <u>or</u> me	Dena <u>or</u> me
Dena <u>or</u> me	Janice <u>or</u> me	Jeanne <u>or</u> me	Susan <u>or</u> me
Susan <u>or</u> me	JoAnn <u>or</u> me	Janice <u>or</u> me	Teresa <u>or</u> me
Teresa <u>or</u> me	Marilyn <u>or</u> me	JoAnn <u>or</u> me	Shelley <u>or</u> me
Shelley <u>or</u> me	Barbara <u>or</u> me	Marilyn <u>or</u> me	Jeanne <u>or</u> me
Jeanne <u>or</u> me	Nina <u>or</u> me	Barbara <u>or</u> me	Janice <u>or</u> me
<u>Marilyn</u>	<u>Shelley</u>	<u>Barbara</u>	<u>Teresa</u>
Barbara <u>or</u> me	Jeanne <u>or</u> me	Nina <u>or</u> me	Shelley <u>or</u> me
Nina <u>or</u> me	Janice <u>or</u> me	Dena <u>or</u> me	Jeanne <u>or</u> me
Dena <u>or</u> me	JoAnn <u>or</u> me	Susan <u>or</u> me	Janice <u>or</u> me
Susan <u>or</u> me	Marilyn <u>or</u> me	Teresa <u>or</u> me	JoAnn <u>or</u> me
Teresa <u>or</u> me	Barbara <u>or</u> me	Shelley <u>or</u> me	Marilyn <u>or</u> me
Shelley <u>or</u> me	Nina <u>or</u> me	Jeanne <u>or</u> me	Barbara <u>or</u> me
Jeanne <u>or</u> me	Dena <u>or</u> me	Janice <u>or</u> me	Nina <u>or</u> me
Janice <u>or</u> me	Susan <u>or</u> me	JoAnn <u>or</u> me	Dena <u>or</u> me
JoAnn <u>or</u> me	Teresa <u>or</u> me	Marilyn <u>or</u> me	Susan <u>or</u> me

EXAMPLE OF CHOICE EXPECTANCY FORM--continued

Susan

Teresa or me

Shelley or me

Jeanne or me

Janice or me

JoAnn or me

Marilyn or me

Barbara or me

Nina or me

Dena or me

Jeanne

Janice or me

Marilyn or me

Barbara or me

Nina or me

Dena or me

Susan or me

Teresa or me

Shelley or me

JoAnn or me

APPENDIX D

EIGHT-ITEM QUESTIONNAIRE

ADMINISTRATION OF QUESTIONNAIRE

"While the other papers are being passed out I shall come around and place one of these small sheets of paper, with your name on it, on your desk. Don't turn it over until I tell you. We will use it when we finish the other papers. If I say your name, please raise your hand. (As soon as they are distributed, continue.)

"Last week you wrote the names of the three people from the group that you would most like to have as friends for a long time;" (add for Group B), "you also wrote the names of the three people you would least like to have as friends for a long time, " (now both A and B) "and you added names if you so desired."

For Group C the statement is modified to: "Last week you wrote the names of all the boys or girls in the class in boxes with faces at the top, and these faces showed how you felt about having these classmates as friends for a long time."

"I am going to ask you some questions about these things we did last week. Turn over this (hold up questionnaire form) sheet. When you have written the name of your school, your names, and the date, in the spaces provided, look to the board and I will explain what to do.

"What I have written on the board is the same as what is on your sheet. At the side is the number of each question. It is either a 'yes' or a 'no.' If your answer is 'yes' you circle 'yes' like this." (Erase the circle and continue:) "If the answer is 'no' you circle the 'no.' (Erase the circle, again ensuring no indication of it remains.) "I will explain what to do in number four when we come to it. Are there any questions?"

"Whatever answer you give is correct, because it is your answer. (Pause in case students desire clarification.)

Investigator reads question one and students make their circles. Questions two and three are completed in like manner.

"In question four there are three possible answers. The third possible answer here is, "haven't thought about it" and that is just what it means. Suppose I ask you if all the people in the room are girls. Your answer would be . . . ? What if I ask you if you all attend _____ School? What would your answer be? . . . That's right, you all do attend _____ School. Think about this one. Do you think the price of eggs is too high? Or this done, do you think it will snow next Monday morning at two o'clock? Some of you have puzzled looks on your faces; others have shrugged their shoulders.

It's possible that you might have thought about it snowing next Monday, or about eggs being expensive, but probably most of you haven't thought about these things. If you thought the price of eggs was too high, you would circle 'yes;' if you thought the price of eggs was not too high, you would circle 'no;' if you haven't thought about the price of eggs, you would circle 'haven't thought about it.' I don't want you to wear out your pencils, so if your answer is 'haven't thought about it' just circle the 'c,' like this, (demonstrate) in front of it. Any questions?"

Read questions four, five, six, seven, following the procedure for previous questions.

"Listen to question eight. These are the choices you made last week. Would you make the same choices today?"

"So you wouldn't have to remember the choices you made, I wrote the first three choices you made" (Groups A and B) or, "I drew the faces on the end boxes and wrote the names you had in these boxes, on the small sheets (Group C). When I ask you to turn them over, read the names and decide whether you would make the same choices this week or not. If you would make the same choices, circle 'yes,' and if you would not make the same choices, circle 'no.' As soon as you have done that, turn the small paper over again and I will collect them. Turn your papers over and answer the question--would you make the same choices this week as you made last week?"

Investigator walks around the room and collects the small sheets.

"The last item refers to question eight. You have just indicated whether you would have the same choices this week or whether you would have different choices. Next to the word "Why" write down why you would keep the choices or why you would change them. When you have finished, turn your paper over and raise your hand."

Group D

The frame of reference for Groups A, B, and C is the intervening sociometric questionnaire and rating form. For Group D it is the first paired comparison completion and it is introduced by saying: "You remember making choices and circling names on one of these sheets two weeks ago? Well, I would like to ask you some questions about that."

Question eight is not asked of this group.

QUESTIONNAIRE ITEMS

NOTE: Capitalized letters prior to each question indicate the group to which the question was posed.

1. A-B. Did you ask any classmates which names they wrote?
C. Did you ask any classmates where they wrote your name?
D. Did you ask any classmates which names they circled?
2. A-B. Did any classmates ask you which names you wrote?
C. Did any classmates ask you where you wrote their names?
D. Did any classmates ask you which names you circled?
3. A-B. Did you hear anybody talking about the names they wrote?
C. Did you hear anybody talking about where they wrote the names?
D. Did you hear anybody talking about the names they circled?
4. A-B. Do you think anybody likes you less because of the names you wrote?
C. Do you think anybody likes you less because of where you wrote the names?
D. Do you think anybody likes you less because of the names you circled?
5. A-B. Do you think anybody likes you more because of the names you wrote?
C. Do you think anybody likes you more because of where you wrote their names?
D. Do you think anybody likes you more because of the names you circled?
6. A-B. Do you think anybody likes you less because of the names they wrote?
C. Do you think anybody likes you less because of where they wrote your name?
D. Do you think anybody likes you less because of the names they circled?

QUESTIONNAIRE ITEMS--continued

7. A-B. Do you like anybody less because of the names you wrote?
 - C. Do you like anybody less because of the place you wrote their names?
 - D. Do you like anybody less because of the names you circled?

8. A-B-C. These are the choices you made last week. Would you make the same choices today? (Yes, or No). Next to the word "Why" write your reason why you would or would not make the same choices today.

QUESTIONNAIRE FORM

School: _____ Name: _____ Date: _____

1. (a) yes (b) no
2. (a) yes (b) no
3. (a) yes (b) no
4. (a) yes (b) no (c) I haven't thought about it
5. (a) yes (b) no (c) I haven't thought about it
6. (a) yes (b) no (c) I haven't thought about it
7. (a) yes (b) no (c) I haven't thought about it
8. (a) yes (b) no

Why?

APPENDIX E

INTERVIEWS

Question 2.

DIRECTIONS FOR ADMINISTRATION OF INTERVIEW

"Today I would like to talk with some of you individually about the things we have been doing together during the last month or so. As I won't have time to talk with all of you I have prepared a list and I would like to see you in that order. (Explain the specific procedure for indicating the next interviewee from that class.)¹ We have several seats out in the hall so you will be comfortable while we are talking. It looks like _____'s (first interviewee) name came out of the hat first, so _____ would you come with me please?"

Section A

(Relative to Eight-Item Questionnaire Responses)

Question 1.

Did you ask any classmates: which names they wrote (Groups A, B); where they wrote the names (Group C); which names they circled (Group D)? (If there is an affirmative response:)

- a. Whom did you ask: which names they wrote (Groups A, B); where they wrote the names (Group C); which names they circled (Group D)? (Hereafter the Group is designated by its capital letter of reference.) Whom else? Anyone else?
- b. What did _____ (person asked) say?

