BEHAVIORAL CORRELATES OF SOCIOMETRIC STATUS AMONG FIRST AND SECOND GRADE CHILDREN

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ABSTRACT

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By

Leon J. Schofield, Jr.

The purpose of the present study was to assess the relationship between sociometric status and various behavioral indices of social and academic effectiveness in the classroom.

Following an extensive review of the literature, the design and hypotheses of the study were outlined. It was anticipated that low status Ss would present a complex picture of ineffective behavior in the classroom. Specifically, it was predicted that sociometric status would be positively correlated with academic performance, appropriate behavior in the classroom and teacher ratings of classroom adjustment and negatively correlated with absence rate and inappropriate behavior in the classroom.

The Ss for the present study were 28 boys drawn from 15 classrooms in four different elementary schools located in a middle-sized, generally lower-middle class Michigan town. Sociometric status was determined through a group

procedure in the classroom. Twelve weeks following the first administration, a second identical sociometric procedure was carried out and one year following the first administration, a third identical sociometric procedure was carried out, to determine the short term and long term stability of sociometric status. The sociometric scores obtained during the first administration were correlated with: (1) absence rate; (2) academic performance at mid-year and for the entire year; (3) a set of teacher ratings of Ss which included self sufficiency, self control, achievement motivation, sociability and physical ability; and (4) behavior observations of Ss.

Sociometric status was highly stable over a twelve week interval and over a one year interval, in spite of about a 75% turnover rate in class members between the first and third administrations. Status was negatively but not significantly correlated with rate of absence; higher status Ss had fewer absences than lower status Ss. Status was positively and significantly correlated with academic performance (GPA) both at mid-year and at the end of the year. Additionally, status was positively and significantly correlated with teacher ratings of self sufficiency, self control, achievement motivation and overall classroom adjustment (three scales combined). Also, status was positively but not significantly correlated with teacher ratings of physical ability and sociability. Finally, status was

negatively and significantly correlated with the number of inappropriate behaviors observed and positively, but non-significantly correlated with the number of appropriate behaviors observed. A more detailed correlational analysis and a subsequent exploratory factor analysis found that generally only the self control and non-self control items were significantly related to sociometric status.

The main conclusion was that low sociometric status is more closely associated with a wide range of inappropriate and maladaptive behaviors than with a few specific behaviors or classes of behavior. The behavior observation data, along with the more global and indirect measures of social and academic effectiveness (absence, GPA, and teacher ratings) indicated that sociometric status is determined by a wide range of behaviors which interact in a complex manner. Further research was suggested, particularly directed at the specific behaviors engaged in by Ss of high and low status and the manner in which the behaviors affect social interaction.

Approved by Lucy R. Ferguson
Chairman

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To Pat and my parents,
for their patience, assistance and love.

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INTRODUCTION

The nature of peer acceptance and the consequence of failing to achieve this acceptance will be considered in this study. Following a review of the literature, a model will be proposed in which peer acceptance is intimately related to the development of social behaviors in the classroom. Evidence supporting this model will then be presented and several hypotheses consistent with the model will be offered. Finally, the present study designed to examine this model will be outlined.

The Emergence and Stability of Sociometric Status

A natural consequence of most interaction within a group is the emergence of a social structure in which some children are highly evaluated by the group, others are moderately evaluated by the group, and still others are poorly evaluated by the group. A great deal is already known about the nature and development of such social structures.

An early study by Ausubel, Schiff and Gasser (1952) explored the development of "sociempathy," or an "individual's awareness of his own and other's sociometric

status in a given group of which he is a member." School children were asked: (1) to rate each person in the class indicating their desire to have that person as a friend, (2) to predict how each person in the class would rate them, and (3) to indicate how popular he thought each person was in the class. Using third, fifth and seventh grade pupils, Ausubel et al. found very high positive correlations between measures of actual and predicted sociometric status at all grade levels; the pupils were able to perceive accurately their own and others' sociometric status ($p < .01$). Split-half reliabilities for the correspondence between actual sociometric ratings and individual predictions of sociometric ratings averaged .67 for "own status" and .65 for "others' status," indicating a high degree of consistency over persons. Their data indicated a slight trend toward increased sociempathic ability with age. Thus, there is good evidence that an individual child is well aware of the existence of a social structure and the position of himself, as well as others, in it.

Social structures (sociometric status in the group) apparently develop very quickly at all age levels. For example, Campbell and Yarrow (1961) found that a sample of 260 eight- to twelve-year-old lower class boys at a two week summer camp session "were generally easily and quickly placed by their peers after only a few hours of contact." These assessments remained relatively stable during the

two week session. Hunt and Solomon (1942) also reported rapid development of social structure with a sample of 23 five- to eight-year-old upper middle class boys during an eight week summer camp session. Additionally, using a picture sociometric technique McCandless and Marshall (1957) have also found rapid development of social structures among preschool children.

There are apparently considerable fluctuations in individual friendship and sociometric choices of children. The work of Horrocks and others indicates a trend toward greater stability in friendship choices with increasing chronological age (Horrocks & Thompson, 1946; Thompson & Horrocks, 1947; Horrocks & Buker, 1951; Skorepa, Horrocks, & Thompson, 1963; McKinney, 1968).

Earlier, Criswell (1939) also noted considerable shifts in friendship or sociometric choices of children. A group of 238 predominantly Negro children in grades one through eight of a New York City school served as the sample. They were asked to identify two children beside whom they would like to sit. After six weeks they were asked the same question and considerable change in choices was found. Children were more inclined to change second choices than first, and reciprocated choices were changed less often than non-reciprocated choices, with reciprocated first choices changed less often than reciprocated second choices. The correlation between age and instability

(fluctuation) of choice was moderately negative (r = -.33). Finally, of the total number of choices (460), 41 per cent were changed, with a change usually consisting of shifting from one child to another, rarely omitting the original choice on the second test. This suggests that status probably fluctuated less than friendship choices. In fact, in later research the stability of the social structure itself, that is the stability of the assignment of status or popularity among the individuals of a group, has been demonstrated extensively in various settings and at all age levels (Jennings, 1937; Kerstetter & Sargent, 1940; Bonney, 1943a, b, 1947; Bronfenbrenner, 1944; Newstetter, Feldstein, & Newcomb, 1938; McCandless & Marshall, 1957; Lippitt & Gold, 1959; Campbell & Yarrow, 1961; Feinberg, 1964; Hartup, Glazer, & Charlesworth, 1967). A few of these studies will now be reviewed.

Bonny (1943a,b) measured the social acceptance, intelligence, and academic achievement of 48 children in the second through eighth grade, by asking the children to select companions for various activities and to select classmates to whom they would like to give cards, gifts, etc. Intelligence and achievement tests were also administered. The children were again tested for social acceptance, intelligence, and academic achievement one year later. The correlations between the first and second administrations of the social acceptance items were high for

all grade levels and for each school (.68 to .90) and were usually at least as high as the correlations between the first and second administrations of the intelligence and academic achievement tests. This was true despite a moderate to large "turnover" rate (children moved) of up to 30% which could have upset the stability of this measure somewhat. Bonney concluded that, "a child's social position from grade to grade in elementary school is approximately as constant as his position in degree of brightness and academic achievement" (Bonney, 1943a).

In a more recent study, Lippitt and Gold (1959) examined the stability of the social structure in 39 elementary school classrooms. In each classroom, children were asked to rate all of their classmates on a four point scale indicating the degree to which the ratee was perceived as able to get the others to do what he wanted them to do. Over the same academic year, the correlations between the social structure in early October and May were .63 for early elementary children and .75 for late elementary children. Ratings of "who was liked most," "who was liked least," and "expertness" in classroom activities were also obtained. Lippit and Gold report that, "the structures concerning who is liked and disliked and who is regarded as expert and inexpert in classroom activities have an even higher stability, with most of the correlations being above .80." Also they found that there is

a considerable degree of consensus among the group members concerning who belongs in the top or bottom third of the social system, while the consensus is even greater among the later elementary grades (4,5,6).

Feinberg (1964) found somewhat contradictory evidence in another study with adolescents age thirteen to fifteen from two New York City schools. They were asked to list the four boys they would like to sit next to through the following term, who in their opinion would make the most desirable friends, and also the four boys with whom they would feel uncomfortable (uneasy, annoyed). In one school, 246 boys in 10 classrooms were asked to repeat the rating procedure five months later: the correlation between the two sociometric scores was .69 ($p < .01$). However, in the second school, 52 boys in two classrooms were asked to repeat the rating procedure two years later; the correlation between the two sociometric scores was .22 ($p > .05$). Feinberg concludes that, although there is a high degree of consistency in choice patterns over a five month span, "significant shifts in choice pattern can develop over a two year span." Interpretation of the results must be made with caution chiefly because of the reported difference in economic levels of the two schools and the considerably smaller sample size of the second study. Furthermore, it will be shown later that the teacher can readily influence the development of social structure in

the classroom. Since the classroom sample (two) is far too small to represent teacher techniques randomly and since no information is offered about the intervening experiences (2 years) of the boys in the two classrooms, the conclusions drawn from the data must be termed suggestive at best, certainly not conclusive.

Coleman (1961) has also studied adolescent social structures. Students of ten midwestern high schools varying in size from 150 to 1850 students and varying in setting from farming regions to large cities, served as the sample. There was a considerable degree of consensus among the students as to who was in the "leading crowd." Furthermore, the students' choices of whom they would like to emulate or be friends with were also (but somewhat less) narrowly distributed. More than one-third of the students not in the leading crowd expressed a desire to be in it. Those not among this "elite" much more often expressed a desire to change themselves, to be someone else, than those among the "elite." Unfortunately, no questionnaire items were repeated. Therefore, no measures of reliability are available and the stability of the social structure cannot be conclusively determined. The data are quite provocative, however, and seem to show the existence of a readily visible social structure to which very many of the low status adolescents aspire.

Hartup, Glazer, and Charlesworth (1967) more recently studied sociometric status among preschool children who ranged in age between 4-1 and 4-9. Using a picture sociometric technique, which will be described in detail in the method section, they asked 15 children to give three positive choices, indicating someone they especially liked at nursery school. They also asked them to give three negative choices, indicating someone they didn't like very much at nursery school. The sociometric procedure was given in the fall and spring of the same academic year. The correlation between the fall and spring sociometric scores for acceptance was .68 ($p < .01$) and the correlation between the fall and spring sociometric scores for rejection was .29 ($p > .05$). Hartup, et al. attributed the lack of stability of the rejection score to "school experience;" teachers are more likely to attempt to intervene and change the socially undesirable pattern of rejection than the socially desirable pattern of acceptance. In an earlier study using a picture sociometric technique, McCandless and Marshall (1957) also found that preschool children's sociometric scores were stable over ten to thirty day intervals in three newly formed groups of 19 children each.

The few sociometric studies that were conducted in nursery schools prior to 1957 failed to provide any substantial evidence that sociometric scores of preschool children were stable over periods ranging from one to nine

months; these early findings can be largely attributed to inappropriate procedures which relied too heavily upon verbal report and did not use the picture sociometric procedure of more recent studies (Marshall, 1957; McCandless & Marshall, 1957).

There is some evidence to contradict the findings of Hartup, Glazer, and Charlesworth (1967) that rejection scores are less stable than acceptance scores. In a sample of 597 thirteen year old boys in a British school, Harper (1968) found that the measure of sociometric rejection was much more reliable than the measure of acceptance. Harper hypothesized that the attributes of the individual that lead to social rejection are more clearly defined than those that lead to acceptance; as evidence, he notes that all the negative feeling in the group was concentrated on a few members, while positive feelings were much more widely distributed. Of course, the extreme differences in the samples may well explain the contradictory findings. For example, it is quite possible that in Harper's sample, consisting of early adolescents from middle class (clerical and professional) and "working class" (manual work) families, some aggressiveness (manifestation of rejection) is encouraged and expected as a part of "manliness" both by teachers and classmates. In such a case, Hartup's et al. explanation of "school experience" as the determinant of the relative stability of acceptance and rejection would

account for both findings. The children in the two samples could easily have been differentially reinforced for certain social behaviors.

Finally sociometric studies conducted prior to 1955 are reviewed by Mouton, Blake, and Fruchter (1955). A total of 53 studies were reviewed, including a few of those cited above, and it was concluded that it is possible for group members to make consistent sociometric judgments. They also noted that there are factors that seem to be associated with the magnitude of the reliability of these judgments:

(1) The longer the time interval between test and retest the less the consistency of sociometric judgments.

(2) The closer the age of the subjects the more the test, retest consistency of sociometric judgments.

(3) The longer the subjects have known one another prior to the first test the greater the consistency in sociometric judgments between test and retest.

(4) The more relevant the criteria of choice by which judgments are made to the activity of the group the greater the consistency of sociometric responses between test occasions.

(5) The larger the number of discriminations required by the techniques of choosing the greater the consistency of sociometric judgments between the test and retest.

(6) The larger the group from which choices are made the greater the consistency in sociometric judgments between test occasions.

(7) The larger the number of discriminations elicited by the measurement technique the greater

the correlation between the measures derived from those techniques on a single occasion.

(8) Where strength of choice preference is indicated by the ordering of choices, the stronger the choice the less the change in choices given between test occasions.

(9) The greater the similarity of criteria of choosing in terms of social-psychological considerations the larger the correlations between them.

Lippit and Gold (1959) best summarize the literature on the development of social structure in the classroom:

> The evidence is clear that the interpersonal social structure of the classroom forms rapidly and maintains a high degree of stability throughout the school year. The same children remain in positions of low power and isolation or dislike throughout the year, and the same children stay at the top of the totem pole.

Characteristics Associated with High and Low Sociometric Status

A brief examination of the characteristics of high and low status individuals will now be undertaken to describe more accurately the development of "status" and to provide the basis for the model to be presented.

Many studies have been carried out to assess the characteristics of high and low status children. Among them, a study by Bonney (1947) is one of the earliest and most comprehensive. Brief case study reports were presented on five of the most popular and five of the most unpopular children observed in an earlier research project involving 150 elementary school children (Bonney, 1943a,b).

The children were then analyzed on ten personality trait syndromes developed by Bonney after considering his own research data and the reports of earlier research. He reported that the popular children as a group scored higher than the unpopular children on each of the ten trait syndromes: (1) physical health and vigor, (2) conformity and group identification, (3) emotional stability and control, (4) arousing admiration, (5) social aggressiveness, (6) adaptability and tolerance, (7) dependability, (8) dependence on others for assistance and emotional support, (9) providing new experiences for others, and (10) social service motivation and an attitude of good will toward others. Although there were significant differences between the popular and unpopular children as a group, Bonney reported considerable overlapping between individuals in the two groups. This led to the conclusion that "the picture is one of unique patterns rather than one of types . . . a person is liked or disliked, not because of particular traits, but because of his whole personality structure and the <u>total</u> impression he makes on others." It was also noted that there was a low positive correlation between socioeconomic level (as determined by the Minnesota Home Status Index) and social status, and there was a low negative correlation between family size and social status.

Many other studies have been conducted to identify the characteristics of popular and unpopular children.

Recent reviews of these studies have noted that peer status has been positively (but often not significantly) correlated with intelligence, academic achievement, friendliness, sympathy, sensitivity to the thoughts and feelings of others, acceptance of others, cooperation and conformity, physical attractiveness, socio-economic class, and simply propinquity (Frankel & Potashin, 1944; Campbell, 1964; Glidewell, et al., 1966; Hartup, 1969). Recently the effect of birth order has also been examined (Schachter, 1964; Alexander, 1966), but with conflicting results.

Schachter (1964) proposed that a sociometric choice is the conceptual equivalent of an opinion, with group standards about the desirability of particular persons and with social influence processes affecting sociometric choice. Since earlier research has shown first borns to be more dependent and manipulatable, he expected first borns to evaluate their friends in terms of what other people think of them more than later borns. His expectation that first borns would concentrate their sociometric choices on fewer more well-regarded individuals than later borns, was confirmed with a sample of 599 college fraternity and sorority members. Schachter also suspected that first borns would be less popular than later borns, since he had earlier (Schachter, 1959) found that first borns and only children are more likely to choose to be with others in

high anxiety situations than later borns. His expectations were confirmed.

Alexander (1966) investigated the relationship between birth order and sociometric status with a sample of 1410 male seniors in 30 high schools. Holding socioeconomic status constant, he found that first borns received more sociometric choices and reciprocations of choices than later borns. Holding own status constant, first borns also tended to choose relatively less popular persons as friends than do later borns. The results, directly in conflict with those of Schachter (1964), were explained by Alexander in terms of the differences in the sample. The discrepancy was hypothesized to be explicable "in terms of the characteristics of first and later borns who attend college as compared with their characteristics in the general population. Later borns who attend college exceed later-born non-attenders in both popularity and social-economic status, and the extent of the differences are greater than corresponding differences between first born attenders and non-attenders." The explanation by Alexander is certainly plausible; however, it is clear that further study is needed before the relationship of birth order and sociometric status can be conclusively established.

Mental Health and Sociometric Status

Other research has examined the relationship between social status and various indices of mental health. Low sociometric status has been associated with poor adjustment, (Frankel & Potashin, 1944; Wigdor, 1947; Grossman & Wrighter, 1948; Baron, 1951; Thorpe, 1955; Lippitt & Gold, 1959; Commoss, 1962), deviant behavior (Lippitt & Gold, 1959; Gooch & Pringle, 1968), poor self concept (Bower, 1957; Coleman, 1961; Horowitz, 1962), anxiety (McCandless, Castaneda, & Palermo, 1956; Trent, 1957; Coopersmith, 1959; Horowitz, 1962), and a desire to change oneself (Bower, 1957; Rosen, Levinger, & Lippitt, 1960; Coleman, 1961). Although there is some dissent (Northway, 1944; Northway & Wigdor, 1947; Greenblatt, 1950; Horowitz, 1967), the consensus seems to be that sociometric status is quite significantly related to the mental health of the child. Several of the studies cited above will now be reviewed.

Kuhlen and Bretsch (1947) asked 692 ninth grade children to choose partners for six activities, such as watching a movie, playing, studying, etc. and to complete the junior high form of the Mooney Problem Checklist, which is a listing of the 235 problems of all kinds which 4,000 students most often reported as "bothering" them. He found that those who were least acceptable to fellow classmates, ranking in the bottom quartile of the social structure as

determined by the sociometric procedure, had significantly more personal problems serious enough to be checked as "often present" on the Mooney Problem Checklist, than those who were the most acceptable to fellow classmates, ranking in the top quartile of the social structure. There were no significant differences, however, in the frequency with which children of the top and bottom quartile checked problems as occurring "sometimes."

Northway and Wigdor (1947) studied the Rorschach Ink Blot protocols of forty-five eighth grade children assigned to three experimental groups of low and high sociometric status. The three groups were matched for age, IQ, race, religion, and socioeconomic background. The major findings were that children of the high status group showed greater participation, greater awareness of the feelings of others, and a conscious striving for the approval of others. There was greater deviation from the "normal" in both the high and low status groups than in the intermediate status group. However, the disturbances in the low status group were more serious, particularly among recessives who showed more schizophrenic patternings, while the disturbances in the high status group were mostly psychoneurotic in nature. The average status group was more shallow and less introspective than the other groups, but "they were able to see situations as others do to a sufficient extent to be accepted to a degree that satisfies their needs in

terms of social interaction." Northway (Northway, 1944; Northway & Wigdor, 1947) cautions that it should not be assumed that strength of personality and increase in sociometric status co-vary directly:

> The findings are that very low status usually is accompanied by distortions in personality growth, but there is no reason to suppose that beyond this, increased goodness of personality and increased social acceptance follow a single continuum.

Grossman and Wrighter (1948) obtained the sociometric status of 117 sixth grade children in four different classes. Twenty children with the highest sociometric score were given the California Personality Test. They found a clearly significant difference between the average total adjustment score of the two groups, with the high sociometric status group scoring considerably higher in total adjustment than the low sociometric status group. They also found that generally children of high sociometric status were more intelligent, had better reading ability and came from a higher socioeconomic background than children of low sociometric status.

Greenblatt (1950) administered a sociometric procedure and a mental health inventory to 65 seventh grade children in a public school. The California Mental Health Analysis, Intermediate Series Form A, was administered to all children. A .37 correlation was found between both measures. Greenblatt concluded from this "low" correlation that, "a child's standing in the classroom is in no way

indicative of his mental health status." This conclusion seems somewhat extreme for two reasons. First, the correlation itself is high enough to suggest that there is some relationship, perhaps a weak or complex one, between sociometric status and mental health. Second, unlike Northway (Northway, 1944; Northway & Wigdor, 1947), who was also critical of those proposing a direct relationship between sociometric status and mental health, Greenblatt failed to examine the differences in mental health scores between children of low sociometric status, and children of high sociometric status. Since the relationship between status and mental health may not be linear, a correlational approach could considerably weaken and mask any significant differences between various levels of status and indices of mental health, resulting in possibly an erroneous conclusion that "a child's standing in the classroom is in no way indicative of his mental health status" (Greenblatt, 1950).

Deviant behavior has been related to sociometric status. Gooch and Pringle (1968) followed the total population of two elementary schools over a four year period and concluded that withdrawn and aggressive behavior as reported by the teacher, was significantly and negatively correlated with popularity; a similar relationship was found between deviant behavior and academic progress. However, withdrawn and aggressive behavior was not significantly related to IQ or perserverance.

With a sample of 965 first through sixth grade children Lippitt and Gold (1959) found that unfriendly behavior patterns (aggressive-assertive, passive-hostile) occurred significantly more often among "low power" children (bottom third of the sociometric status scale) than among other children (upper two-thirds of the sociometric status scale) and that friendly-assertive behavior occurred significantly less often among low power children than among other children. They found no significant difference in the frequency of friendly-passive behavior or neutral behavior between the low power children and other children. In the same study they cite the doctoral research of Echelberger to support their finding.

In a study of seven classrooms Echelberger (1959) found that more popular children show significantly fewer behavior problems, greater social adjustment and more stable emotionality than less popular children. The adjustment scores were obtained from teacher ratings on the Haggerty-Olson-Wickman Behavior Rating Schedule. The correlations, although significant, were generally low; the highest correlation was between popularity and behavior problems, -.46.

Horowitz has examined the relationship of anxiety, self concept, and sociometric status among upper elementary school children. The sample consisted of 40 fourth graders, 51 fifth graders and 20 sixth graders. Teachers administered

the Children's Manifest Anxiety scale, the Children's Self Concept Scale and a ranking sociometric procedure. All measures were highly reliable ($p < .025$) over a one week interval; correlations between the two administrations of the ranking sociometric procedure ranged between .83 and .96 among fourth and fifth grade subjects; through an error, the sixth grade subjects did not take the sociometric twice. The results indicated that "more anxious children tended to hold poorer self concepts and tended to be less popular than less anxious children." He expressed a concern that since the correlations were low, though often significant, "either other variables must be added to the pool, or the present ones must be broken down and measured more accurately."

The work of Bower (1957) and Coleman (1961, cited earlier) support the finding that self concept and sociometric status are positively correlated; they have also concluded that there was a greater desire to change oneself among children of low sociometric status than among children of high sociometric status.

Rosen, Levinger, and Lippitt (1960) have also explored the desire to change oneself or others. They interviewed 64 lower class boys twelve to fourteen years of age at a summer camp and found that the:

> desire for change in one's own or in other members properties is partly contingent on one's relative lack of resources. Moreover, the desire by the

> group for change in any given member is contingent on his relative lack of attributed resources. A positive relationship was found between a person's desire for change in himself and other members' desire for change in him. However, a person's desire for change in others was not significantly related to his desire for change in himself nor to other members' desire for change in him . . . relative "resourcelessness" is not simply a correlate but an important determinant of the desire for change in self and others.

Evidence is available to further support Horowitz's finding that anxiety and sociometric status are negatively correlated (Trent, 1957; Coopersmith, 1959). Trent (1957), for example, administered the Children's Manifest Anxiety Scale and a sociometric procedure to a sample of 63 lower class delinquent adolescents, twelve to sixteen years of age, at the New York State Training School for Boys. The major findings were that there was a significant negative correlation between anxiety and popularity, but no significant relationship between anxiety and rejection.

Thus, studies generally conclude that there is a strong relationship between sociometric status and mental health indices (Lippitt & Gold, 1959):

> Children in low positions in the socioemotional structure of the classroom tend to have mental health difficulties which are reflected both in inner psychological processes, in interpersonal relationship difficulties, and in behavior patterns which disrupt the life of the classroom group.

In a review of the literature, Glidewell, et al. (1966) conclude that "the key finding in the area is that position in the classroom social structure is significantly related to

mental health." The relationship is particularly significant when children of lowest sociometric status (isolates or near isolates) are compared with others in the classroom.

It is apparent from the research presented that self concept, anxiety, various behavioral characteristics, various indices of mental health, and sociometric status are complexly inter-related. A model will now be presented which will bring some order to these research findings.

A Model for Conceptualizing the Previous Findings

It is becoming increasingly evident that mental illness does not occur in a vacuum, it is developed and maintained through interpersonal processes. Tagiuri (1952) states that the development of good interpersonal relations is an indicator of adequate personality adjustment and cites the works of Moreno, Freud, Horney, Sullivan, and White to support his contention. We continually are shaping our opinions and actions (presumably reflected in self concept ratings and behavior ratings) in the presence of the reactions of others (presumably reflected in sociometric procedures and behavior ratings). The degree to which an individual will be affected by negative evaluation from others will depend on various temporary (e.g. fatigue, illness) and permanent (e.g. insecure, self-degrading) factors. Since negative evaluation is normally threatening to one's self-image, the affect aroused is predominantly anxiety and

apprehension and the behavioral response frequently is defensive, symptomatic behavior. The response of others to symptomatic behavior is usually even greater negative evaluation or rejection, which further lowers the individual's self-image and increases his anxiety, creating still more defensive, symptomatic behavior, until a vicious circle is formed.

Similarly, the degree to which an individual will be affected by positive evaluation from others will depend on various temporary (e.g. rest, good health) and permanent (e.g. secure, self accepting) factors. Since positive evaluation is normally enhancing to one's self image, the affect aroused is predominantly pride and assurance and the behavioral response usually is a posture of confidence, poise. The response to such a posture by others is usually an effort to continue the relationship; others find the interaction rewarding (e.g. no tension, responds to their own needs, etc.) and communicate this to the individual which further enhances his self-image.

The evaluations of others occur continuously, but often subtly. Straightening up in a chair and gazing upon an individual intently may be quite effective in communicating interest in him and in what he is saying (worth), while slouching and glancing away from an individual may be quite effective in communicating boredom in him and in what he is saying (worthless). Obviously, however, the

individual is not completely helpless and subject to the whims of the reactions of others, or behavior would be erratic and totally unpredictable. The interaction model assumes that a mechanism, self concept, maintains the individual's self-evaluation or self esteem, in the face of shorter periods of relatively mild negative evaluation. Self concept is an "abstraction that an individual develops about the attributes, capacities, objects, and activities which he possesses and pursues" (Coopersmith, 1967). Experiences which oppose and contradict the negative evaluation can be "called up" to minimize the threat to an individual's security and to minimize anxiety arousal. Under prolonged or particularly severe negative evaluation, however, the vicious circle process described above can be activated.