¹Several organizational procedures, determined in prior discussion with each teacher, were used to indicate the next interviewee. These were: (a) When the interviewed subject returned to the room he informed the next subject. (b) From a listing provided by the investigator the teacher informed each subject, in turn. (c) Subjects responded to a priority listing written on the board.

Question 2.

Did any classmates ask you: which names you wrote (A, B); where you wrote the names (C); which names you circled (D)? (If there is an affirmative response:)

- a. Who asked you? Who else? Anybody else?
- b. What did you say?

Question 3.

Did you hear anybody talking about: the names they wrote (A, B); where they wrote the names (C); the names they circled (D)? (If there is an affirmative response:)

- a. Whom did you hear talking about it? What did they say?

Question 4.

You indicated somebody likes you less because of: the names you wrote (A, B); where you wrote the names (C); the names you circled (D); who likes you less?

- a. What has _____ (person indicated) said to you, or about you that makes you think he likes you less? What has he done that makes you think he likes you less?

Question 5.

You indicated somebody likes you more because of: the names you wrote (A, B); where you wrote the names (C); the names you circled (D). Who likes you more?

- a. What has _____ (person indicated) said to you, or about you, that makes you think he likes you more? What has he done that makes you think he likes you more?

Question 6.

You indicated somebody likes you less because of: the names they wrote (A, B); where they wrote the names (C); the names they circled (D). Who likes you less?

- a. What has _____ (person indicated) said to you, or about you, that makes you think he likes you less? What has he done to you that makes you think they likes you less?

Question 7.

You indicated you like somebody less because of: the names you wrote (A, B); where you wrote the names (C); the names you circled (D)? Whom do you like less?

- a. What has _____ (person indicated) said to make you like him less? What has _____ done to make you like him less?

Question 8.

These are the choices you made last week. When you filled out this sheet (questionnaire) you indicated you would change the choices, but did not write a reason. Why would you change them now?

- a. What have _____ said or done to you to make you change your choices?

Section B

(Additional Interview Questions)

Question 9.

The first time you made your choices on this (PC form) you chose _____ (classmate) X (the number) times. The second time you chose him Y times. What did he say or do that made you choose him more (less) the second time?

Question 10.

(Names provided relate to classmates who have markedly changed their preferences, either positively or negatively, for the respondent.)

I will mention several names from this list of classmates and you tell me if anything has happened since I first visited you that might make the person I choose pick you more or less. Let me see, let's try _____ first. Is there any reason why _____ might choose you more or less now? What about _____?

Question 11.

On this (indicate choice expectancy form) you thought _____ would choose you every time. Why do you think _____ would choose you every time? or, On this (indicate choice expectancy form) you thought _____ would choose you X (highest expectancy) times. Why do you think _____ would choose you X times?

On this (indicate choice expectancy form) you thought _____ would not choose you at all. Why do you think he would not choose you at all? or, On this (indicate choice expectancy form) you thought _____ would choose you only Y times. Why do you think he would choose you only Y times?

Question 12.

Do you think you know more about the way others feel about you because of the things you have done with me?

- a. What do you know now about the way others feel about you that you didn't know before we did these (indicate forms used in the investigation).
- b. What have others said, or done, that makes you think you know more about the way they feel about you?

Question 13.

Did it worry you, or bother you, when I asked you to do this? (Hold up sociometric questionnaire form completed by the respondent; subjects from Group D respond to the paired-comparison questionnaire form.)

Question 14.

What would you think, or how would you feel, if your teacher asked you to do the things I have asked you to do? (Indicate the forms used in the investigation.) Would it bother you?

INTERVIEW RESPONSES RELATING TO
QUESTIONNAIRE ITEMS 1, 2, 3

Interviewees were selected subsequent to making affirmative responses to questionnaire items relating to student discussion of sociometric choices (Groups A, B, C) on the first administration of the PC questionnaire (Group D).

The initials which lead each response refer to the individual who was asked about his sociometric (Item 1), the subjects who did the asking (Item 2) and subjects who were overheard discussing choices (Item 3).

Typical student responses are cited below.

Item 1

The following responses were made by subjects in Group A (positive-sociometric) and Group B (positive-negative-sociometric) to the questions: "Whom did you ask which names they wrote on this?" (indicating the appropriate sociometric form) and, "What did _____ (student represented by initials) say?"

Group A

Boys

LB - B said he put my name first.

LF - He didn't tell me anything.

LP - He told me just three names.

Girls

I think D - I don't remember what D said.

J, K - they told me they chose me.

Group B

Girls

V - She said she likes J better than me and I like J better than her so there's no difference.

K, M - K told me she picked M - M said that she didn't have time to talk about it.

The following responses were made by subjects in Group C to the questions: "Whom did you ask where they wrote the names on this?" (indicating the rating form) and, "What did _____ (person cited) say?"

Group C

Boys

L, G, RC - they all picked me, with others.

Girls

L, S, D, J, D, C - they all said they picked me.

The following responses were made by subjects in Group D to the questions: "Whom did you ask which names they circled on this?" (indicating the PC form) and, "What did _____ (person cited) say?"

Group D

Boys

R, P - They put mine every time except for R.
SB, DR - SB put me some of the time - DR did not remember.
R, P, MF - They picked me when they could.

Girls

R - She put mine and some of the other girls.
P - She told me and I told her - I told her when I came to her name I circled her because she is my best friend.

Item 2

The following responses were made by subjects in Group A and Group B to the questions: "Who asked you which names you wrote on this? (indicating the appropriate sociometric form) and, "What did you say?"

Group A

Boys

LR - I told him I picked him.
G, L - I told them that I picked them most of the time.
H - I asked first - he chose me third and I told him I chose him fifth or sixth.
LR, LF, B, D, B, P - I didn't hear anyone say they did not pick me.

Girls

J, K - K chose J first - she usually does.

P - I chose her.

Group B

Girls

J - We asked each other and she picked me a few times.

- - I asked some in our room and some in others - I don't remember who I asked.

S - I told her I couldn't remember, but I put her on MOST and she told me who she put.

K - I told her some, not all.

G (a boy) - He said "I'm not going to tell you. "

The following responses were made by subjects in Group C to the questions: "Who asked you where you wrote the names on this?" (indicating rating form) and, "What did you say?"

Group C

Girls

L, S, D - I told them I picked them.

R - I said I didn't know where I put her name.

The following responses were made by subjects in Group D to the questions: "Who asked you which names you circled on this?" (indicating PC form) and, "What did you say?"

Group D

Boys

SS - I did not mark his name all of the time, but most of the time.

M - I told him I underlined him. MB didn't choose me - he told me he didn't.

L, T - I told them nothing.

G - He said, "How many times did you put a ring around my name?" - I told him all the time.

R - He asked me my choices and I told him I didn't pick him at all - he calls us names and says, "Why don't you shut up, spas?"

Girls

C, A - I chose her and A once - I told her I chose her once.

P - She said "Which ones did you circle with my name on it?" and I said I circled all with P.

D - I told her all I could except for M - she was happy.

Item 3

The following responses were made by subjects in Group A and Group B to the questions: "Did you hear anybody talking about the names they wrote on this?" (indicating the appropriate sociometric form) and, "What did they say?"

Group A

Boys

M and J - They said who they picked.

Group B

Boys

S and SH - They talked about who picked who the most.

Girls

B and T - B told J she was her best friend.

The following responses were made by subjects in Group C to the questions: "Did you hear anybody talking about where they wrote the names?" and, "What did they say?"

Group C

Boys

D and P - D told P who he chose the most.

B and R - They were talking about choosing one another - they said they did not like S or K so did not select them.

The following response was made by a subject in Group D to the questions: "Whom did you hear talking about the names they circled on this?" (indicating the PC form) and, "What did they say?"

Group D

Boys

R to P - "I didn't put you down once."

INTERVIEW RESPONSES RELATING TO
QUESTIONNAIRE ITEMS 4, 5, 6, 7

These items were related to perceived changes in "liking" behavior due to completion of the different sociometric procedures.

Questions and responses pertain to:

Group A - the positive-sociometric questionnaire.

Group B - the positive-negative-sociometric questionnaire.

Group D - the rating-sociometric questionnaire.

Group D - the paired-comparison questionnaire.

Subjects questioned concerning these items had made affirmative response to them when completing the questionnaire. If, during the interview, the subject reaffirmed his questionnaire response, he was questioned further. If he contradicted that affirmative response no further questions pertaining to that item were asked.

Item 4

- A-B. Do you think anybody likes you less because of the names you wrote?
- C. Do you think anybody likes you less because of where you wrote the names?
- D. Do you think anybody likes you less because of the names you circled?

Responses cited were in response to the questions: "Who likes you less?" and, "What has _____ (person cited) said or done to make you think he/she likes you less?" Additional questions asked by the interviewer are underlined. Where possible, verbatim responses are reported.

Group A

No pertinent response.

Group B

Boys

I was thinking R - we're making a book and he's kinda. . . .
I said he was writing and he was illustrating and I didn't want to tell him so I thought he might not like me.

Girls

J - I put her on less, I think.