The exchange theory of attraction (Secord & Beckman, 1964) provides a more empirical model for describing the interaction between the child and his peers. Briefly, whether or not one is popular with one's peers depends upon the degree to which the reward of the interaction exceeds the cost of the interaction. Thus, a child's verbal and physical behaviors must be rewarding for others if he is to be popular with his peers. The exchange model correctly emphasizes the importance of reinforcement in interpersonal relationships; however, it is somewhat static and fails to capture the continuing, dynamic quality described in the

interactionist model above. Considerable evidence is available to support such a reinforcement-interactionist model.

Although Hartup (1969) notes some contradictory evidence and advises further study of the question, particularly noting the method and context of assessment as well as noting the possibility of more complex interactions, self acceptance and peer acceptance have been reported to be significantly correlated in many recent studies (Helper, 1955, 1958; Manis, 1955; Miyamoto, 1955; Perkins, 1958; Sears, 1960; Reese, 1961; Horowitz, 1962).

In addition to correlational studies relating self esteem and peer acceptance, several experimental studies have demonstrated that reactions of "significant others" are necessary antecedent conditions to self ratings (Videbeck, 1960; Maehr, et al., 1962; Hass & Maehr, 1965; Ludwig & Maehr, 1967). In each study, positive and negative evaluation expressed by "significant others" (an expert in the tested field) resulted in a significant increase in the S's self evaluation for positively evaluated Ss and a significant decrease in the S's self evaluation for negatively evaluated Ss. A "spread of effect" was also found; areas more remotely related to the evaluated area were less affected by the E's positive or negative evaluation. It was also found that changes in self concept showed the effects of dosage; the degree of changed self evaluation

was found to vary with the degree of positive or negative evaluation. Finally, all of these findings were found to be reasonably stable, although somewhat mitigated, over several weeks (3 to 6 weeks). In the studies by Maehr and his associates, seventh and eighth grade boys were "tested" in various physical activities, such as doing a few exercises, dribbling a basketball, walking a straight line, etc.; the positively and negatively evaluated groups were matched for grade, previous self evaluation of physical ability and teachers' judgments of actual physical ability. In the Videbeck (1960) study, students rated as superior by their speech class instructors were "tested" in oral communication ability; students were randomly assigned to positively and negatively evaluated groups and there were no differences in the initial pre-evaluation self concept ratings of the two groups.

Several other recent studies provide further direct or indirect evidence supporting the interaction model. When children experienced success, in the form of reinforcement from adults while in the presence of their peers, the other children altered their attitudes and behaviors toward the child in the direction of increased acceptance (Heber & Heber, 1957; Flanders & Havumaki, 1960). Hartup (1969) also cites several experimental studies in which greater attraction was shown for those who were reported to "like" the individual (Keislar, 1961) and greater

acceptance was shown for those with consensual attitudes (Griffitt, 1966), and for those children "giving" greater rewards (candy, toys, pennies) (Karen, 1965). In a somewhat related study, Lott and Lott (1960) with a sample of 48 third and fifth grade children, confirmed their hypothesis that positive attitudes toward persons can be formed by experiencing reward in their presence. Rewarded (by the teacher) subjects chose significantly greater proportions of play-group members on a sociometric test than did non-rewarded subjects; thus, success experience appears to alter behavior, or at least sociometric responding.

Also, studies of various child rearing practices and parental attitudes offer support for the interaction model. Hartup (1969) notes that:

> The distinctive aspects of the high status boy's socialization included parental discouragement of antisocial behavior, low amounts of frustration and punishment, and supportive reinforcement.

Parents of low sociometric status children tend to be dissatisfied with their child (Elkins, 1958), tend to exhibit less affection (Hoffman, 1961) and tend to communicate less frequently with the child (Wyer, 1965). Coopersmith (1967) also has investigated parental attitudes and practices and their effect on self esteem:

> The most general statement about the antecedents of self esteem can be given in terms of these conditions; total <u>acceptance</u> of the children by their parents, clearly defined and enforced <u>limits</u>, and the <u>respect</u> and latitude for individual action that exist within the defined limits.

Studies of teacher influence in the classroom also support the interaction model. Glidewell, et al. (1966, pp. 231-234) have reviewed the literature concerning the effects of teacher attitudes and behaviors. They conclude that dispersion of the teacher's social power and his or her emotional acceptance of the children results in increased self-sufficiency, reduced inter-pupil conflict and anxiety, wider dispersion of peer power and more frequent pupil-to-pupil interaction. Thus, the teacher's evaluation (often subtle) seems to result in increased mutual and self esteem and other positive effects on the classroom social structure.

The data cited above certainly supports the interaction model. Evaluations of others seems to affect the individual's behavior, under the mitigating influence of self concept. However, little has yet been said about the actual behaviors of individuals varying in sociometric status. Some studies have concerned themselves with this matter, either directly or indirectly, either systematically or rather casually (Northway, 1944; Potashin, 1946; Bonney, 1947; Marshall & McCandless, 1957; Lippitt & Gold, 1959; Commoss, 1962; Hartup, Glazer, & Charlesworth, 1967; Charlesworth & Hartup, 1967).

Several studies have noted that children of low sociometric status seemed to engage in self defeating behaviors which repel rather than attract others, in an effort to gain acceptance in the peer group (Northway, 1944;

Bonney, 1947). Northway (1944) noted that what he called the "socially ineffective child" often made "effortful, conspicuous and often foolish and futile attempts to be recognized and accepted by the social group." Some systematic data are now available to support these observations.

In an early study, Potashin (1946) examined the interaction of twenty-one pairs of friends and ten pairs of non-friends. Friends were defined as a pair of children in which each gives to the other his highest choice on a sociometric test. Non-friends were defined as a pair of children in which one gives the other his highest choice but the latter does not reciprocate with any of his choices. The sample of fifth and sixth graders was observed in an experimental discussion technique in which pairs of friends and pairs of non-friends were asked eight questions about planning a class picnic. The major results were that friends stayed longer, talked more freely with less adult prompting or direction, talked in a freer and lighter tone, and were more relaxed than non-friends. Furthermore, the "poorly accepted children in the group of non-friends carry a degree of tension to the situation, often seeming awed by it and by the chosen partner . . . often they acquiesce to the latter or try to impress him by showing off or agreeing forcefully with whatever he may suggest."

Marshall and McCandless (1957) observed two groups of 19 three- to five-year-old preschool children. They employed three measures of positive social participation: associative play; friendly approach; and conversation. Each was significantly and positively correlated with social acceptance (teachers judgment and the child's sociometric score). They also used a measure of negative social participation: hostile interaction. It was not significantly correlated with social acceptance. No measure of social rejection was obtained. The picture sociometric technique devised by McCandless and Marshall (1957) was used to assess sociometric status.

Lippitt and Gold (1959), in a study previously cited, have found that children of low sociometric status tend to resort significantly more frequently to unfriendly behavior and less frequently to friendly behavior, than other children. Their sample was a group of children from 39 elementary school classrooms, grades one through six.

Commoss (1962) used projective doll play to assess the skills of low status children in an indirect manner. He administered a sociometric procedure to ten second grade classrooms. Children were asked to rank in order of preference the classmates they would like to sit beside, play with at recess and invite home after school; first, second, and third choices were weighted 5, 3, and 1 respectively.

Twenty children from the upper quarter and twenty children from the lower quarter of the sociometric status scale served as the subjects for the study. Both groups were roughly matched for socioeconomic status and intelligence. The following projective measures were obtained: certainty of interpersonal relationships (defined as willingness to commit oneself to a story outcome or character reaction), ability to communicate verbally (defined as the number of words spoken per minute in the story), and eye-hand coordination (defined as the quality of the writing of a sample sentence as judged by teachers). The high status children scored significantly higher on each of these measures than the low status children. This represents a certain facility which might be expected to carry over to "real" interpersonal situations, particularly since the experimental situation itself was a real and probably rather stressful interpersonal situation.

Attempts to measure social reinforcement behavior have more recently been made by Charlesworth and Hartup (1967) and Hartup, Glazer, and Charlesworth (1967) with samples of three- and four-year-old preschool children. In the first study, (Charlesworth & Hartup, 1967) an observational method was devised for obtaining normative information on the amount and kinds of positive social reinforcement dispensed. Observation protocols were coded using the following categories: (1) giving affection and personal

acceptance (physical and verbal); (2) giving positive attention and approval (attending, offering praise and approval; offering help smiling and laughing, verbal help, informing another of a third person's needs, and general conversation); (3) submission (passive acceptance, imitation, sharing, compromise, accepting another's idea or help, following an order or request with pleasure and cooperation); and (4) token giving (giving tangible physical objects such as toys or food, spontaneously). They found children in the older groups reinforced their peers more often than children in the younger groups ($p < .01$). Also, the amount of reinforcement given was positively related to the amount received ($r = .79$, $p < .01$). Half of the reinforcements were given in response to overtures from recipients and half spontaneously. Finally, the consequence of reinforcement usually (58% of the time) was the continuation of the recipient's activity at the time of reinforcement.

In the second study (Hartup, Glazer, & Charlesworth, 1967) the relationship between peer reinforcement and sociometric status was examined. In addition to the positive social reinforcement categories used previously, negative reinforcement categories were also included in the coding of the observation protocols; the negative reinforcement categories were (1) non-compliance (refusing to submit or cooperate, withholding of positive reinforcement, ignoring overtures from "others"); (2) interference (taking property,

disrupting or interfering with ongoing activity); (3) derogation (ridicule, disapproval, blaming, tattling); and (4) attack (aversive physical attacks, threats thereof, threatening demands). The picture sociometric technique devised by Marshall and McCandless (1957) was used to assess sociometric status. The major findings were that social acceptance was significantly correlated with the frequency of giving positive reinforcement but not with the frequency of giving negative reinforcement; rejection was significantly correlated with giving negative reinforcement, but not with giving positive reinforcement. Also, children received more positive reinforcement from liked peers than from disliked peers, but did not receive more negative reinforcement from disliked than liked peers. Positive reinforcement was received more frequently than negative reinforcement from both children of low and high sociometric status.

Another body of evidence supports an interaction model. On a discrimination task children with high need for approval generally make greater errors and show more physiological signs of stress (increased GSR and heartrate) than children with low need for approval; anxiety level is hypothesized to disrupt attention to the dimensional aspects of the stimuli (Crowne, et al., 1968). Censure leads to faster performance but more errors than praise in the execution of a psychomotor task (Gounard, 1969), and censure

results in considerably worse performance than praise on an intelligence test (Bornstein, 1968). Also, anxiety seems to facilitate simple learning but interferes with complex learning in both children and adults (Palermo, et al., 1956). In all of these learning situations there seems to be an "activation process" (impulsivity, faster performance) operating, along with a decline in the S's discrimination ability.

The Design and Hypotheses

As was noted earlier, specific analysis of the behaviors of children high and low in sociometric status has only recently begun, particularly in the classroom setting. More must be known about the kinds of classroom behaviors high and low status children engage in before any coherent plan of therapeutic intervention in the classroom can be developed. Therefore in the present study, the sociometric status of a large sample of first and second grade boys was determined and related to various social and work behaviors which were observed and coded by pairs of raters in the classroom. Other measures, such as self concept, school school grades, absentee rate, and teacher ratings, will be considered because of the importance of obtaining as complete a picture of the child's functioning as possible. Consistent with the interaction model presented above, it is predicted that low sociometric status children will

present a complex but consistent picture of failure, exhibiting more socially inappropriate behaviors, performing more poorly academically, being absent more often, and being negatively evaluated by themselves as well as by teachers and peers--more often than high sociometric status children. Another major purpose of the present study will be to contribute to the development of research instruments (behavior rating, sociometric procedure, self esteem inventory) for use with elementary school populations, particularly first and second grade children.

METHOD

Subjects

A sample of 28 boys served as the subjects for this study. They were drawn from a population of 394 first and second grade children from fifteen classrooms (varying in size from 22 to 29 pupils), in four different elementary schools in a middle-sized generally lower middle class Michigan town (Tables 1 and 2). Because the present study was conducted within the context of a larger study,[1] Ss were chosen on the basis of teacher ratings of classroom adjustment (collected during November, 1968), not on the basis of sociometric status.

Teachers were asked to rate all of the boys in their class on five scales: self-control, physical ability, self-sufficiency, achievement motivation, and sociability.

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[1]The present study was carried out within the context of a larger study conducted by Dr. Lucy Ferguson and Dr. Gary Stollak of the Department of Psychology, Michigan State University. Their purpose was to relate changes in patterns of communication within the family as a result of family play therapy, to improvements in the deviant social behavior of first and second grade boys (Ferguson & Stollak, 1968). The methodological procedures of the present study were somewhat restricted by the requirements of the larger study.

Table 1.--The population from which the subjects were drawn. [The figures represent the numbers of boys and girls in each of the fifteen classrooms (A through O). Classes A, B, D, E, J, K, M, and O were first grade and the remaining were second grade.]

	School							
	1		2		3		4	
	B	G	B	G	B	G	B	G
Class	A 15	12	D 14	13	I 13	9	K 16	10
	B 13	13	E 17	10	J 19	10	L 12	13
	C 16	10	F 17	9			M 15	12
			G 15	11			N 14	12
			H 15	12			O 14	13
School Totals	44	35(79)	78	55(133)	32	19(51)	71	60(131)
Overall Totals:	225 - 169(394)							

Table 2.--The distribution of the subjects. [The figures represent the numbers of socially mature (SM) and socially immature (SI) boys selected as subjects in each of the fifteen classrooms (A through O). Classes A, B, D, E, J, K, M, and O were first grade and the remaining were second grade.]

	School															
	1				2				3				4			
	SM		SI		SM		SI		SM		SI		SM		SI	
	A	1	1		D	2	2		I	2	1		K	0	1	
	B	1	1		E	0	1		J	1	1		L	0	1	
Class	C	1	1		F	0	1						M	0	1	
					G	0	2						N	0	2	
					H	0	1						O	1	2	
School Totals		3	3(6)			2	7(9)			3	2(5)			1	7(8)	
Overall Totals:		9 - 19(28)														

They were urged to rate the boys independently on each scale; it was pointed out that a boy may be rated low on one scale and medium-high on another, since it wasn't expected that a boy would necessarily receive the same score on each scale. To further insure independent rating the teachers were asked to rate all the boys on self control, then physical ability, etc., rather than rating each boy on all five scales at one time. Definitions and descriptions of each scale were provided in order to insure a more consistent and uniform application of the rating system among teachers (Appendix A). A forced distribution method was used to ensure that ratings would be as equivalent as possible across classes. Teachers were asked to place each of their boys along a four-point continuum for each scale; low, medium-low, medium-high, and high. They were asked to rate the highest and lowest boys on each scale first and then to rate the remaining boys in roughly a normal distribution. Only three of the five rating scales (self sufficiency, achievement motivation, and self control) were considered critical for assessing classroom adjustment. A boy was considered to be high in classroom adjustment if he fell in the highest category of the rating continuum for at least two of these three categories and above the mid-point on the third; nine of the Ss of the present study were rated high in classroom adjustment. Similarly, a boy was considered to be low in classroom adjustment if he was rated in the lowest category on at least two of the three scales

and below the midpoint on the third; the remaining nineteen of the Ss of the present study were rated low in classroom adjustment.[1]

Sociometric Status Measure

Sociometric status has been measured in a variety of ways in the past. In many studies children were asked to select companions for several school or play activities (Bonney, 1943a,b, 1947; Northway, 1944; Northway & Wigdor, 1947; Kuhlen & Bretsch, 1947; Grossman & Wrighter, 1948; Greenblatt, 1950; Baron, 1951; Commoss, 1962). However, in some studies, particularly more recent ones, children were asked a single, often more general question such as, "Who is (are) your best friend(s)?" or "who would you like to be with the most?" (Criswell, 1939; Bronfenbrenner, 1944; Thorpe, 1955; McCandless & Marshall, 1957; Marshall & McCandless, 1957; Harper, 1960; Lippitt & Gold, 1959; Rosen, Levinger, & Lippitt, 1960; Hartup, Glazer, & Charlesworth, 1967). This methodological difference reflects an

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[1]Sixty boys were identified through the teacher ratings as being low in classroom adjustment, and only nine of these families participated in the larger study. Behavior observations were conducted on (randomly chosen) boys rated low in classroom adjustment. Also, behavior observations were conducted on nine other boys (randomly chosen) rated high in classroom adjustment. Fewer boys rated as high in adjustment were observed, because of the limited availability of the raters and the greater importance of the low adjusted Ss (therapy, non-therapy control), for the larger study.

important issue: to what extent is sociometric status "generalizable;" to what extent is sociometric choice "situation specific?"

Several studies have examined the generality of sociometric status and some degree of positive correlation has been found between all criteria of sociometric status, general or specific (Gronlund, 1955; Bjerstedt, 1956; Harper, 1960; Mouton, Blake, & Fruchter, 1960; Meyer & DeJung, 1963; Meyer & Barbour, 1968). Using a nomination technique with a sample of 1258 sixth grade pupils in 40 classes, Gronlund (1955) found significant generality (Pearson intercorrelations of .76, .80, and .86, all $p < .01$) over three sociometric criteria: seating companion, play companion, and work companion. Using a rating technique (everyone in the class ranked along some continuum) Meyer and DeJung (1963) and Meyer and Barbour (1968) have found that the intensity of social attractiveness of individuals varies considerably but that the relative attractiveness of individuals varies very little over four very different situations, each reflecting a particular social-psychological need.

Since all sociometric criteria seem to be positively related and since single, general criterion sociometric procedures have usually resulted in reliabilities as high as multiple criteria sociometric procedures, the use of the simplified technique was considered to be justified and

even desirable. The technique was also considered to be desirable, given: the short attention span of the subjects (particularly the first grade children), the limited class time available to the E, and the assistance which would have been needed in order to interview the 394 children individually within a reasonable length of time.

Sociometric procedures with young children are not new. Several early attempts were made to determine the sociometric status of preschool children and met with minimal success (Marshall, 1957). Supplementation of verbal questions with photographs of children in a given group has increased the successful application of sociometric procedures among preschool children.

Polansky, Lippitt, and Redl (1950) were the first to use a picture sociometric technique; their subjects were 10 to 15 year old emotionally disturbed children. Biehler (1954) was the first investigator to use a picture sociometric technique with very young (kindergarten) children. Biehler had children draw a stick figure body to the photographed faces of their preferred playmate; the photographs of their classmates were spread out on a table before them. A clear relationship was found between the actual and sociometric playmate choices. McCandless and Marshall (1957) refined and extended the technique to three-year-old nursery school children. Pictures of all of their classmates were presented to each subject. The E made sure the child

could give the name of each child pictured, before his choice of playmate was requested. The sociometric choices and teacher judgments of sociometric status were significantly related. Also, sociometric choices were shown to be stable over ten to thirty day intervals in the newly formed groups of nursery school children. Although sociometric procedures have been successfully administered with young children a group administered sociometric procedure has not, to the author's knowledge, been used with first and second grade children.

In the present study, the name of every member of the class, alphabetically arranged, was printed on the blackboard. A mimeographed list of the class members corresponding exactly to the list on the blackboard was then distributed to each child. Each child was asked to raise his hand when his name was read by the E (also in alphabetical order) and to come forward and point to his name on the blackboard. When a child was absent, the E asked the children where he or she normally sat. The purpose of this preliminary exercise was threefold: (1) to arouse interest and group participation; (2) to provide roughly equal exposure for everyone (even absent members as far as it was possible), "reminding" every child of the entire composition of the class and hopefully minimizing the tendency to select only the nearest child; (3) to provide training in

the recognition of each child's name and the association of that name with the child.

Next, the children were asked to write their own names on the tops of their class lists and to raise their hands if they had any difficulty in doing this. Only a few children were unable to write at least their first names. Then they were given the following instructions:

> I'd like to see how well you can name those who you'd like to have as a friend. Please circle the name of the person you'd like MOST TO HAVE AS YOUR FRIEND on the sheet that I have just passed out. If anybody needs help in recognizing the name of the person you'd like MOST TO HAVE AS YOUR FRIEND, please raise your hand and the teacher or I will help you. DON'T circle your own name. Does anybody have any questions?

After everyone had finished and the papers were collected, another list of class members was distributed to each child and after they had written their names on the list the following instructions were given:

> This time, I'd like you to circle the name of ANOTHER person you'd like to have as your friend. Don't circle the same name you did the first time, circle somebody ELSE, YOU'D REALLY LIKE TO HAVE AS YOUR FRIEND. If you need any assistance in recognizing the name of ANOTHER person you'd really like to have as your friend, please raise your hand and the teacher or I will help you. DON'T circle your own name. Does anybody have any questions?

After this was completed and the papers were collected, a third list of class members was distributed to each child and after they had written their names on the list the following instructions were given:

> This time I'd like you to circle the name of another person you'd really like to have as your FRIEND. DON'T circle the same names you did the first two times. Circle a name you haven't circled before, somebody ELSE YOU'D REALLY LIKE TO HAVE AS YOUR FRIEND. If you need any help please raise your hand and the teacher or I will help you. DON'T circle your own name. Does anybody have any questions?

Only a few of the second grade children needed help in finding their choices, but more (15 to 20%) of the first grade children required help. There appeared to be no reluctance to seek help since the situation was not defined as a "test." The entire procedure was completed in 25 to 30 minutes for the first grade classrooms and in about 15 minutes for second grade classrooms, the difference primarily being in the time required for giving assistance to the children. The children generally enjoyed this procedure and cooperated enthusiastically.

The sociometric procedures were conducted in the classrooms after the behavior ratings had been obtained (February 27-28, 1969). Identical procedures were carried out twelve weeks later in nine of the fifteen classrooms and one year later in six of the fifteen classrooms, to determine the short-term and long-term stability of sociometric status.

The absentee rate was quite low in each administration and the number of invalid nominations (failure to select <u>three different</u> names) was also very low (Table 3). Teachers were asked to obtain the sociometric choices of

Table 3.--Absence and invalid nominations for the sociometric procedures. [The mean number of absences and invalid nominations per classroom for the initial and two subsequent administrations (12 weeks, one year) are noted. There were 15 classrooms involved in the first administration, 9 in the second and 6 in the third.]

	First Administration	Second Administration (12 weeks later)	Third Administration (one year later)
Absence	1.27	1.67	1.17
Invalid	0.20	0.00	0.17

these children at their convenience within a week following the group administration, using essentially the instructions given above.

Behavior Observation

A behavior observation instrument was developed specifically for this project. During November and December of 1968 four psychology graduate students made extensive observations of the behavior of first and second grade boys. Categories were refined and developed until they were considered representative of the wide range of behaviors exhibited by these boys in various school settings. A time sampling procedure with pairs of raters was utilized. Raters checked all categories of behavior a boy engaged in during each of eight consecutive two-minute intervals. The 26 categories were rationally grouped under the 8 major headings of: sociability, non-sociability, self sufficiency,

non-self sufficiency, self control, non-self control, appropriate aggression and inappropriate aggression (Appendix B). The initial observations and training were not carried out in any of the classrooms used in the present study, eliminating any possibility of a bias being formed towards any of the boys prior to the actual ratings.

The behavior observations were obtained during three weeks of observations by pairs of raters (February 5-26, 1969), following the training phase. Each child was observed for sixteen minutes on four different occasions (twice in the morning, twice in the afternoon) and in a variety of play and work situations. Thus the observation data for each boy represented 64 minutes of sampled classroom behavior.

The scores were derived in the following manner. The frequencies of each behavior observed by rater A and rater B during a single period of observation (16 minutes) were averaged, with "rounding" always to the even number, preventing any systematic overestimating or underestimating of the frequencies of the behavior. The score for a particular behavior was the sum of the averaged frequencies for the behavior over the four observations (64 minutes).

Reliability-Behavior Observation Categories

The number of times each of the twelve observers was paired with each of the other observers, was not

strictly controlled. Also, the number of times each rater observed a particular child, was not strictly controlled. However, every attempt was made by the E within limitations of the observers' schedules to ensure that each of the twelve was equally often paired with each of the others and that each observer equally often observed each of the 28 Ss.

Observer reliability for the behavior categories was calculated in the following manner. Raters for a particular observation were arbitrarily designated as "rater A" or "rater B" and the number of behaviors noted by rater A or rater B were correlated for each of the eight major categories during the four observations (summed) for a particular S. All of the eight correlations were highly significant (Table 4).

Behavior observations on 15 of the 28 Ss of the present study were conducted again about three months later as part of another study (Ferguson & Stollak, 1968). Once again, the interrater reliabilities for the eight major behavior rating categories were highly significant (mean r = .933).

The temporal consistency of the eight major categories over a twelve week interval was generally high; only two of the eight major categories failed at least to approach significance (Table 5). Only the self control, non-self control, and "total inappropriate" behavior categories were actually significant, however.

Table 4.--Inter-observer reliability for the behavior ratings. [The figures represent the Pearson product moment correlations calculated on the raw number of behaviors noted by rater A and B during the four observations of a S for each of the eight major behavior categories. The mean of the eight correlations is also noted. All correlations are highly significant ($p < .001$), two tailed.]

Behavior Categories			
1 Sociability	3 Self Sufficiency	5 Self Control	7 Appropriate Aggression
.970	.945	.947	.968

$\bar{X} = .965$

Behavior Categories			
2 Non Sociability	4 Non-Self Sufficiency	6 Non-Self Control	8 Inappropriate Aggression
.969	.977	.971	.977

The internal consistency of the behavior observation categories was determined by finding the mean of the intercorrelations of the items in each of the eight major categories (Table 6). Only two of the eight means of the intercorrelations were moderately positive. The items of sociability and non-self control categories were moderately intercorrelated, while the items of the other six major categories were generally uncorrelated or even negatively correlated. Because of the low internal consistency, an exploratory factor analysis was calculated on the behavior

Table 5.--Temporal consistency in the Behavior Observation Instrument. [Correlations between the first and second (12 weeks later) observations of behavior for 15 of the 28 Ss in the present study. Five of the Ss participated in family play therapy between the two ratings as part of another study. The correlations of the Ss excluding those Ss who participated in therapy are also noted, along with the probabilities for all of the correlations (two-tailed).]

	Behavior Categories					
	1 Sociability	3 Self Sufficiency	5 Self Control	7 Appropriate Aggression	Total Appropriate	Percentage Appropriate
All Ss (N=15)	+.4140*	+.4236*	+.6561****	+.2081	+.0133	+.4864**
All Ss excluding therapy Ss (N=10)	+.3699	-.2583	+.5823**	+.1649	+.1758	+.6793***
	Behavior Categories					
	2 Non-Sociability	4 Non-Self Sufficiency	6 Non-Self Control	8 In-appropriate Aggression	Total In-appropriate	Percentage In-appropriate
All Ss (N=15)	-.0321	+.4422**	+.5880***	+.4005*	+.5823***	+.4864**
All Ss excluding therapy Ss (N=10)	-.1175	+.3869	+.5744**	+.6085**	+.6175**	+.6793***

*p < .15. **p < .10. ***p < .05. ****p < .01.

Table 6.--Internal consistency of the Behavior Rating Scale. [Means of the intercorrelations of the items in each of the eight major behavior rating categories.]