Group C

Boys

B - He's kind of different - I think he has a notion I didn't pick him - no idea why.

Girls

L - Once in a while she's not very nice.
J - She knows my choice - I don't know how - I'm puzzled.
L - Sometimes she gets kinda mad at me - she likes people to like her - did you tell her your choice - no, I did not tell her my choices - I think she just knows.

Group D

Boys

I don't like M too well and he don't like me too well.
He may like me less - how did he know your choice - I told
him I had to pick between you and T, so I put T.

Item 5

- A-B. Do you think anybody likes you more because of the
names you wrote?
- C. Do you think anybody likes you more because of where
you wrote the names?
- D. Do you think anybody likes you more because of the
names you circled?

Responses cited were in response to the question: "Who likes
you more?" and, "What has _____ (person cited) said or done to
make you think he/she likes you more?" Additional questions asked
by the interviewer are underlined. Where possible, verbatim
responses are reported.

Group A

Boys

Probably LR - I put him second - did you tell him - I did not
tell him - we were not very good friends till after that.

Girls

J likes me more - she said she would never get mad at me.
Maybe G, D, and K - do they know your choices - no, I just
think they do.

Group B

Boys

Because he knows I'll write him and he'll write me.

Girls

Maybe somebody sitting near me might have looked.

Group C

Girls

L, S, D, J - They give me chances in tetherball - have they done that all this term - they have always done this.

Group D

Boys

I picked D every time I could - how do you know he likes you more - I just know.

I told him but he didn't ask me - what did you say to him - I wrote your name all the time - what did he say to you - I picked you too.

Kinda hard to say - maybe P - I chose him.

Probably T - he told me he picked me some of the time.

I don't know - I just thought someone might.

M - He doesn't like anyone else but me.

Girls

Since the tests M and I have had a ball - prior, she was mad at me.

I think M - we have known each other for five years.

Item 6

A-B. Do you think anybody likes you less because of the names they wrote?

C. Do you think anybody likes you less because of where they wrote the names?

D. Do you think anybody likes you less because of the names they circled?

The response cited was in response to the questions: "Who likes you less?" and, "What has _____ (person cited) said or done to make you think he likes you less?"

Group B

Girls

C - I forget we only choose girls - I guess C likes me but I don't like him.

Item 7

- A-B. Do you like anybody less because of the names you wrote?
 C. Do you like anybody less because of the place you wrote the names?
 D. Do you like anybody less because of the names you circled?

Responses cited were in response to the questions: "Whom do you like less?" and, "What has _____ (person cited) said or done to make you like him less?"

Group C

Boys

I don't like him - you never can believe him.
 O always blames me.
 I never play with him - I used to play with him last year.

Girls

I can't remember who I wrote on the paper - I can't think who it is I like less.

INTERVIEW RESPONSES RELATING TO
QUESTIONNAIRE ITEM 8

The final questionnaire item concerned change in sociometric choices made the previous week. To assist students in responding they were provided with a copy of their choices. Group A received the names of their first three choices, Group B the names of their first three positive and first three negative choices, and Group C the names of classmates they had written in the extreme categories of the rating scale. Group D did not respond to this question. When these names were presented the investigator said: "These are the choices you made last week. Would you make the same choices today?" Students were asked to write their reasons for changing or retaining the previously made choices. The responses listed below include both written reasons, and those elicited during the interview.

Typical responses are included in this listing. Many similar positive statements were eliminated. All negative responses are retained.

A "positive response" refers to an underlined "yes", indicating the respondent would retain his choices; a "negative response" indicates the respondent would not retain the same choices.

Group A

Positive Responses - Boys

I like the ones I wrote down most.
 They are my best friends in school.
 I said yes because I like them the same as I did last week.
 Because I think they are real friendly to me.
 Because I like B better than anyone else.

Positive Responses - Girls

Because I like them just as much today.
 Because nothing has happened between us.
 It seems that I like them a little better than I did - they act a little better.
 I haven't changed my mind about it.
 Because I like them the same as I did before.
 I like them better.
 Because we might have made new friends - who are your new friends - I might have some - would you still pick these three - yes.
 Because I do not see any reason why not.

Negative Responses - Boys

I like L better than B.
 Because the first one tried to hit me - we're good friends again.
 I like LR better than I do B now.
 Because I changed my mind - why - I don't know.
 Because they are most like to be my friend.
 I would not like J as much because he talks too much.
 No reason.

Negative Responses - Girls

Because I like P more now - Q - she's nice.
 Because some people I liked before don't like me - Q - V - we have fights at times but I don't know what about.
 I was in a fight with someone last week - Q - K - we had a fight after choosing, but I did choose her - she is jealous of J.
 Because it doesn't seem right (absent for interview).

Group B

Positive Responses - Boys

- Because I still like them the best and least.
- Because I like them more than I did other people.
- Because I like how it is.
- Because I would make the same choices.
- I like everybody just as much as I did.
- No one told me what they put on their paper.
- Because I have made new friends - Q - J, M, R, R.
- I do not like him - Q - F - he pushes me around - has he just started to do this - no, he always pushed me around.
- Because I still like them.
- I just like them.
- Because nothing has happened to change my mind.
- Because they are still my best friends.

Positive Responses - Girls

- I like S.
- Because I am not two-faced I don't think? and I still like the same people.
- Because I like them a lot and they are nice.
- Because they have been very nice to me (not present for sociometric).
- I would pick them because they are my best friends.
- Because I like J better than B.
- Because I like them the very least.
- Because I don't dislike anyone more or less.
- I don't have any.
- Well, C, T, and S are very nice, and T, B, and K are very rude.

Negative Responses - Boys

- Because there is a boy I like now.
- I don't think it would be fair.
- Sometimes I like to change.
- Because I like everybody and everybody likes me.
- I might change my mind.
- Because they have proved themselves not very nice.
- Because I forgot some people
- Because things have changed in the week - Q - I am working with different people in spelling - I would pick them.

Negative Responses - Girls

Because I am beginning to like a girl better than another girl.
Because at the time I was in a fight with J which is really my best friend.

Because I've got in a fight with someone and I like someone better. That is my reason (fight over a project).

I didn't know them as I do now (like some girls more now, none less).

Because I think J likes S better than me and she seldom plays with me and JA likes me better anyway.

Because I like J better than S.

Because I like those people.

Because I like everyone.

I made some friends since last time we did it - do you like others less - no.

Group C

Positive Responses - Boys

Why shouldn't I?

It depends how things have been.

They're all my friends, no matter what.

I don't like P and R too good.

K and S would move up to (from negative face below indifferent category to the positive face above it).

After class officers were elected, I think I'd still leave it there.

Because G was last.

Positive Responses - Girls

Because they are very nice to me and I try to be nice to them.

Because I like them just as well as I did before.

Because S, L and D are nice, but J is mean.

It really don't matter to me.

Because I haven't had any fights.

That's how I want them.

Negative Responses - Boys

I just might like a change.

Might change some - Q - don't know - I haven't thought about who.

I might like to shift them around - what changes would you make - I don't know.

If I did it again I would move them down or up but probably leave them.

Because I don't like them - Q - I would move one up and shift R - he does lots of things - he grins a lot.

Because I wouldn't know where I put all of them.

Negative Responses - Girls

Because I like the ones choosed.

Because I would like to have some in a different place - which ones - I'm not sure.

Because I like some of the people more than I did last week.

Somebody might like me more.

Some get mad when I win at tetherball, and I like others more.

I might forget.

INTERVIEW FOR CHANGES IN PREFERENCES GIVEN

Paired Comparisons

Question. The first time you made your choices on this (PC form) you chose _____(classmate) X (the number) times. The second time you chose him Y (higher or lower) times. What did he say or do that made you choose him more (less) the second time?

On occasion individuals were asked to respond to the question with regard to a single change in choice behavior; others were asked to respond to multiple changes. No differentiation of these responses is made in the following lists.

Responses listed under "Boys (Girls) Chosen More" refer to student response when the classmate named had been chosen more; responses listed under "Boys (Girls) Chosen Less" refer to student response when the classmate named had been chosen less.

Group A

Boys Chosen More

He may have been against a different guy.
I guess I like him better.
I just like him better - I think he's a nice kid.
Maybe I liked him a little better.

Girls Chosen More

I liked her more.
I wish to sit by her.
I just liked them better.

Boys Chosen Less

Oh boy, at times he hits me and I don't like him off and on.
 I like him about the same - he's a nice kid.
 I just don't like him.
 He pushes me around.
 I'm puzzled - he's a good friend.
 We live close but he thinks he's smart.
 Can't think who I chose instead of him.

Girls Chosen Less

Yes, I think about once or twice.
 Just a lot of other people I liked.
 P may have been there more often.
 Because of our fight - Q - (class project).
 She is not too good a friend.
 Nothing special - I like others more.