Behavior Category			
1 Sociability	3 Self Sufficiency	5 Self Control	7 Appropriate Aggression
3 items .3090	2 items .1771	3 items -.0616	3 items .0312
Behavior Category			
2 Non Sociability	4 Non-Self Sufficiency	6 Non-Self Control	8 Inappropriate Aggression
4 items .0005	2 items -.2856	6 items .2726	3 items .0466

observation categories; the results are noted in the next section.

Self Esteem Inventory

A brief self esteem inventory was designed for use in the present study (Appendix C). The child is asked to identify "which boy he is" by pointing to a stick figure on a sheet of paper which will be described on the basis of a certain quality or attitude or characteristic on a scale ranging from "loves to" or "always" to "hates to" or "never." To avoid the development of a "set" the descriptions of the figures are read alternately from left to

right and from right to left. Also, figures with positive and negative self esteem each appear equally often on the left and right of the "stick figure continuum." The examiner verifies the accuracy of the response by indirect questioning ("what kind of boy is that?"; pointing to the figure the S selected) or by reflecting the quality of the chosen figure in a questioning manner ("you don't like candy?"). The inventory consists of ten questions; the first, and the second are designed only to allow the child to "get acquainted" with the task, and the other eight are designed to tap such areas as his attitude towards tasks (3,6,8), his sociability as seen by others (5,7), his sociability as seen by himself (4,9), and his general satisfaction or dissatisfaction with himself (10).

Unfortunately because the inventory was inconsistently and improperly administered, the results (not reported) were incomplete and inclusive.

Other Measures

The grade records of the Ss of the present study were also obtained. Grades were obtained for reading, mathematics and handwriting for the first grade children. In addition to these, grades for spelling and English were also obtained for second grade children. All grades were converted to a "four point scale" in the following manner: F = 0; PS- = .5; PS = 1.0; PS+ or S- = 1.5; S = 2.0; S+ = 2.5; G- = 3.0; G = 3.5; G+ = 4.0; A = 4.5.

In addition to grades, absentee records were also considered. The total number of days each child was absent from class during the school year was obtained.

RESULTS

Sociometric Measure

The stability of the obtained sociometric status of the Ss was determined by taking a second sociometric measure twelve weeks later and a third sociometric measure one year later and correlating the sociometric status of the Ss on the first and second administrations and on the first and third administrations.[1] The sociometric status was determined by weighting the first, second, and third choices, three, two, and one, respectively, summing these scores for each pupil and dividing the sum by the N of the class. The obtained correlations for both short-term and long term consistency were highly significant (Table 7).

Although the class composition remained very stable between the first and second administrations, with only a total of six students added and nine students dropped in the nine classrooms given both administrations, the composition between the first and third administrations was

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[1]Because of limited assistance, a smaller number of classrooms were given the second and third sociometric administrations; the classrooms were arbitrarily chosen and presumably reflect the sociometric stability of the larger original sample.

Table 7.--Stability of sociometric status. [The sociometric status of Ss was obtained 12 weeks and again one year after the original administration. Correlations are noted for various groupings of the population tested, along with the probabilities for each correlation.]

	12 Weeks		One Year	
	N	r	N	r
All Ss (boys and girls)	216	.7190***	114	.6050***
First grade (boys and girls)	132	.7216***	77	.6520***
Second grade (boys and girls)	75	.7149***	35	.4642*
All girls	95	.7577***	49	.6060**
All boys	121	.7230***	65	.5410**
All boys observed twice	20	.6180*	13	.8170**
All boys observed twice excluding therapy Ss	15	.7580**	8	.8370*

*p < .01 (two tailed).
**p < .001 (two tailed).
***p < .0001 (two tailed).

considerably altered, since no class is transferred as a block to another teacher. Children are assigned individually to the available teachers (usually three per grade) in the schools of the present study, making it probable that about 1/3 of a particular child's classmates would be transferred along with him to the same teacher for the following school year. The stability of the class composition

is further reduced by students moving in and out of the school district in this mobile, "near-university" community. This turn-over in class composition renders the stability of sociometric status more impressive.

Absence

Sociometric status was correlated with rate of absence, the number of days absent during the school year. The correlation was moderately negative, but not significant ($r = -.2049$, $p > .15$).

Academic Performance

Sociometric status was correlated with academic performance, defined as the over-all grade-point-average (GPA), at mid-year and at the end of the year. First grade Ss received grades in reading, mathematics and handwriting, while second grade Ss received grades in reading, mathematics, handwriting, spelling and English. Both correlations were positive and very significant (mid-year: $r = +.5267$, $p < .01$; end of the year: $r = +.5535$, $p < .01$).

Teacher Ratings

Correlations were obtained between sociometric status and teacher ratings for each of the five scales

rated in 14 classrooms (Table 8).[1] Additionally, correlations were obtained between sociometric status and teacher ratings for the three scales (combined) which were used to determine classroom adjustment of Ss (Table 8): self sufficiency, self control, and achievement motivation. Many of the individual correlations were significant in spite of the small Ns. When all sociometric scores and teacher ratings are combined across classes, undoubtedly the correlations would be moderately positive, but significant (because of the increased N, N = 195)--with the exceptions of sociability and physical ability. Teachers' ratings of sociability seem to be only slightly positively correlated with sociometric status, while teachers' ratings of physical ability seem to be generally uncorrelated with sociometric status. There is also considerable variability in the correlations across classes for each of the scales, including at least one teacher where ratings are consistently negatively related to sociometric status.[2]

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[1]One classroom, a combined second and third grade classroom, was not included because the teacher did not rate the third grade boys in her class on the five scales, making the N too small to be meaningful in the correlational analysis.

[2]It's possible that the teacher incorrectly completed the rating forms, which would change the sign of each correlation; unfortunately the teacher moved from the area after the data collection and this possibility could not be confirmed.

Table 8.--Correlations between sociometric status and teacher ratings of achievement motivation, self sufficiency, self control, and classroom adjustment. (Sum of these three scales.) [Also noted are correlations between sociometric status and teacher ratings of sociability and physical ability. Correlations are given for 14 classrooms and the means of these correlations are also given.]

Class	N (boys)	Achievement Motivation	Self Sufficiency	Self Control	Classroom Adjustment	Sociability	Physical Activity
A	15	.3872	.4246	-.0874	.4220	.6060**	.3009
B	13	.3633	.3719	.5712**	.3790	-.3220	-.0340
C	16						
D	14	.4206	.3032	.4415	.4340	.4460	.2495
E	17	-.3276	-.2741	.4242*	-.1740	-.2970	-.5438
F	17	.6202***	.5183**	.6202***	.6020**	.2570	.4350*
G	15	-.0872	-.3245	.1118	-.0640	.1290	-.2990
H	15	.2741	-.0261	.0239	.1390	.2120	-.0708
I	13	.4917*	.5927**	.7717***	.6600**	.0550	.2947
J	19	.3784	.4039*	.4635**	.5460**	.4480*	.5389**
K	16	.3166	.4506*	.1898	.4250*	.4580*	.4720*
L	12	.7649***	.7355***	.7128***	.8060***	.1180	-.0550
M	15	.6197**	.4206	.4666*	.6400**	.6050**	.5210**
N	14	.3844	-.0768	.2976	.3020	.2010	.0000
O	14	-.3899	-.2631	-.4548	-.5360**	-.5210*	-.6344**
$\bar{X}$		.3012	.2326	.3377	.3272	.1711	.0839

*p < .10 (two-tailed).
**p < .05 (two-tailed).
***p < .01 (two-tailed).

Behavior Observations

Sociometric status was significantly negatively correlated with the total number of inappropriate behaviors observed ($r = -.4812$; $p < .02$) and positively, but not significantly correlated with the number of appropriate behaviors observed ($r = .2613$; $p > .20$). Also, sociometric status was significantly negatively correlated with the percentage of negative behavior observed ($r = -.5075$; $p < .01$). Correlations were also obtained between status and the eight major behavior categories (Table 9). Sociometric status was positively correlated with sociability ($p > .15$), self control ($p < .15$), and appropriate aggression ($p > .15$), and negatively correlated with non-sociability ($p > .15$), self sufficiency ($p > .15$), non-self sufficiency ($p < .15$), non-self control ($p < .02$), and inappropriate aggression ($p > .15$).

A factor analysis was calculated because of the low internal consistency of the major behavior categories. Factor scores for each S were obtained for the eight factors of the best solution (Appendix E) and correlations between sociometric status and the factor scores for the eight factors were calculated (Table 10). Sociometric status was positively correlated with attentiveness ($p < .15$), assertiveness ($p < .15$), and activity ($p < .05$), and negatively correlated with independence ($p > .15$) and attention seeking ($p > .15$). Sociometric status was

Table 9.--Correlations between sociometric status and the eight major categories of the Behavior Observation Instrument. [Correlations between sociometric status and three global measures of behavior are also noted, along with probabilities (two-tailed) for each correlation.]

Behavior Category					
1 Sociability	3 Self Sufficiency	5 Self Control	7 Appropriate Aggression	Total Positive	
+.1055	-.2219	+.2891*	+.0110	+.2613	
Behavior Category					
2 Non-Sociability	4 Non-Self Sufficiency	6 Non-Self Control	8 Inappropriate Aggression	Total Negative	Percentage Negative
-.0018	-.3194*	-.4709**	-.2630	-.4812**	-.5075***

*p < .15.
**p < .02.
***p < .01.

Table 10.--Correlations between sociometric status and the factor scores of Ss for each of the eight factors. [Probabilities are also noted (two-tailed).]

Factors			
1 Independence	2 Attentiveness	3 Self Sufficiency	4 Class Involvement
-.2120	+.2870*	-.0857	-.0874
Factors			
5 Attention Seeking	6 Assertiveness	7 Activity Level	8 Non-group Participation
-.2078	+.3120*	+.4173**	+.0003

*p < .15.
**p < .05.

essentially uncorrelated with non-group participation, self sufficiency and class involvement.

Finally, sociometric status was correlated with each individual behavior category (Table 11). Rejection of the approach of others was significantly positively correlated with status ($r = .493$, $p < .01$), while motoric restlessness was significantly negatively correlated with status ($r = -.448$, $p < .02$). Also, attending to the teacher or ongoing activity ($r = .326$, $p < .10$) tended to be positively correlated with status, while seeking help, praise or assurance from the teacher ($r = -.315$, $p < .15$), disobeying the teacher ($r = -.332$, $p < .10$), distraction from a task ($r = -.337$, $p < .10$) and inappropriate going off on another activity ($r = -.337$, $p < .10$) tended to be negatively correlated with status. No other correlations between behavior and status were significant or indicative of a trend towards significance. Correlations were not calculated for two of the behavior items, because of the extremely low number of incidents of behavior. Only two Ss engaged in any incidents of non-participation in a group activity or in hostility towards objects; both of these Ss had sociometric status scores well below the overall mean.

Table 11.--Correlations between sociometric status and each of the items of the Behavior Observation Instrument. [Probabilities are also noted (two-tailed).][a]

	Item	r
(1)	Approaches one or more peers	-.120
(2)	Accepts or continues interaction	+.134
(3)	Active peer group participation	+.149
(4)	Rejection of peer's approach	+.493****
(5)	Is rejected by others	-.104
(6)	No interaction in a free play period	-.166
(7)	Non-participation in a group activity	
(8)	Initiates new tasks when appropriate	-.015
(9)	Voluntarily contributes answers or suggestions in class	-.021
(10)	Seeks help, praise, assurance from the teacher	-.315*
(11)	Copies work or work behavior of peers	-.096
(12)	Complies with adults' orders	+.098
(13)	Maintains attention to own work or task	+.002
(14)	Attends to teacher or ongoing activity	+.326**
(15)	Disobeys teacher's direct verbal order	-.332**
(16)	Disruptive behavior	-.059
(17)	Delays obeying orders	-.181
(18)	Easily distracted	-.337**
(19)	Motoric restlessness	-.448***
(20)	Inappropriate going off on own activity	-.338**

Table 11.--Continued

	Item	r
(21)	Aggression in the service of rules or authority (prosocial)	-.171
(22)	Stands up for rights	+.128
(23)	Appropriate aggression, rough-housing, or competitive games	+.049
(24)	Hostile verbal	-.241
(25)	Hostile physical	-.147
(26)	Hostile towards objects	

[a]Only two of the 28 Ss engaged in any "non participation in a group activity" (item 7) and both of these Ss had status scores of "0." Only two of the 28 Ss engaged in any "hostility towards objects" (item 26); one had a status score of .0385 and the other had a status score of .0700--both well below the mean sociometric status score, .2412.

*p < .15.
**p < .10.
***p < .02.
****p < .01.

DISCUSSION

Purpose

The purpose of the present study was to assess as completely as possible how boys of high and low sociometric status differed on various behavioral indices, so that several of the hypotheses of the circular process model could be more directly evaluated. Specifically, it was the purpose of this study to determine the validity of the hypothesis that boys of low sociometric status exhibit a general syndrome of ineffectiveness in school, even at the first and second grade level.

Variables and Predictions

It was anticipated that sociometric status could be accurately assessed by a group administration procedure and that the status of Ss would remain stable over short term intervals and long term intervals. The teacher ratings, as well as the index of academic performance (GPA) and attendance record, all represent more global, indirect indicators of behavior, while the behavior observation categories provided a more specific and direct measurement of Ss' behaviors. Consistent with the assumptions of the circular process model, it was expected that classroom

adjustment, academic performance and appropriate behavior would be positively and significantly correlated with sociometric status, while absence rate and inappropriate behavior would be negatively and significantly correlated with sociometric status. In short, sociometric status was expected to be positively and significantly correlated with several behavioral indices of effectiveness in the classroom.