Group B

Boys Chosen More

He no longer picks fights.
 I guess I just liked him a bit more.
 We decided to be better friends.
 We played football together.
 He counts on me to do some of his drawing.
 He is a little more friendly toward me.
 He used to make faces at me - I got to know him better and
 started to like him.
 He's a good friend.
 Well, he likes me some.
 I like him best - we go to shows together.
 I like him - he gets mad sometimes.
 We started to play together.

Girls Chosen More

She was nicer to me the second week.
 She started liking me.
 She used to be mean - now she's nice.
 She doesn't like me very well - I didn't know that much.
 She wanted to be friends with me.
 We made friends - we both wanted to play a game.
 I like her better.

Boys Chosen Less

He was in the 5th and 4th with me and I don't like him.
I can't exactly explain it.
I liked ones on the other side better.
I didn't notice.
I got to thinking about different kids matched up with, so . . .

Girls Chosen Less

I was not going around with her much at the time.
We had a fight.
She did - something - I don't like her at all.
I didn't realize this.
I had a fight with her - she borrowed clothes and did not return them.
We had a fight so this came out.
I don't know - I guess I liked others better.
Yes, I don't like her much.
Some kids I like more than her - she's a real nice friend.
I've just started liking her more - she helped me with my homework - she's real nice to me.

Group C

Boys Chosen More

We just started working together.
Me and him we were usually always doing stuff together.

Girls Chosen More

C came up because R went down.
I like her, but not to play tetherball.
Because I like her.

Boys Chosen Less

Now I would choose him a few times.
He's not very nice - he cusses all the time.
I don't know, we didn't have a fight or anything.

Girls Chosen Less

I didn't notice.

We had a fight - sometimes we fight with each other.

We had a fight over a jump rope.

I don't know - I like everybody else in the room.

I just like her too.

She stopped playing with me.

She's just a friend - sometimes she plays with me and some-
times she doesn't.

Group D

Boys Chosen More

Boy, he went quite aways.

I don't know any reason.

That's interesting.

Girls Chosen More

That's right.

I have no reason.

J just seems nicer now.

We worked a bit together on a play project.

Boys Chosen Less

Sometimes I have no choices - just changes.

I like to circle other people's names too.

No problems - I just like others better.

Girls Chosen Less

Sometimes we just don't like people.

I just liked others better.

INTERVIEW FOR CHANGES IN PREFERENCES RECEIVED

Paired Comparisons

Preparatory to the interview the investigator had listed the names of same-sex classmates whose preferences for each respective interviewee had changed markedly on the second administration of the paired-comparison questionnaire. These names were introduced by saying: "I will pick several names from this list of classmates and you tell me if anything has happened since I first visited you that might make the person I choose pick you more or less. Let me see; let's try _____ first. Is there any reason why _____ might choose you more or less now? . . . what about?"

Responses listed under "Boys (Girls) Chosen More" refer to student response when the classmate named had chosen him (her) more; responses listed under "Boys (Girls) Chosen Less" refer to student response when the classmate named had chosen him (her) less.

Group A

Boys Chosen More

There is no reason why they would choose me more.
No reason - we are good friends.
He likes me, too.
We were good friends - he would choose me quite a bit.
Not that I can think of.
I don't know if he would choose me more.
We are all good buddies.
He just likes me.

Girls Chosen More

No reason - we are good friends.
No reason - maybe a bit more.
She likes me about the same.

Boys Chosen Less

I don't know any reason.
I don't think he would choose me less for any reason.
He just likes me.
We are all good buddies.

Girls Chosen Less

I said the other name first.
Maybe less - I walked home with J.

Group B

Boys Chosen More

I don't really know - I don't get along well with him.
I doubt it - he doesn't like me at all and I don't like him.
No classmate seems to like me more or less right now.
I think maybe he likes me too.
We're on the basketball team.

Girls Chosen More

They probably just liked me more.
I live close to her and I go to see her often.

Boys Chosen Less

Sometimes he's not as nice as other times.
We had a fight - he's not playing with me.

Girls Chosen Less

She's now with a new girl in the class - she's not with me.
I don't go around with her hardly at all.
She likes me pretty well.
We had a fight.
Nobody likes me less.
We just don't get along.
Sometimes we fight - but get over them.

Group C

Boys Chosen More

I don't know about him - sometimes he's real good and some-
times he blows his top.
Not unless we've been playing more together.
I don't know - probably he just likes me.
K and S would move up.

Girls Chosen More

Because I haven't had any fights.
No reason why they'd choose me more or less.
She likes me.
I like her better.
She doesn't seem to be as mad at me.
Yes, because now she plays tetherball.
She would choose me - she likes me.
She plays tetherball with me.
Because I might forget.
Because I like some of the people more than I did last week.

Boys Chosen Less

He usually beats up on me and I beat up on him.

Girls Chosen Less

I won't give her the tetherball.
She does not play with me as much because she plays with others.
I've had no trouble with her.
It doesn't really matter to me.
We broke up I guess.
Some people I don't like as well as others.
There's no reason why they'd choose me more or less.
She only plays with R and S.

Group D

Boys Chosen More

No reason for more or less.
I somehow don't think he would choose me more.
I don't know if he would choose me more or less.

Girls Chosen More

It just happened.

Boys Chosen Less

I don't know - he must choose me less.
I don't know any reasons.

Girls Chosen Less

Sometimes they don't like me - and I do something good
and they do.
Like my Dad, I've got a bad temper.

INTERVIEW FOR CHOICE EXPECTANCY

Listed on the back of the questionnaire form were the names of group members from whom high and low choices were expected by the respondent. The interviewer said; "On this (choice expectancy blank indicated) you thought _____ would choose you every time" (or the highest expectancy if this is not every time). The interviewer attempted to make this statement in a manner that would elicit a spontaneous response from the respondent. If there was no response he was asked; "Why do you think _____ would select you this many times?" The question was asked for each person expected to choose him the number of times indicated.

The response pertinent to the lowest expectancy (or expectancies) was elicited in a similar manner; "You thought _____ would choose you only X times" or, "You didn't think _____ would choose you at all." Again, the interviewer paused to permit a spontaneous response. "Why do you think _____ would select you this many times?"

Responses, verbatim where possible, are reported below.

Group AHighest Expectancy

Boys: That's what I think.
He knows me better - we play a lot.
He is pretty much friends with me.
We run around together.
He might like me.
Real good friends - often he invites me over.
Maybe we are closer friends than he is with the other person.
Because I think they like me a little more than anyone else.
Real good buddies - spend a lot of time together.
He might like me.
Because he said he liked me a lot and I go to his house some-
times.

Girls: Because we are good friends.
They're just about my best friends.
She is a nice person.
She is my best friend.
I have known her since kindergarten.
I stay overnight with her sometimes.
She has wanted me to play with her a lot - and me only to
punch tickets - no one else.

Lowest Expectancy

Boys: I just don't think they would.
I don't think they like me very much.
I don't know - they sorta don't like me too much and I don't
like them much - they are both improving a little.
He doesn't like me for some reason.
Maybe more.
That's about right.
I don't like K too much.
I think he would choose me more.
We're not the best of friends - we're not too well acquainted.
He was mad at me on the playground once.
Well, he might - he's not one of my best friends.
I don't know - we don't play with each other.

Group A--continued

We fight - I don't think he picked me either.
 No - not too much - they make fun of me and call me names.
 He pushes me around.
 I don't see them very much.

Girls: I don't know what they'd put.
 I don't know them too well.
 She likes N more than anyone else.
 We don't play together much.
 I don't know them well.
 I don't like her too well and she don't like me too well.
 She gets mad at me all the time.

Group B

Highest Expectancy

Boys: I didn't mean that - well - he might pick me.
 Because I like him a lot.
 They both like me - at least I'm pretty sure they do.
 We play together on the basketball team.
 He likes me a lot - he would choose me.
 It's really up to them.
 We are pretty good friends.
 I still think so - I chose him quite a bit.
 We always play a lot at recess and he comes to my house.

Girls: Because she likes me better.
 She wanted to be friends with me.
 She is nice.
 They like me that much.
 We've been friends for a long time.
 They would pick me more than others they don't like so good.
 I think I get along with her better than others - she has a
 temper - you have to be careful what you say to her and
 most of the kids in the class speak their minds.
 I just think they'd pick me.
 She's my best girl-friend - one time in the movies she said
 she would always be nice to me.
 She doesn't like some of the others very much.

Group B--continuedLowest Expectancy

- Boys: He might have me on some.
He doesn't like me.
I haven't been with him for a couple of years.
He just doesn't like me too much but we play together.
I hardly ever play with him - I don't think he likes me too well.
He likes others and I don't think he would pick me much.
He would choose me about that many.
No reason - he's okay for a friend.
I don't exactly like his personality - always "betcha about it."
- Girls: We don't get along - sometimes okay - others not - I don't really know whether they would.
She likes others better.
We don't get along.
Well, I don't think they like me very much.
We are not very close friends.
I don't think we would get along too well as friends for a long time.
I guess I don't like them very well either.
She hasn't liked me since we first met.
She likes kids like V - she wants kids who can do stuff and I can't do it.
We don't get along as well.
Don't they like me - I like them.
We don't get along half as well as with anyone else.
I haven't known them very well.
I like her and she likes me but we don't play together - we don't get around together as much - I was too scared to say they would pick me.

Group CHighest Expectancy

Boys: He's my best friend.
He did - B said he did.
He is a good friend.
Just one of my friends.
We are good pals - we go around together a lot.
We are friends.
He lives in my street.
We are in the same den and play a lot together.
I don't know - I just like them.

Girls: She's a nice girl.
Cos - well - she don't like to hurt anyone's feelings - I guess.
I play with her all the time.
I stay overnight with her sometimes.
She's my best friend and she likes me.
I am always playing with her.
I've helped her a lot in her work.
Yes - she likes to play tetherball.

Lowest Expectancy

Boys: He and B play together.
He doesn't like me for some reason.
He likes me - I think.
I fight with him.
I don't think they'd choose me much.
I don't know - someway I go around trying to make friends
wrong - different people like different kinds of kids.
He likes B better.
Because he likes W.
I don't like him - he hits me.
They don't like me so much.
No fights or nothing - just not too good friends.
Guess he might choose me a bit.
There are things I don't like about all of them.
He pushes me around.

Group C--continued

We play different games.

I still think so.

He changed today - he voted for me as secretary.

Girls: I don't really know.

She wouldn't choose me as much as others.

I don't know for sure - I hardly know her.

Sometimes she gets mad at me - she likes me.

We don't know each other very well - we don't play together

Boys: much.

Maybe not at all - I don't think she likes me - I like her.

She might choose me once in a while.

I don't hardly play with her and I don't think she likes me.

Because she likes the rest of the girls - doesn't she like you - no.

I don't play with them on the playground.

She's not nice - she's mean.

That's about right.

She doesn't like me very much.

Group DHighest Expectancy

Boys: That's about the way it is.

I circled him.

I know he will - he's a good friend.

He sits right behind me and we have known each other quite a while.

He is one of my best friends - he usually does.

Just because I'm around him a lot and he knows me.

The other day he poked me with his pencil - he just decided he doesn't like me.

Sure - because he's my friend - we've been friends for a year and a half already.

Group D--continued

Girls: Yes - they might choose me.
She's been in my room a lot of years.
My best friend.
They are my best friends.

Lowest Expectancy

Boys: No special reason.
That's about the way it is.
He monkeys around a lot.
He makes funny sounds and things.
He has different boy friends.
He is not as friendly.
He might give me more.
I guess they might like someone else better.
I don't think he likes me very much.
He'd choose me more often than some of them - but not as
often as others.
I know he wouldn't.
I'll get him when I get bigger.
Just taking a hunch at it.

Girls: She might choose others.
She kind of likes me a little.
We hardly talk to each other.
Yes - that's right.
We fight.
She has different friends.
We don't play with one another.

INTERVIEW FOR REACTION TO EXPERIMENTAL

PROCEDURES: 1

Do you think you know more about the way others feel about you because of the things you have done with me?

- - - - -

Depending upon their response to this question, some subjects were questioned further. Students responding "yes," or responding in a manner suggesting further questions should be asked, e. g., "I'm not exactly sure," were asked:

- a. "What do you know about the way others feel about you that you didn't know before we did these?" (Hold up blanks of procedures previously administered to the respondents), and
- b. "What have others said or done that makes you think you know more about the way they feel about you?"

On occasion a response required a more specific question by the interviewer. These additional questions were underlined.

Responses are reported verbatim, where possible.

Group A

Boys

Yes - for some reason H invited me to go to a basketball game.
 Yes - L did - he usually put K second, but put mine second.
 Yes - we talked about it at the lunch table afterwards - what did the others say - they picked me.
 Yes - it's J - you know more about the way J feels about you - yes, he's smart and everything.

Yes - nice to me and stuff - were they nice to you before we did these things - they were pretty nice before we did this.

No - more or less kept it to ourselves.

Not much - Q - nothing.

K wouldn't pick me, I know - would he have picked you before you circled names and wrote names - no - he wouldn't have picked me before I did this.

A little - everybody is getting a little nicer now. I like them more than I did before.

Girls

Yes - well, well, some like me more and some like others more.

Yes - because I asked them and they told me - did you like what they told you - yes.

Yes - when I talked to K she said she wrote D, V, me, J, so I know her friends go in order.

Group B

Boys

Yes - kids don't play with me when I do something they don't like - is this because of the things you have done with me - no it's not because of the things we have done.

Yes - some, like P likes me; K - I know he will pick me.

Yes - I don't know but I think so - Q - RH, I think he likes me more.

No - they kept it to themselves.

Maybe - I don't think I know anything, I just feel they like me.

G likes me, we've been friends since fourth grade.

A little bit - maybe P, maybe S - is it good or is it bad - it's O.K.

Kinda hard to say because I don't know that much about it.

K likes me - did he like you before we did these things - yes.

A little - maybe R likes more more - what has R said or done that makes you think he likes you more - I don't know - we don't fight now - we had our last fight about a month ago.

Girls

Well, yes I don't know really.

Yes - I think you just like kids more and stuff like that.

Yes, they seem to like me more - what do they do to show they like you more - they are just more friendly.

I don't know - Q - I like some others less, and just some others more - whom do you like less - just some others - whom do you like more - just some others.

I think they might have just thought who would be your friend and who wouldn't - Q - it's good to think about it.

Well, sort of - Q - J (cross-sex choice not in sociometric choices) talks to me now.

Group C

Boys

Yes - well, I don't know - D and I sometimes camp together. J and a bunch play things. I know one in Mrs. T's room always comes over - were these things you did before I came to see you - yes.

Yes - R and R told me they put my name in one spot and then R's in the next.

Just a little - it tells things I'm doing wrong - in what way - tells you if you are being too mean.

When we went outside they told me who was picking so I know more.

I think D probably knows where I put him - did you tell him - no, but he'd know. Roger put me on _____ or _____; did this bother you - no.

Girls

Yes - they get mad at me when I win at tetherball - who gets mad at you - J - has she just been mad at you since I've been coming - she's been mad at me all term.

Yes - C likes me an awful lot - did she like you before we did these things - yes.

No - I don't think I feel better or worse or anything.

No - last week when I asked you if you thought anybody liked you less because of the names you wrote, you said yes - well, J - I don't know about her.

J told me she heard someone say she liked someone better - does someone not like you as much - I don't know.

Group D

Boys

Yes - M don't like me too well and I don't like him too well -
 D likes me more because I picked him every time I could -
did you tell him you picked him every time - no - what has
he done to show he likes you more - I just know.

Yes - I have no reason.

Yes - I'm not unhappy about it - why not - they like me.

Yes - I know who picked me, like R, P and M.

No - I haven't heard from anybody.

I don't know, they haven't told me.

I don't know what others choosed.

S - likes me more - why do you think he likes you more - I
 don't know why, they just like me more - I think it's because
 of what we've done - how does what we've done make them
like you more - I'm happy with it.

Girls

Yes - R likes me - did she like you before - sometimes.

Yes - they like me more - when we have the test they get so
 they like you.

Yes - they play with you a lot - did they do that before I came
along - yes - is it different from before - no.

I know better about the class - in what ways - I know names
 better - I didn't know them as well as I do now.

I didn't hear people talk about choices.

I don't really know - prior to the tests M was mad at me -
 since we put names we've had a ball.

I don't know - I haven't asked people their business.

I'm not exactly sure - do you think you know more about
the way others feel about you - I don't really know.

I don't know, I haven't seen any.

INTERVIEW FOR REACTION TO EXPERIMENTAL
PROCEDURES: 2

Did it worry you, or bother you, when I asked you to do this?

(Hold up the sociometric instrument completed by the respondent, with subjects from Group D responding to the paired-comparison questionnaire blank.) Responses are reported verbatim, where possible.

Group A

Boys

Yes - I don't know why you are doing this.

Yes - others might see it.

Group B

Boys

A little - I have so many friends I didn't know which ones to choose - did it bother you to write names under "Least" - no.

No bother except for "Least" - I didn't want people to think I didn't like them.

Yes - I don't know why you are asking.

No - you won't talk about it (subject who indicated concern that the classroom teacher might tell other teachers about the choices).

Yes - it bothered me a bit - I like every boy in the room and its kinda hard to choose.

Girls

No trouble putting "Least".

Yes - I didn't know who to pick.

Yes - it would be noseey - I don't think it is any of your business.

Yes - a little - I was not sure who to put in "Least" because I like most everybody.

Yes - because sometimes I get along better than at other times - I just didn't get along too well with those on this side (Least).

Group C

Boys

No - kinda hard figuring it out.

I liked it.

It was fun.

We had plenty of room.

It was sort of fun.

Girls

A little - 'cause I don't know where to put them.

Some - it's my first time at this school (had been enrolled for the term) and I don't know the kids very well.