Findings and Interpretations

Sociometric status.--Perhaps the most important finding was that, using a group administration procedure, sociometric status was found to be highly stable over both short periods of time and long periods of time, among first and second grade children. The long-term stability of sociometric status is even more remarkable when it is remembered that the composition of the class had altered considerably at the time of the final administration, one year after the first administration, with about 75% "turnover rate" in classmates. Also, the reliability estimates were probably somewhat low because of some subject error in selecting classmates (e.g. failure to circle the name desired on the class lists), which would have resulted in greater randomization and a flattening in the distribution of choices. Thus, sociometric status seems to be a highly stable variable among first and second grade children, in

spite of considerable change in the composition of the peer group and in spite of the method of determining sociometric status.

Absence.--The correlation obtained between rate of absence and sociometric status was -.2049 ($p < .15$), indicating that Ss with low status tended to be absent more frequently than Ss with high status. The correlation was lower than anticipated, however. Perhaps the social demands placed upon the first and second grade children are not yet great enough and the social failure experiences not yet frequent enough to result in physical withdrawal from school. As the children become older, years of accumulated social failure will probably interact with new and pressing demands to belong to social clubs or cliques and with greater personal freedom to decide whether or not to attend school and result in a greater tendency to withdraw from the defeating situation.

Academic performance (GPA).--The correlations obtained between sociometric status and grade-point average for the first half of the year and for the entire year, were both highly significant, .5267 and .5535, respectively. Thus, academic performance and status were very highly correlated. It appears that students either use the same criteria as the teacher in their assessments (e.g. ability to do things well) or they are strongly influenced by the

quality of the teachers' interaction with the child, which implicitly carries with it the tone of approval or disapproval. Of course, both alternatives are probably operating to some degree.

Teacher ratings.--Intercorrelations were calculated between sociometric status and the five scales rated by the teachers to determine: (1) the degree to which the teachers' estimates of Ss' classroom adjustment (3 scales combined) were related to status; (2) the degree to which each of the three scales used for estimating classroom adjustment was related to status; (3) the degree of correspondence between the teacher's estimate of sociability and the obtained status; and (4) the degree to which teachers' estimates of physical ability were related to status.

Classroom adjustment and each of the three scales used to estimate adjustment--were generally moderately and positively correlated with sociometric status in each classroom, although the correlations were lower in some classrooms. With all classrooms combined (more than 200 Ss) the correlations would undoubtedly be quite significant for each of the three adjustment scales and for the combined scale. Self control was particularly highly correlated with status and self sufficiency was less highly correlated with status. Thus, the teacher's estimate of a S's effectiveness in the classroom is highly related to the status assigned the S by the peer group. Again, this

suggests that either pupils use the same criteria as the teacher in their assessments or they are influenced by the teacher's implicit (occasionally explicit) approval or disapproval of a child's behavior, or both.

Correlations between teachers' estimates of children's sociability and actual sociometric status were generally positive, but lower than expected; the mean of the correlations between status and sociability (.1711) was lower than the mean of the correlations between status and the three adjustment scales. However, the term "sociability" defined in the teacher ratings was somewhat different than the term as defined in the sociometric procedure. Sociability in the context of sociometric status generally refers to the popularity of a child or the number of friends of a child. Sociability in the context of the teacher ratings (Appendix A) generally refers more to the process of seeking and entering social interaction. It is quite possible, and consistent with the circular process model, that many children low in sociometric status engage in considerable attempts at social interaction, although they may frequently be rather self defeating attempts. Thus, it can not be concluded that teachers are unable to assess the popularity of their pupils from the relatively low correlation between teacher ratings of sociability and sociometric status.

Finally, teachers' estimates of children's physical ability (perhaps the most "objective" scale) were essentially uncorrelated with actual sociometric status; the mean of the correlations between status and teacher ratings of physical ability was .0839. This finding seems quite reasonable, since at this grade level the peer groups have not formed as solidly as they do later around sporting and athletic activities. It is anticipated that physical ability and sociometric status would be more highly positively correlated at later grade levels, when physical ability undoubtedly becomes more important for acceptance in the peer group.

Behavior Observations.--First, inappropriate behavior in general was significantly and negatively correlated with sociometric status, as expected, while appropriate behavior in general was positively but not significantly correlated with sociometric status.

More specific analysis of the eight major behavior rating categories revealed that non-self control was quite significantly and negatively correlated ($r = -.4709$, $p < .02$) with sociometric status, while self control was slightly but positively correlated ($r = .2891$, $p < .15$) with sociometric status. This finding provides evidence that Ss lacking self control are likely to have low status among their peers, while Ss with high self control tend to have

high status among their peers. There was also a tendency for non-self sufficiency to be negatively correlated with status, indicating that Ss engaging in dependent behaviors (e.g. copies others, seeks the attention, praise, and approval of the teacher) are also likely to have low status among their peers. The other correlations between major categories and sociometric status were non-significant and no "trends" were indicated. However, the correlation between inappropriate aggression and status was moderately negative ($r = -.2630$), indicating that aggression is somewhat negatively related to status among first and second grade children.

The correlation between self sufficiency and sociometric status was moderately negative. This finding can be readily accounted for by examining the differences on the individual items of the two major behavior rating categories. On the self sufficiency category, low adjusted Ss engaged more frequently, but non significantly, than high adjusted Ss in "initiating new tasks" and "contributing answers or suggestions;" this is understandable when it is noted that: (1) Ss low in sociometric status were more restless and distractible with shorter attention spans than Ss high in classroom adjustment; and (2) Ss low in classroom adjustment more frequently than high adjusted Ss raised their hands in class without knowing correct answers or contributing very relevant suggestions, probably

as an attention seeking maneuver or as an imitation of others in class. This finding may also be interpreted in other ways. It is quite possible that poorly adjusted children have adapted to experiences of rejection and lack of support with a posture of self sufficiency and independence which may not be supported by the teacher in the classroom because of the disruptive character of the behaviors. This is unlikely, however, in view of the negative correlation between "non-self sufficiency" and status.

Sociability showed a slightly positive, but far from significant correlation ($r = .1055$) with status; this indicates that low sociometric status has very little relationship to the amount of "sociability" expressed. One note of caution should be introduced; the items of the major category of sociability are primarily quantitative, concerned with the number of times a child approaches another or interacts with another, and are not qualitative, concerned with the quality or "success" of the approach or interaction.

The major category of non-sociability was uncorrelated with status. Again, the social withdrawal measured by this category is a quantitative, not qualitative factor; for example, high status Ss may "withdraw" to work on a project of interest and of importance to them and seek out social interactions shortly thereafter, while low status Ss may withdraw to avoid social rejection and be very reluctant

to seek out social interaction later. Of course, it is very possible that first and second grade children have not experienced sufficient social failure to interfere with the frequency of attempts at social interaction, the frequency of participation in an interaction, or the frequency of social withdrawal.

Finally, "appropriate aggression" was uncorrelated with status, although it was expected to correlate positively with sociometric status. It is quite possible that high status children are more sensitive to the social and peer codes and tend to consider all aggression as inappropriate.

Because an intercorrelation matrix of the 26 behavior rating categories indicated a general lack of internal consistency in all but two of the eight major behavior rating categories, an exploratory factor analysis of the behavior rating data was calculated and Ss' factor scores were obtained for the best solution, the eight factor solution. Correlations were calculated between the factor scores and status. The correlation between activity level and sociometric status was significantly positive ($r = .4173$, $p < .05$) indicating high status children are more socially active in the classroom than low status children. Also, attentiveness tended to be positively correlated ($r = .2870$, $p < .15$) with status; this supports the previous observations that self control was quite related

to adjustment and status. Also assertiveness tended to be positively correlated ($r = .3120$, $p < .15$) with status, indicating that high status children were more dominating than low status children. The correlations between the remaining factors and sociometric status were not significant, or even indicative of a trend; independence, self sufficiency, class involvement, and attention seeking behaviors were all slightly negatively correlated with status, while non-group participation was uncorrelated with status.

Finally, each of the individual items of the behavior rating scale was correlated with sociometric status to determine which specific behaviors were contributing most to sociometric status. The item "rejects others" was quite significantly correlated with status ($r = .493$, $p < .01$). This originally was not predicted, but is certainly understandable when it is considered that: (1) the setting was predominantly work oriented and high status children are likely to be more concerned with completing a task (GPA X sociometric status, $r = .52$) than with social interaction in such a setting, and (2) high status children are more frequently the target of social approach and have the least to lose by occasionally rejecting others, particularly those classmates already assigned low status.

Self control categories consistently differentiated high and low status children; all self control categories were positively correlated with status and all non-self

control categories were negatively correlated with status. Motoric restlessness was negatively correlated with status. Disobeys teacher's orders, easily distracted and inappropriate going off on own activity all tended ($p < .10$) to be negatively correlated with status, while attends to the teacher or on going activity tended ($p < .10$) to be positively correlated with status. There was a slight tendency ($p < .15$) for "seeks help, praise or assurance of teacher" to be negatively correlated with status. Although there were no other significant correlations, most of them were in the predicted direction.

Only five of the 26 behavior rating items were correlated with status in a direction opposite to that originally predicted. The item "rejects others" has been discussed above. In addition, "approaches peers" was negatively correlated with status. This is understandable when it is remembered that high status children less often need to initiate social interaction, since they are the center of the social system and the frequent target of the approach of others. "Initiates new tasks" and "voluntarily contributes in class" (self sufficiency), as well as prosocial aggression were negatively correlated with status; the rationale for these findings has already been outlined.

Thus, inappropriate, maladaptive behavior in general and lack of self control in particular, appears to be quite consistently and negatively correlated with adjustment

and sociometric status, while appropriate and adaptive behavior in general and self control in particular, appears to be somewhat positively correlated with adjustment and sociometric status.

Experimental Design

The primary purpose of the present study was to identify more specifically the behavioral correlates of sociometric status. There were two difficulties in the present design which were unavoidable because of the requirements of the larger study.

One of these restrictions required that the selection of the Ss for behavior observations be based on classroom adjustment rather than sociometric status. Although high and low adjusted Ss differed significantly in sociometric status, the differentiation was not perfect. Three high adjusted boys had a status score below the mean status score for the boys of their classroom, and three low adjusted boys had a status score above the mean status score for the boys of their classroom. Ss certainly did not perfectly represent the extremes in status so correlational analyses were considered more appropriate than direct comparisons between "high" and "low" status groups.

A second restriction was that the procedure resulted in a sampling of primarily low status Ss who were also low in classroom adjustment and high status Ss who were also

high in classroom adjustment. There were other Ss who were very low in status but about average or occasionally even higher than average in classroom adjustment, and still other Ss who were very high in status but about average or occasionally even below average in classroom adjustment; in the first case a child probably is quite unpopular, but is quiet (perhaps withdrawn) and cooperative enough to be considered reasonably well adjusted in the classroom, while in the second case, a child has a particularly attractive quality (i.e., clever, skillful, amusing, etc.) which is unrelated to or even interferes with classroom adjustment. The behavior observation instrument was designed to measure the behavior of the high adjusted-high status and low adjusted-low status Ss, not the behavior characteristic of the more complex types of children noted above who have made some marginal adjustment in spite of social and/or academic difficulties. Although the purpose of the present study was to assess the classroom behaviors of Ss more blatantly maladjusted, the behaviors of these more complex types are presumably amenable to the same kind of behavior rating method, with certainly different and perhaps more subtle, less overt items.

Another serious difficulty was the small number of Ss, particularly in the high adjusted group, and the limited observation time allowed for each S. In order to ensure reliable and valid ratings of behavior, four separate

observations sixteen minutes in length were conducted by a pair of raters for each S. This procedure limited the number of Ss that it was possible to observe and limited the length of the observation of each S. Many of the differences in the behavior ratings of high and low adjusted Ss, and many of the correlations between behavior ratings and sociometric status were highly suggestive, but not significant, due in large part to the small number of Ss and particularly to the small numbers of behaviors noted on many of the individual items and even some of the major behavior rating categories (e.g. appropriate aggression and inappropriate aggression).

Instruments

Another major purpose of the present study was to contribute further to the development of research instruments for use with early elementary school populations (sociometric, behavior rating, self concept).

The group sociometric procedure was quite effective with very high short-term reliability (12 weeks) and also very high long-term reliability (one year) for all Ss combined and for various subgroups of the Ss. This is consistent with previous research which has found that sociometric status is quite stable among very young children. However, this is the youngest population in the research literature reviewed given a group sociometric procedure.

The simplicity and the effectiveness of the procedure make it a useful tool for teachers to adopt in the classroom setting, particularly since: (1) teachers are often unable to assess accurately the social structure; (2) sociometric status is so stable over time, unlikely to change spontaneously; and (3) sociometric status is so highly related to poor academic and social adjustment. Effective intervention programs (Glidewell, et al., 1966) can be developed by the teacher to redistribute sociometric status once an awareness of the actual distribution of status is achieved.

It must be noted that the sociometric procedure was administered to first and second grade Ss during February, after considerable group "testing" experience had undoubtedly been acquired and after their ability to recognize the names of their classmates had undoubtedly improved. Group administration of the sociometric procedure probably would not be very practical at any earlier time for first grade Ss, unless specific training in the recognition of classmates' names were given prior to the administration.

The Behavior Observation Instrument contributed a great deal to the identification of behaviors associated with classroom adjustment and sociometric status, although the discrimination power of the eight major categories was no doubt severely curtailed by their lack of internal consistency, which suggests that specific categories should be differently combined in the future. The results would have

undoubtedly been more productive if the number of Ss observed and the amount of time each S was observed had been greater. It should be noted, however, that inappropriate, maladaptive behaviors were more heavily represented on the scale than appropriate adaptive behaviors. This could have accounted for the finding of less significant differences in appropriate behavior than in inappropriate behavior among high and low adjusted Ss. Also, consistent with the setting of the ratings, the majority of the behavior rating items were academic in orientation and fewer were directly concerned with peer social interactions. The rating scale should be expanded to include more of the behaviors identifiable in these peer interactions (e.g. indicators of anxiety and social ineptness--restlessness, distractibility, criticism by others, etc.), and the observation setting should be expanded to include more recess and "free play" periods, providing more opportunity to observe social interaction.