A little - kind of hard to pick out who I'd put in each one - hard to use everybody's name.

I just don't like to pick my friends like that.

Not too much - I thought I might get some wrong and get a poor grade.

Kinda - trying to figure out which one to put on.

Yes - I had to make sure I didn't miss any names.

It was fun.

Group D

Boys

It's easy to do.

It's different from other things we do.

I could pick T.

No - all you have to do is circle.

No - I like to have a chance to do this.

Yes - too much work.

Girls

Yes - I would like to know why you are doing this.

Yes - there's no reason why we should do this.

Yes - it took a long time.

No - it's fun.

INTERVIEW FOR REACTION TO EXPERIMENTAL

PROCEDURES: 3

What would you think, or how would you feel if your teacher asked you to do the things I have asked you to do? (Indicating each of the procedure forms on the desk.)

- - - - -

If there was no response, or the response was non-committal, the further question, "Would it bother you?" was asked. When the interviewer asked this question it was indicated within the interview by " - Q - ." Responses are reported verbatim, where possible, and additional questions by the interviewer are underlined.

Group A

Boys

I don't know - Q - kinda - I think it would go on a report card.

I would probably put down the same answers - Q - no.

Yes - I think T would be trying something fishy - what do you mean by "fishy" - I just think T would be trying something fishy.

It would be embarrassing - were you embarrassed when I asked you to do these things - no, but it would bother me with the teacher - why would it bother you - it just would.

I think there'd be something going on - what do you think would be going on - T may be testing to see whether we like people or not - Q - no it wouldn't.

I don't think I would learn very much.

No - it would not bother me who gave them.

Girls

I think T might be trying to find out things - what kind of things - see who likes who and who doesn't like who - why might T do that - to see if we could get more acquainted and all join in and like everybody - Q - no.

No - but I would rather have someone like you come along - Q - I don't know - can you tell me whether it would or would not bother you - I'm not sure.

I don't know - Q - maybe bother me a bit - just asking you who you like bothers me - maybe the T might find out we like somebody else and might shift us.

No - it doesn't matter who did it.

Be sort of funny - we're supposed to do Arithmetic and things like that.

I'd say T was pretty nice - why are we doing all this? To tell the kind of people we are? - Q - no.

T would be a copy cat.

I'd like it - it's fun.

Group B

Boys

I would think T is nose-y - Q - I don't know why T would be asking. I think it would be all right.

I don't know - I would have to do them - Q - T might talk about it to the other teachers.

Does T do it for a reason - what reason might T have - perhaps to see who you work best with - Q - no.

I wouldn't like a teacher to do it - it's getting kind of snoopy.

It might upset me a little - why do you think it might upset you - I don't know why - Q - no answer why.

I would wonder what T is doing - why do you think T might do it - maybe T is just trying to find out which friend you choose - Q - no.

Girls

It would bother me a little - why - I like everybody.

I like it.

It would be pretty nice.

I would think T was kind of nose-y - Q - it's none of T's business.

I wouldn't know what to think - Q - no.

I would write the same thing.
 I have no idea why T might do it - Q - no.
 I would write the same thing.
 I have no idea why T might do it - Q - no.
 I would not like it - why wouldn't you like it - I don't like to
 fill out things - some might be wrong.

Group C

Boys

Yes - it would sort of bother me - why would it bother you -
 no reason.
 No - probably explain it a little better - it was fun.
Q - why would it?
Q - it beats me.

Girls

Yes - a little - some I don't know whether I like them or not.
 No - I'd think T was crazy - I think T did something like this
 last year.
 Not too much - I thought I might get some wrong and didn't
 want a poor grade.
 Yes - why would it bother you - I don't know what reason -
 just thinking about it.

Group D

Boys

No reason why it should.
 Gee whiz - T would have a lot to do.
 I like it - not too much work.
 Kinda like it - less Arithmetic and that.
 Not much - it's kinda fun.
 Yes - T would think I should like M - I don't - and he doesn't
 like some of my friends.

Girls

It would be a little funny - I guess once you've done it there's no use in doing it again.

Yes - Q - it's prying into other people's affairs - my parents and sister all think it's none of anybody else's business.

Yes - Q - it's too much work.

APPENDIX F

SCORES RECEIVED ON THE PAIRED-COMPARISON, CHOICE
EXPECTANCY AND SOCIOMETRIC PROCEDURES

The following tables present the raw scores for the paired-comparison, sociometric and choice expectancy procedures. Listed below are the key symbols employed in the tables. It may be noted that the format for the tables differs only with respect to presentation of the sociometric scores received.

Code No.	=	Subject Code Number
PC_1	=	Raw Score on First Administration of the Paired-Comparison Questionnaire
PC_2	=	Raw Score on Second Administration of the Paired-Comparison Questionnaire
$PC_1 - PC_2$	=	Difference Between Raw Scores Obtained on the First and Second Administrations of the Paired-Comparison Questionnaire
3 Pos. Soc.	=	3 Required Positive Sociometric Nominations (Groups A, B)
Total Pos.	=	Total 3 Pos. Soc. and Additional Optional Nominations
3 Neg. Soc.	=	3 Required Negative Sociometric Nominations (Group B)
Pos. Rate 5	=	More Positive Ratings Received
Pos. Rate 4	=	Positive Ratings Received
Neut. Rate 3	=	Neutral Ratings Received
Neg. Rate 2	=	Negative Ratings Received
Neg. Rate 1	=	More Negative Ratings Received
CE_P	=	Choice Expectancy Proportion
Interview	=	Subject Interviewed, indicated by X

GROUP A - MASON - BOYS

Code No.	PC ₁	PC ₂	PC ₁ - PC ₂	3 Pos. Soc.*	Total Pos	CE ** P	Interview
06101	18	28	+10	0	0	.433	X
06102	25	37	+12	1	1	.678	X
06103	26	25	- 1	0	0	.411	X
06104	26	18	- 8	2	2	.522	X
06105	28	27	- 1	0	0	.400	
06106	36	38	+ 2	0	0	.578	X
06107***	41	39	- 2	2	2	.444	
06108	52	40	-12	3	3	.578	X
06109	54	56	+ 2	4	4	.467	X
06110	63	64	+ 1	9	9	.789	X
06111	77	74	- 3	9	9	.244	X

*Number of Sociometric Nominators = 10

**Maximum Possible CE Tally = 90

***Prorated PC Scores

GROUP A - MASON - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ - PC ₂	3 Soc. Nom.*	Total Pos.	CE ** P	Interview
06001***	27	24	- 3	0	0	.386	
06002	32	26	- 6	0	0	.644	X
06003	42	37	- 5	3	3	.318	X
06004	42	29	-13	0	0	.136	X
06005	42	65	+23	2	2	.492	X
06006	47	48	+ 1	4	4	.258	
06007	50	49	- 1	2	2	.500	X
06008***	51	48	- 3	1	1	.515	
06009	53	56	+ 3	4	4	.356	
06010	57	70	+13	4	4	.326	X
06011***	61	52	- 9	4	4	---	
06012	61	63	+ 2	6	6	.242	X
06013	76	76	0	6	6	.432	

*Number of Sociometric Nominators = 12

**Maximum Possible CE Tally = 132

***Prorated PC Scores

GROUP A - WARBY - BOYS

Code No.	PC ₁	PC ₂	PC ₁ - PC ₂	3 Pos. Soc.*	Total Pos.	CE ** P	Interview
OY101	68	62	- 6	0	0	.333	X
OY102	70	74	+ 4	3	3	.462	X
OY103	74	65	- 9	1	1	.371	
OY104	75	92	+17	1	1	.348	
OY105	77	75	- 2	1	2	.514	X
OY106	84	86	+ 2	1	2	.471	
OY107	85	87	+ 2	0	1	.333	
OY108	87	64	-23	1	2	.476	
OY109	94	103	+ 9	4	4	.329	X
OY110	96	105	+ 9	1	2	.343	X
OY111	132	138	+ 6	4	5	.471	X
OY112	132	116	-16	4	4	.390	
OY113	143	147	+ 4	7	7	.529	
OY114	147	148	+ 1	6	7	.638	X
OY115	150	153	+ 3	5	7	.648	X
OY116	156	165	- 1	9	10	.538	

*Number of Sociometric Nominators = 16

**Maximum Possible CE Tally = 210

GROUP A - WARBY - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	3 Pos. Soc.*	Total Pos.	CE ** P	Interview
OY001	9	5	- 4	1	2	.300	X
OY002	10	9	- 1	2	3	.500	
OY003	12	17	+ 5	3	3	.700	
OY004***	12	9	- 3	1	2	---	
OY005	13	14	+ 1	3	3	.500	X
OY006	15	18	+ 3	5	5	.333	X
OY007	17	16	- 1	6	6	.467	