Among the academically oriented items, the major behavior rating category of self sufficiency should be expanded to include a wider range of items (e.g. praise for a task or project by teacher or peers; organizes peers in an academic project or playground activity, etc.) and the present items should be changed to represent self sufficient behavior realistically (e.g. the criteria for "volunteers" in class could be changed from simply raising a hand, to

correctly giving an answer when and if called on and offering a suggestion which is accepted by teachers and/or peers).

The main features of the Self Concept Inventory (Appendix C) were its directness, simplicity, and brevity (only ten items) which are considered by the author as essential in the testing of early elementary children, particularly first grade children. The items were concerned with attitudes towards tasks, sociability as seen by others, sociability as seen by himself and general satisfaction or dissatisfaction with himself.

Unfortunately, the inventory was inconsistently and improperly administered and the results were incomplete and inconclusive. The inventory was designed for individual administration. However, in a recent group administration of the Self Esteem Inventory (Turner, 1970) in one of the second grade classes of the present study, it was found that sociometric status and self esteem were positively and significantly correlated ($r = +.4271$; $N = 26$; $p < .05$). Thus, the instrument appears to successfully differentiate Ss of high and low sociometric status and also appears to be amenable to group[1] as well as individual administration.

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[1]A group administration probably would not be possible among first grade children, however, because of their limited reading skills, difficulty in following directions, and short attention span.

Conclusion

The major objective of the present study, identification of the behavioral correlates of sociometric status, was fulfilled to a considerable extent. Several observations can be made about the behavior rating data. Although it can not be conclusively established, it appears that: (1) low status Ss seek the attention and approval of the teacher more than high status Ss, probably reflecting the former's lack of self esteem and dependence on external reinforcement as well as continued dependence on adults rather than the shift to the peer group, characteristic of more mature boys at this age level; (2) high status Ss have greater self control and are more able to work on a task than low status Ss, who show signs of anxiety (e.g. restlessness, distractibility) in the classroom setting; and (3) low status Ss generally show more ineffective, inappropriate and maladaptive behavior in the classroom than high status Ss, but high status Ss generally show only slightly more effective, appropriate and adaptive behaviors in the classroom than do low status Ss.

From the final point, it can be concluded that low sociometric status is more closely associated with a wide range of inappropriate and maladaptive behaviors than with a few specific behaviors or classes of behaviors. Thus, it is likely that there is no single behavior or class of behaviors which determines sociometric status. Rather, status

is probably determined by many behaviors and classes of behaviors in complex interaction.

Grade-point average (GPA) and absence rate, more global and indirect behavioral measures of classroom effectiveness, appear to be related to sociometric status. Higher grades undoubtedly act to increase poise and self confidence and result in more effective social and academic behavior in the classroom, while lower grades undoubtedly diminish poise and self confidence and result in less effective social and academic behavior in the classroom. Higher absence rate results in less opportunity for the establishment of continuous, stable social relationships and reflects the reluctance to enter a setting which brings continuous academic and social failure.

The teacher ratings of classroom adjustment also are moderately but significantly correlated with sociometric status. This suggests that either children are influenced by the teacher's implicit (or explicit) evaluation of a S or they use similar criteria as the teachers in assigning sociometric status. Undoubtedly both possibilities operate to some degree, but it is also apparent that sociometric status is determined by other criteria (e.g. non-academic) and/or other forces of influence (e.g. a leader in the peer group).

Thus, the data of the present study offer considerable support for the circular process model outlined in the

introduction. An analysis of both direct and indirect measures of social and academic effectiveness indicates that sociometric status is determined by a wide range of behaviors which interact in a complex manner. Further research is needed, particularly directed at the specific behaviors engaged in by Ss of high and low status and the manner in which the behaviors affect social interaction.

SUMMARY

The purpose of the present study was to assess the relationship between sociometric status and various behavioral indices of social and academic effectiveness in the classroom.

An extensive review of the literature was presented. First, the development and stability of sociometric status were considered. The evidence clearly indicated that sociometric status is established quickly and is quite stable among peer groups of all ages in a variety of settings, including the classroom. Second, many of the previous studies which were concerned with the characteristics of children with high and low sociometric status, were reviewed. A variety of social, academic and socio-economic factors were found to be related to sociometric status. Third, many of the previous studies which were concerned with the mental health of children with high and low sociometric status, were reviewed. The evidence suggests that there is a strong, positive relationship between a variety of indices of mental health and sociometric status. Next, a model was presented to provide some integration of the findings observed in the literature. Finally, the design and hypotheses

of the study were outlined. It was anticipated that low status Ss would present a complex picture of ineffective behavior in the classroom. Specifically, it was predicted that sociometric status would be positively correlated with academic performance, appropriate behavior in the classroom and teacher ratings of classroom adjustment and negatively correlated with absence rate and inappropriate behavior in the classroom.

The Ss for the present study were 28 boys drawn from 15 classrooms in four different elementary schools located in a middle-sized, generally lower-middle class Michigan town. Sociometric status was determined through a group procedure in the classroom. Ss were asked to note whom they would select among their classmates as the person they would "most like to have as their friend." Second, and third choices were also obtained. Twelve weeks following the first administration, a second identical sociometric procedure was carried out and one year following the first administration, a third identical sociometric procedure was carried out, to determine the short term and long term stability of sociometric status. The sociometric scores obtained during the first administration were correlated with: (1) absence rate; (2) academic performance at mid-year and for the entire year; (3) a variety of teacher ratings of Ss which included self sufficiency, self control,

achievement motivation, sociability and physical ability; and (4) behavior observations of Ss.

The instrument for conducting behavior observations was developed especially for the present study; the final instrument consisted of 26 individual categories grouped rationally into eight major categories: sociability; non-sociability; self sufficiency; non-self sufficiency; self control; non-self control; appropriate aggression; and inappropriate aggression. The inter-observer reliability was very high, above .94 for each of the eight major categories. The temporal consistency of the eight major categories over a twelve week interval was generally high; only two of the eight major categories failed at least to approach significance. However, the internal consistency of the eight major categories was generally low; the items of only two of the eight major categories were positively and moderately intercorrelated.

Findings

First, sociometric status was highly stable over a twelve week interval ($r = .72$) and over a one year interval ($r = .60$), in spite of about a 75% turnover rate in class members between the first and third administration. Status was negatively but not significantly correlated with rate of absence ($r = -.205$); higher status Ss had fewer absences than lower status Ss. Status was positively and

significantly correlated with academic performance (GPA) both at mid-year (r = .528) and at the end of the year (r = .554). Additionally, status was positively and significantly correlated with teacher ratings of self sufficiency, self control, achievement motivation and overall classroom adjustment (three scales combined). Also, status was positively but not significantly correlated with teacher ratings of physical ability and sociability. Finally, status was negatively and significantly correlated with the number of inappropriate behaviors observed and positively, but non-significantly correlated with the number of appropriate behaviors observed. A more detailed correlational analysis and a subsequent exploratory factor analysis found that generally only the self control and non-self control items were significantly related to sociometric status.

Several conclusions can be drawn from the behavior observations; it appears that: (1) low status Ss seek the attention and approval of the teacher more than high status Ss, probably reflecting the former's lack of self esteem and dependency on external reinforcement; (2) high status Ss have greater self control and are more able to work on a task than low status Ss, who show signs of anxiety (e.g. restlessness, distractibility) in the classroom setting; and (3) low status Ss generally show more ineffective, inappropriate and maladaptive behavior in the classroom than high status Ss, but high status Ss generally show only

slightly more effective, appropriate and adaptive behaviors in the classroom than do low status Ss. From the final point, it can be concluded that low sociometric status is more closely associated with a wide range of inappropriate and maladaptive behaviors than with a few specific behaviors or classes of behaviors. This data, along with the more global and indirect measures of social and academic effectiveness (absence, GPA, and teacher ratings) indicate that sociometric status is determined by a wide range of behaviors which interact in a complex manner. Further research is needed, particularly directed at the specific behaviors engaged in by the Ss of high and low status and the manner in which the behaviors affect social interaction.

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APPENDICES

APPENDIX A

APPENDIX A

Teacher Rating Scales

Instructions to teachers:

Please rate all of the boys in your class on the five scales for which definitions and rating sheets are provided. These are: self-control; physical ability; self-sufficiency; achievement motivation; and sociability. The majority of your boys should fall readily into one of the four boxes on each of the rating sheets. It is not expected that a boy will necessarily fall in the same square on all five scales. That is, a boy may be rated low on one scale, medium-high on another, etc. So that the ratings on each scale will be relatively independent of each other, please rate all your boys on self-control, then proceed to physical ability, etc. Although only the end groups are defined for each scale, the scales should be seen as more or less continuous dimensions ranging from "low" through "medium low" and "medium high" to "high." The definitions of the scales are:

1. Self-control

   Poor self-control - This boy shows relatively little self-control. He has difficulty following rules, sitting still, and keeping his mind on his work. He may get out of his seat and move about the room, talk when he is supposed to be working, or bother others in the room. He may show angry outbursts, tantrums, or whining when he is displeased. Generally he appears to act on impulse, with little regard for the consequences of his acts.

   Good self-control - this boy shows a relatively large degree of self-control, but he is not so controlled or rigid but what he can be socially outgoing with his peers and show aggressive behavior appropriate to boys. He respects rules, pays attention, concentrates on his work, and does not bother others. He shows restraint in his behavior, seems to think before acting. However, he can still be spontaneous and act or express himself when it appears appropriate to do so.

2. Physical ability

Poor physical ability - This boy tends to be awkward and clumsy. He seems to lack the physical coordination you would expect of a boy his age. He may be interested in sports, but is not good at those which require physical coordination. He does not seem to have the makings of an athlete.

Good physical ability - This boy is agile, graceful and well-coordinated in his movements. He does well at games which require physical coordination; he will probably be a good athlete. He seems to enjoy physical activities and is often chosen for teams on the basis of his skill.

3. Self-sufficiency

In rating on this scale it should be kept in mind that some boys, because the content of the work is more difficult for them, need more help than others. Consideration of each boy's relative ability for doing school work should help on these ratings. For example, a boy of relatively low ability who asks for a moderate amount of help should be rated higher on self-sufficiency than a boy of high ability who asks for the same amount of help.

Low self-sufficiency - This boy does not generally do things on his own. He seeks an unusual amount of help from his teacher and/or peers, much more so than his abilities would suggest was necessary. Whenever things become difficult, he looks to others to tell him what to do or to do his work for him. He has difficulty starting things and carrying them through by himself. He may seek a lot of reassurance and affection from his teacher.

High self-sufficiency - This boy generally goes ahead on his own and does his work without seeking an unusual amount of help from his teacher and/or peers. He can fall back on himself when the going gets rough, and he tends to carry things through to their end. He does not seek a lot of reassurance or affection from others. But he can ask for help or information when it is appropriate to do so.

4. Achievement motivation - These ratings should take into consideration the boy's relative ability for school work. A boy of lesser ability who aspires to the same heights as a more capable boy should be rated higher on achievement motivation.

Low achievement motivation - This boy shows little motivation to do well in his school work. He does not seem to be very concerned about his performance and does not put forth his best effort. He shows little persistence, giving up easily on a job when difficulties are encountered. His poor motivation does not, however, keep him from being active in class.

High achievement motivation - This boy is highly motivated to do well in his school work. He often shows concern about his performance and tries to do his best. He is persistent, sticking to a job until it is completed, even though he encounters difficulties. He does not appear to be afraid of failing, entering actively into competitive situations.

5. Sociability

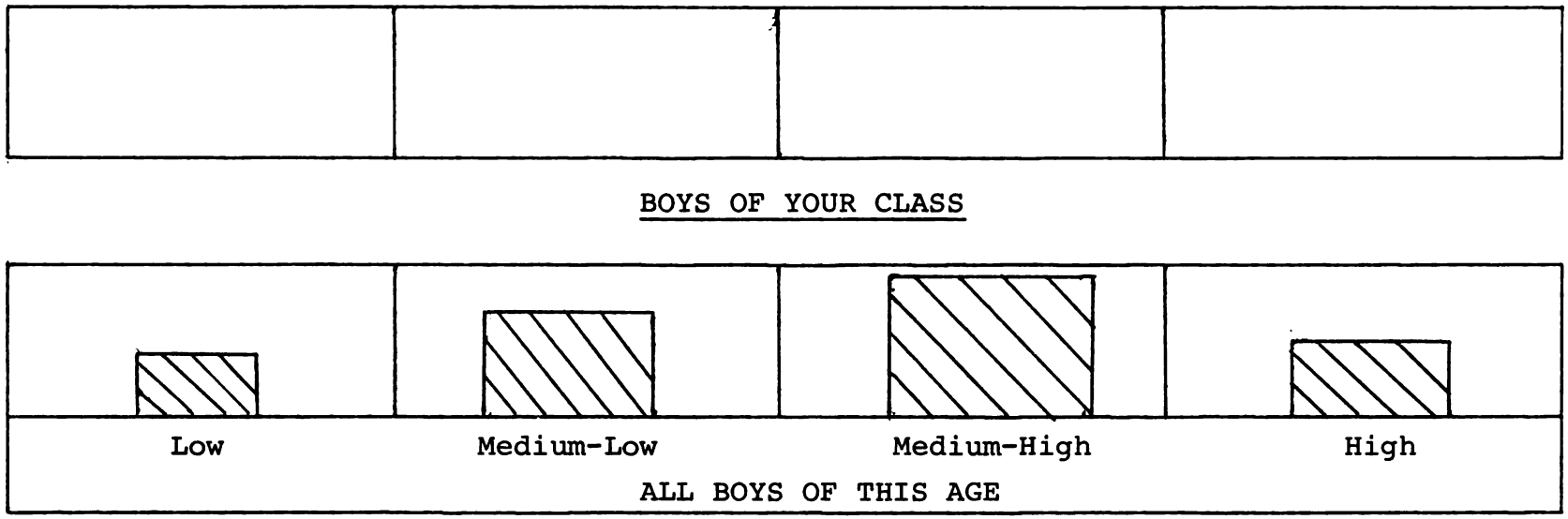
Low sociability - This boy is not very interested in spending time with other children. He often chooses to be by himself, and does not seem to have many friends. He may be shy and somewhat of a "loner," or just be interested in things he can do by himself.