*Number of Sociometric Nominators = 7

**Maximum Possible CE Tally = 30

***Prorated PC Scores

GROUP A - LOE - BOYS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	3 Pos. Soc.*	Total Pos.	CE ** P	Interview
05101	34	26	- 8	0	1	.390	
05102	41	55	+14	0	0	.410	X
05103	41	42	+ 1	0	0	.267	X
05104	57	70	+13	2	3	.276	X
05105	60	73	+13	1	2	.538	X
05106	82	85	+ 3	0	5	.495	X
05107	101	96	- 5	0	4	.338	
05108	103	88	-15	1	5	.414	X
05109	117	115	- 2	3	6	.333	
05110	117	119	+ 2	3	6	.595	X
05111	122	108	-14	5	8	.700	X
05112***	123	121	- 2	3	10	---	
05113	126	131	+ 5	7	10	.548	
05114	136	124	-12	7	11	.743	X
05115	139	152	+13	8	10	.462	
05116	167	161	- 6	8	11	.600	X

*Number of Sociometric Nominators = 16

**Maximum Possible CE Tally = 210

***Prorated PC Scores

GROUP A - LOE - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	3 Pos. Soc.*	Total Pos.	CE ** P	Interview
05001	64	71	+ 7	1	3	.493	X
05002	64	66	+ 2	0	3	---	
05003	66	62	- 4	0	2	.614	
05004	74	76	+ 2	2	6	.279	X
05005	86	81	- 5	1	4	.471	
05006	90	78	-12	2	4	---	
05007	90	96	+ 6	1	2	.382	
05008	92	98	+ 6	5	6	.257	
05009	98	95	- 3	2	4	.426	X
05010	101	94	- 7	2	6	---	
05011	101	84	-17	1	6	.353	X
05012	119	114	- 5	4	10	.217	
05013	128	129	+ 1	2	10	.636	
05014	131	127	- 4	5	10	.710	X
05015	136	162	+26	7	11	.592	
05016	141	145	+ 4	4	7	.566	X
05017	146	147	+ 1	8	9	.533	
05018	150	155	+ 5	4	11	.154	X

*Number of Sociometric Nominators = 17

**Maximum Possible CE Tally = 272

GROUP B - SIDES - BOYS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	3 Pos. Soc.*	Total Pos.	3 Neg. Soc.	CE ** P	Interview
19101	33	29	- 4	1	1	8	.433	X
19102	63	73	+10	1	2	2	.790	X
19103	65	71	+ 6	1	2	7	.571	X
19104	69	74	+ 5	1	1	4	.410	X
19105	70	93	+23	0	1	3	.267	X
19106	78	66	-12	1	2	5	.333	
19107	93	87	- 6	2	3	1	.552	
19108	101	114	+13	3	3	3	.519	
19109	104	105	+ 1	2	4	2	.381	
19110	104	117	+13	2	6	3	.500	X
19111	109	97	-12	3	6	3	.491	X
19112	112	116	+ 4	3	6	1	.548	
19113	115	113	- 2	5	6	0	.452	
19114	145	135	-10	8	9	1	.614	X
19115***	145	133	-12	3	6	1	.776	
19116	159	143	-16	9	9	1	.505	

*Number of Sociometric Nominators = 15

**Maximum Possible CE Tally = 210

***Prorated PC Scores

GROUP B - SIDES - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	3 Pos. Soc.*	Total Pos.	3 Neg. Soc.	CE _P **	Interview
19001	18	27	+ 9	1	1	5	.627	X
19002***	18	19	+ 1	0	0	4	---	
19003	19	16	- 3	0	0	6	.427	X
19004	22	32	+10	1	2	3	.445	X
19005	25	22	- 3	0	1	3	.273	X
19006	33	30	- 3	1	3	0	.364	X
19007	35	29	- 6	2	4	2	.564	X
19008***	42	33	- 9	2	3	3	---	
19009***	43	40	- 3	3	6	1	.473	
19010	48	56	+ 8	6	6	0	.327	
19011***	55	53	- 2	6	8	0	.109	X
19012	59	61	+ 2	5	6	0	.391	

*Number of Sociometric Nominators = 9

**Maximum Possible CE Tally = 110

***Prorated PC Scores

GROUP B - SMITH - BOYS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	3 Pos. Soc.*	Total Pos.	3 Neg. Soc.	CE ** p	Interview
1X101	38	37	- 1	1	1	8	.271	
1X102	42	52	+10	1	1	7	.305	
1X103	54	50	- 4	1	1	7	.452	X
1X104	55	72	+17	0	2	4	.476	X
1X105	60	55	- 5	0	1	2	.319	X
1X106	61	64	+ 3	0	1	5	---	
1X107	70	64	- 6	0	1	2	.433	X
1X108	80	78	- 2	1	1	3	.414	X
1X109	80	83	+ 3	2	3	3	.348	
1X110	87	89	+ 2	2	3	0	.543	
1X111	102	115	+13	5	5	1	.457	X
1X112	114	113	- 1	4	5	1	---	
1X113	120	122	+ 2	7	8	0	.657	X
1X114	121	111	-10	5	9	0	.562	
1X115	123	114	- 9	7	9	2	.262	
1X116	137	125	-12	9	1	0	.648	

*Number of Sociometric Nominators = 15

**Maximum Possible CE Tally = 210

GROUP B - SMITH - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ - PC ₂	3 Pos. Soc.*	Total Pos.	3 Neg. Soc.	CE ** P	Interview
1X001	25	38	+13	2	2	10	.199	
1X002	42	38	- 4	2	2	6	.628	X
1X003	44	32	-12	2	2	7	.436	
1X004	63	63	0	0	0	4	.577	X
1X005	64	53	-11	1	2	3	.263	X
1X006	79	75	- 4	3	6	0	.827	
1X007	83	88	+ 5	2	3	1	.218	
1X008	84	98	+14	5	6	4	.692	
1X009	84	90	+ 6	0	2	1	.256	X
1X010	89	102	+13	6	6	2	.192	X
1X011	102	93	- 9	5	5	0	.577	
1X012	105	89	-16	5	5	2	.628	X
1X013	114	123	+ 9	5	7	0	.577	
1X014	114	110	- 4	4	5	1	.449	

*Number of Sociometric Nominators = 14

**Maximum Possible CE Tally = 156

GROUP B - BRADY - BOYS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	3 Pos. Soc.*	Total Pos.	3 Neg. Soc.	CE _P **	Interview
11101	40	26	-14	1	2	7	---	
11102	45	81	+36	1	1	6	.571	X
11103	58	38	-20	3	3	5	.181	X
11104	72	79	+ 7	4	5	4	.170	X
11105	72	75	+ 3	0	2	4	.489	X
11106	74	75	+ 1	1	2	3	.363	
11107	82	75	- 7	2	3	1	.209	
11108	85	92	+ 7	5	5	2	.440	X
11109	89	92	+ 3	3	4	4	.533	
11110	90	91	+ 1	4	5	1	.445	
11111	103	82	-21	4	4	3	.357	X
11112	110	129	+19	4	7	0	.522	X
11113	112	97	-15	3	6	2	.423	
11114	116	116	0	3	3	3	.429	X
11115	123	124	+ 1	7	7	0	.451	

*Number of Sociometric Nominators = 15

**Maximum Possible CE Tally = 182

GROUP B - BRADY - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	3 Pos. Soc.*	Total Pos.	3 Neg. Soc.	CE ** P	Interview
11001	9	10	+ 1	0	0	8	.236	X
11002	20	11	- 9	0	0	6	.264	X
11003	26	19	- 7	0	0	6	.306	X
11004	37	40	+ 3	3	3	2	.417	X
11005	38	45	+ 7	4	4	0	.569	X
11006	39	36	- 3	4	4	3	.653	X
11007	39	40	+ 1	3	3	2	.333	
11008	49	42	- 7	2	2	2	.333	X
11009	50	59	+ 9	5	5	1	---	X
11010	53	58	+ 5	9	9	0	.701	X

*Number of Sociometric Nominators = 10

**Maximum Possible CE Tally = 72

GROUP C - BABCOCK - BOYS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	Pos. Rate 5*	Pos. Rate 4	Neut. Rate 3	Neg. Rate 2	Neg. Rate 1	CE _p **	Interview
20101	20	29	+ 9	1	2	3	2	2	.522	X
20102	21	41	+20	0	2	2	2	4	.100	X
20103	37	38	+ 1	2	0	1	6	1	.556	X
20104	39	24	-15	1	0	4	1	4	.256	
20105	39	40	+ 1	3	0	4	2	1	.289	X
20106	44	39	- 5	4	0	3	2	1	.711	X
20107	49	48	- 1	2	3	2	2	1	.588	X
20108	52	53	+ 1	1	7	2	0	0	.556	X
20109	58	42	-16	2	4	2	0	2	.411	X
20110	65	64	- 1	5	3	1	0	1	.689	X
20111	71	77	+ 6	6	2	2	0	0	.456	X

*Number of Sociometric Nominators = 11

**Maximum Possible CE Tally = 90

GROUP C - BABCOCK - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	Pos. Rate 5*	Pos. Rate 4	Neut. Rate 3	Neg. Rate 2	Neg. Rate 1	CE _P **	Interview
20001	22	21	- 1	2	1	3	2	2	.511	X
20002	30	27	- 3	2	3	4	1	0	.600	X
20003	32	37	+ 5	2	6	0	1	1	.489	X
20004	34	45	+11	6	1	1	1	1	.522	X
20005	35	26	- 9	2	3	4	1	0	.311	X
20006	36	42	+ 6	3	4	3	0	0	.367	X
20007***	39	36	- 3	5	3	0	1	1	---	X
20008***	40	38	- 2	3	5	0	1	1	---	X
20009	41	44	+ 3	5	3	2	0	0	.211	X
20010	42	35	- 7	7	1	1	1	0	.400	X
20011	44	44	0	6	3	0	1	0	.600	X

*Number of Sociometric Nominators = 11

**Maximum Possible CE Tally = 90

***Prorated PC Scores

GROUP C - SCHOTT - BOYS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	Pos. Rate 5*	Pos. Rate 4	Neut. Rate 3	Neg. Rate 2	Neg. Rate 1	CE _P **	Interview
28101***	46	53	+ 7	6	2	4	3	1	---	
28102	54	53	- 3	4	3	7	1	1	.388	
28103	71	77	+ 6	4	4	5	3	0	.404	
28104	72	56	-16	3	4	3	2	4	.267	X
28105	76	66	-10	3	4	7	0	2	.421	X
28106	85	78	- 7	3	6	5	2	0	.350	
28107***	91	100	+ 9	4	6	2	2	2	.217	
28108***	92	96	+ 4	4	6	3	3	0	.508	
28109	97	82	-15	4	5	3	4	0	.308	X
28110	106	116	+10	11	1	3	1	0	.592	X
28111	106	93	-13	8	4	2	0	2	.379	
28112	113	129	+16	9	1	3	3	0	.225	X
28113	122	128	+ 6	9	3	2	1	1	.463	
28114	125	126	+ 1	6	9	1	0	0	.504	X
28115	126	131	+ 5	8	5	2	1	0	.321	X
28116	130	129	- 1	9	5	0	0	2	.796	
28117	150	150	0	11	3	2	0	0	.633	

*Number of Sociometric Nominators = 17

**Maximum Possible CE Tally = 195

***Prorated PC Scores

GROUP C - SCHOTT - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	Pos. Rate 5*	Pos. Rate 4	Neut. Rate 3	Neg. Rate 2	Neg. Rate 1	CE ** P	Interview
28001	27	24	- 3	2	2	2	3	2	.545	
28002	35	20	-15	0	2	3	3	3	.199	X
28003	42	46	+ 4	2	4	3	1	1	---	
28004	43	47	+ 4	2	4	3	0	2	.545	X
28005	48	32	-16	1	7	2	0	1	.481	X
28006***	48	51	+ 3	4	1	3	1	2	.532	
28007	55	42	-13	3	3	1	2	2	.603	X
28008***	59	45	-14	2	6	2	1	1	.519	X
28009	68	77	+ 9	7	2	1	1	0	.481	X
28010	71	83	+12	7	3	0	1	0	.442	X
28011***	77	86	+ 9	7	4	0	1	0	.615	
28012	82	89	+ 7	10	0	0	1	0	.321	
28013	83	97	+14	9	0	2	0	0	.449	
28014	101	100	- 1	9	1	1	0	0	.526	X

*Number of Sociometric Nominators = 12

**Maximum Possible CE Tally = 156

***Prorated PC Scores

GROUP C - JAMES - BOYS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	Pos. Rate 5*	Pos. Rate 4	Neut. Rate 3	Neg. Rate 2	Neg. Rate 1	CE ** P	Interview
24101	14	11	- 3	0	1	1	1	5	.278	
24102	15	17	+2	0	3	1	1	3	.333	X
24103	18	15	- 3	0	2	5	0	1	.222	X
24104***	22	19	- 3	0	3	2	1	3	---	
24105	32	40	+8	2	4	1	1	0	---	
24106	39	46	+7	2	6	0	0	0	.583	
24107	42	40	- 2	4	2	1	1	0	.653	
24108	43	41	- 2	5	0	2	1	0	.653	X
24109	47	48	+1	5	3	0	0	0	.458	X
24110	49	45	- 4	5	1	2	0	0	.722	X

*Number of Sociometric Nominators = 9

**Maximum Possible CE Tally = 72

***Prorated PC Scores

GROUP C - JAMES - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	Pos. Rate 5*	Pos. Rate 4	Neut. Rate 3	Neg. Rate 2	Neg. Rate 1	CE ** P	Interview
24001***	15	16	+ 1	0	1	2	4	3	.424	
24002	20	30	+10	1	2	0	3	3	.205	
24003	29	25	- 4	0	1	3	3	2	.523	X
24004	41	41	0	1	4	2	2	0	.424	X
24005	41	50	+ 9	2	3	2	0	2	.561	X
24006***	47	29	-18	0	5	1	2	2	.598	
24007	48	58	+10	4	1	0	1	3	.386	X
24008	58	55	- 3	3	2	3	1	0	.485	
24009	58	67	+ 9	4	1	2	0	2	.508	X
24010	63	47	-16	3	2	3	0	1	.379	X
24011***	67	60	- 7	5	4	1	0	0	.455	
20012	76	86	+10	6	2	1	0	0	.530	X
24013	83	84	+ 1	7	1	1	0	0	.727	

*Number of Sociometric Nominators = 10

**Maximum Possible CE Tally = 132

***Prorated PC Scores

GROUP D - RUTH - BOYS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	CE _p *	Interview
37101	5	5	0	.156	X
37102	25	22	- 3	.222	X
37103**	28	28	0	.767	X
37104	37	41	+ 4	.422	
37105	44	41	- 3	.411	
37106	45	35	-10	.522	X
37107	48	45	- 3	.444	X
37108	52	56	+ 4	.678	X
37109	52	61	+ 9	.467	X
37110	54	57	+ 3	.300	X
37111	57	56	- 1	.556	X

*Maximum Possible CE Tally = 90

**Prorated PC Score

GROUP D- RUTH - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	CE _p *	Interview
37001	12	20	+ 8	. 361	X
37002	23	21	- 2	. 486	X
37003	29	24	- 5	. 361	X
37004	29	29	0	. 125	X
37005	34	30	- 4	. 125	
37006	36	44	+ 8	. 500	X
37007	38	33	- 5	. 597	X
37008	51	52	+ 1	. 611	
37009	52	54	+ 2	. 458	X
37010	56	53	- 3	. 486	X

*Maximum Possible CE Tally = 72

GROUP D - CASTLEBERRY - BOYS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	CE _p *	Interview
32101	59	69	+10	.442	X
32102	72	78	+ 6	---	X
32103	81	88	+ 7	.663	
32104**	86	75	-11	---	
32105	90	79	-11	.521	X
32106	95	96	+ 1	.571	X
32107	101	91	-10	.154	X
32108	106	112	+ 6	.671	
32109	111	108	- 3	.517	X
32110	113	111	- 2	.246	X
32111	117	104	-13	.563	
32112**	117	112	- 5	---	
32113	118	120	+ 2	.371	
32114	120	124	+ 4	.346	
32115	120	123	+ 3	.596	
32116	137	138	+ 1	.546	X
32117	143	159	+16	.563	

*Maximum CE Tally = 240

**Prorated PC Score

GROUP D - CASTLEBERRY - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	CE _p *	Interview
32002	12	12	0	.200	
32003	13	13	0	.133	X
32004	22	21	- 1	.367	X
32005	23	18	- 5	.367	X
32006	24	21	- 3	.433	
32007	24	26	+ 2	.400	X
32008	25	29	+ 4	---	X

*Maximum Possible CE Tally = 30

GROUP D - EDWARDS - BOYS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	CE _p *	Interview
33101	13	17	+ 4	.422	X
33102	16	18	+ 2	.367	X
33103	19	23	+ 4	.156	
33104	33	31	- 2	.411	X
33105	34	28	- 6	.211	X
33106	46	44	- 2	.567	X
33107	59	56	- 3	.511	X
33108	64	65	+ 1	.689	X
33109	66	68	+ 2	.644	X
33110	68	65	- 3	.600	X
33111	77	80	+ 3	.522	X

*Maximum Possible CE Tally = 90

GROUP D - EDWARDS - GIRLS

Code No.	PC ₁	PC ₂	PC ₁ -PC ₂	CE _p *	Interview
33001	16	9	- 7	---	X
33002	26	38	+12	.436	X
33003	35	33	- 2	.573	
33004	41	36	- 5	.482	
33005	46	40	- 6	.464	
33006	57	58	+ 1	.327	X
33007	62	72	+10	.373	X
33008	67	61	- 6	.491	X
33009	67	62	- 5	.501	X
33010	80	86	+ 6	.500	
33011	81	79	- 2	.455	X
33012	82	86	+ 4	.601	

*Maximum Possible CE Tally = 110

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