High sociability - This boy is always doing things with other children and seems to have many friends. He will always choose to be with a group rather than by himself and always enters enthusiastically into group activities. He is socially out-going and gregarious.

DISTRIBUTION OF RATINGS

Achievement motivation*

Date_____
Grade_____
School_____
Teacher_____



Your particular class may be different from this; it may be up or down on this scale. Think of your lowest boy and your highest boy; these will be the ends of your class scale. Put them on your scale, then place the rest of the children also in the 4 groups which are roughly the size of the "all boys" scale. For a class with 15 boys, this would be approximately 3 children in the High group, 5 in the Medium High, 4 in Medium Low, 3 in Low; however, your class may have slightly different numbers in these groups.

*Identical forms used for self sufficiency, self control, sociability, and physical ability.

APPENDIX B

APPENDIX B

Behavior Observation Instrument

Behavior Category	Definition and Examples
Sociability	
Approaches peer(s)	S makes verbal or physical contact with peer(s). Ex: greetings; requests; questions; holding; hitting; joining a game or activity with peer(s), etc.
Accepts or continues interaction	(a) S responds favorably to the approach of another. Ex: smiles, hits peer(s) playfully; joins peer(s) in their activities or follows their suggestions or warnings. (b) S continues an interaction beyond a two minute time sampling interval; Ex: continue talking, playing, etc.
Active peer group participation	S actively participates in some group activity (more than three children) with considerable attention and enthusiasm. Ex: gym period games or exercises; baseball or football at recess; singing; etc.
Non-Sociability	
Active physical or verbal rejection of peer's approach	S actively or passively rejects another(s)' attempt at interaction. Ex: hits another, asks or tells other(s) to leave; threatens other(s); ignores other(s) when the approach is persistent and in-

	tense enough to be obviously noticeable to the S, etc.
Is rejected by others	S attempts an interaction with another, but is rejected. Ex: S is hit, told to leave, threatened, ignored, etc.
No interaction in a free play period	S does not engage in a single interaction during a two minute period in a free period such as recess. Ex: S walks alone; plays alone, etc.--when opportunities for interaction are readily available.
Non-participation in a group activity	S does not participate in some group activity (more than 3 children) with any degree of attention or enthusiasm. Ex: listless, difficulty in following the group in a gym, recess or singing exercise, etc.
Self Sufficiency	
Initiates new tasks when appropriate	When S has finished an assignment he goes on to another task without prompting from the teacher or when he is in need of materials--he obtains them. Ex: Open another book or draws after completing an assignment; sharpens pencil or obtains paper.
Voluntarily contributes answers or suggestions	S raises his hand, for any reason, during a teacher directed task. Ex: teacher asks for the answer to a problem; S makes a suggestion about a problem; S raises his hand while the teacher is demonstrating or talking; S does not have to know the correct answer when and if he is called upon.

Non-Self Sufficiency	
Seeks help, praise or assurance from the teacher for a task	S approaches the teacher for any reason. Ex: S asks permission to do something; S asks for help or says he can not do a task; S shows the teacher his work; S talks about a personal experience; etc.
Copies work or work behaviors of peer(s)	S glances at the work of another or glances at another and imitates his behavior exactly during a lesson or test. Ex: S takes the materials out of his desk, copying the actions of another; S stares for several seconds at peer(s)' paper then writes quickly on his own paper; S asks to see another's paper or takes it from him and writes on his own paper following this--the attempt to copy is scored, whether or not it is successful.
Self Control	
Complies with adult(s)' direct verbal order	S follows the directions of an adult (teacher, librarian, principal, etc.). Ex: sits down, obtains materials, begins work, cleans up, etc.--when he or the class is instructed to do so.
Maintains attention to own work or task	S looks at his work (and may also write) for more than one minute of two minute time sampling interval; Ex: works on a test; art project, reading lesson, etc.--either at the teacher's direction or voluntarily on a task of his own choosing when appropriate (no other tasks to be completed).
Attends to teacher or ongoing activity	S looks at the teacher when she is explaining or demonstrating or at an activity

	conducted by other adults or children, live or on film--for more than one minute of a two minute time sampling interval. Ex: observes teacher giving directions or demonstrating; observes TV lecture or film; watches other children demonstrating (e.g. show and tell), etc.
Non-Self Control	
Disobeys teacher's direct verbal order	S does not follow an order to him or to the class. Ex: S fails to sit down, clean up, open book, go outside, etc.--when told to do so, often with teacher repeating the order to him.
Disruptive behavior	S is reprimanded by the teacher for disrupting the class. Ex: S is told to keep quiet, to stand outside the room, to go to the office, to stop an activity which is interfering with others, etc. Punishment or threat or punishment usually but not always present.
Has delayed obeying an order, but does so	S delays but finally obeys an order, Ex: S is the last to clean up, sit down, open a book, etc.--when told to do so, but is not asked a second time or reprimanded by the teacher.
Easily distracted	S looks away from his assigned work or task for more than one minute of a two minute time sampling interval. Ex: S daydreams, stares out the window or at the walls; S glances around the room; S attempts an interaction during an assignment or engages in any activity other than the assigned activity.

Motoric restlessness	S engages in any random motor behavior during more than one minute of a two minute time sampling interval. Ex: rocking in a chair; pulling an ear; scratching head; tapping foot; drumming fingers; sucking or biting fingers, etc.
Inappropriate going off on own activity	S engages in a task other than the assigned task. Ex: S plays with a game during an assignment; does another assignment rather than the current one; plays with tools or materials (e.g. makes a game out of rolling a pencil, pulling his shoe string, throwing a piece of paper); writes on the desk during an assignment or instructions from the teacher, etc.
Appropriate Aggression	
Aggression in the service of rules or authority (prosocial)	S acts aggressively as the agent of the teacher, parents or society. Ex: S threatens (or actually does) exposure of another's errors or transgressions. S reminds others of the rules and what is expected of them, etc.
Stands up for his rights.	S makes sure he has what is rightfully his and is treated fairly. Ex: asks for paper if he is accidentally not given a sheet; insists on having his turn in a game or activity in which he has been skipped; etc.
Roughhousing or competitive games	S participates willingly in an aggressive game or unorganized play. Ex: wrestling; football; soccer; snowball fights; etc.

Inappropriate Aggression

Hostile verbal	S is verbally abusive or threatening. Ex: S threatens another verbally or with gesture; mimicks others mockingly; cursing; spitting; etc.
Hostile physical	S is excessively and inappropriately aggressive physically. Ex: hitting; pushing, slapping; tripping, etc.--to the point of obvious distress by peer(s) (e.g. they cry, yell "Stop!", etc.).
Hostile towards objects	S damages an object or handles an object in such a way that damage to the object is probable. Ex: slam a book to the floor; breaks a pencil or ruler; throws his clothes down; hits an object with his fists or another object, etc.

Behavior Observation Scoring Sheet

Approaches one or more peers							
Accepts or continues interaction							
Active peer group participation							
Active physical or verbal rejection of peer's approach							
No interaction in any free play in a 2 min. scoring period							
Non-participation in group activity							
Initiates new tasks when appropriate (e.g. obtains own materials)							
Voluntarily contributes answers or suggestions							
Seeks help, praise or assurance from teacher for a task							
Copies work or work behaviors of peers							
Complies with adult(s)' direct verbal order							
Maintains attention to own work or task (for at least 1 min. or for 4 or fewer distractions during 2 min.)							
Attends to teacher or ongoing activity (for at least 1 min.)							
Disobeys teacher's direct verbal order							
Disruptive behaviors							
Has delayed obeying order but does so							
Easily districted (5 or more times looking up or for at least 1 min.)							
Motoric restlessness (5 or more incidents or for at least 1 min.)							
Inappropriate going off on own activity (leaving assigned task)							
Aggression in the service of rules and authority (prosocial)							

Stands up for rights							
Appropriate aggression (e.g. rough-housing or competitive games)							
Hostile-verbal (including mimicking and/or hostile gestures)							
Hostile-physical (and verbal)							
Hostile-toward objects							

APPENDIX C

APPENDIX C

Self Esteem Measure

Administer following the first and last therapy sessions or interviews.

In each case, give the child a scoring sheet (stick figures), and after reading the instructions to him, (below), ask "Which boy are you?"

Each figure is described on the basis of a certain quality or attitude or characteristic on a scale ranging from "loves to" or "always" to "hates to" or "never." To avoid the development of a "set" the descriptions will be read alternately from left to right and from right to left. Also, figures with positive and negative self esteem each appear equally often on the left and on the right for the non-practice questions (3 through 10).

Instructions:

1. This boy (pointing to figure A[1]) loves to eat candy.
   This boy (pointing to figure B) likes to eat candy.
   This boy (pointing to figure C) sometimes likes to eat candy.
   This boy (pointing to figure D) usually doesn't like to eat candy.
   This boy (pointing to figure E) never likes to eat candy.

Which boy are you? (S points, E circles figure he pointed to and verifies the accuracy of the response: make sure the figure circled is the one the child intended, had the qualities he intended[2]).

---

[1]"A" is always in the first position (left side), "B" is always in the second position,...."E" is always in the last position (right side).

[2]After the S has made his response, verify the accuracy of the response (whether the figure has the qualities the S intended) by questioning ("What kind of boy is that?" pointing to the figure the S selected) or by reflecting the quality in a questioning manner ("You don't like candy?" for example).

2. This boy (pointing to figure E) loves to play.
   This boy (pointing to figure D) likes to play.
   This boy (pointing to figure C) sometimes likes to play.
   This boy (pointing to figure B) usually doesn't like to play.
   This boy (pointing to figure A) never likes to play.
Which boy are you? (S points, E circles and questions as above).

3. This boy (pointing to figure A) never shows people what he's made.
   This boy (pointing to figure B) usually doesn't show people what he's made.
   This boy (pointing to figure C) sometimes shows people what he's made.
   This boy (pointing to figure D) often shows people what he's made.
   This boy (pointing to figure E) always shows people what he's made.
Which boy are you? (S points. E circles and questions as above).

4. This boy has (pointing to figure E) many friends.
   This boy has (pointing to figure D) a few friends.
   This boy has (pointing to figure C) some friends.
   This boy has (pointing to figure B) one friend.
   This boy has (pointing to figure A) no friends.
Which boy are you? (S points, E circles and questions as above).

5. This boy (pointing to figure A) is never yelled at.
   This boy (pointing to figure B) once in a while is yelled at.
   This boy (pointing to figure C) sometimes is yelled at.
   This boy (pointing to figure D) often is yelled at.
   This boy (pointing to figure E) always is yelled at.
Which boy are you? (S points, E circles and questions as above).

6. This boy (pointing to figure E) always makes mistakes.
   This boy (pointing to figure D) often makes mistakes.
   This boy (pointing to figure C) sometimes makes mistakes.
   This boy (pointing to figure B) usually doesn't make mistakes.
   This boy (pointing to figure A) never makes mistakes.
Which boy are you? (S points, E circles and questions as above).

7. The other boys (pointing to figure A) never play with this boy.
   The other boys (pointing to figure B) usually don't play with this boy.
   The other boys (pointing to figure C) sometimes play with this boy.
   The other boys (pointing to figure D) often play with this boy.
   The other boys (pointing to figure E) always play with this boy.
Which boy are you? (S points, E circles and questions as above).

8. This boy (pointing to figure E) never needs help doing things.
   This boy (pointing to figure D) usually doesn't need help doing things.
   This boy (pointing to figure C) sometimes needs help doing things.
   This boy (pointing to figure B) often needs help doing things.
   This boy (pointing to figure A) always needs help doing things.
Which boy are you? (S points, E circles and questions as above).

9. This boy (pointing to figure A) always wants to play with the other boys.
   This boy (pointing to figure B) often wants to play with the other boys.
   This boy (pointing to figure C) sometimes wants to play with the other boys.
   This boy (pointing to figure D) usually doesn't want to play with the other boys.
   This boy (pointing to figure E) never wants to play with the other boys.
Which boy are you? (S points, E circles and questions as above).

10. This boy (pointing to figure E) always wishes he was somebody else.
    This boy (pointing to figure D) often wishes he was somebody else.
    This boy (pointing to figure C) sometimes wishes he was somebody else.
    This boy (pointing to figure B) usually doesn't wish he was somebody else.
    This boy (pointing to figure A) never wishes he was somebody else.
Which boy are you? (S points, E circles and questions as above). If you had one wish and you could be somebody else,

who would you want to be? (Note response on blank sheet of paper.) Why? (Note response).[3]

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[3]This question was included to provide the examiner with information concerning the child's understanding of "be somebody else," as well as for useful diagnostic purposes.

APPENDIX D

Behavior Observ Intercorrel

	1	2	3	4	5	6	7
1	1.0000						
2	0.5457	1.0000					
3	0.1971	0.1842	1.0000				
4	0.0611	0.2259	0.1812	1.0000			
5	0.1351	0.0566	-0.3087	0.0214	1.0000		
6	-0.3666	-0.1070	-0.1359	-0.1667	-0.1286	1.0000	
7	-0.0115	-0.1289	-0.1637	-0.0786	0.4343	-0.0786	1.0000
8	0.2444	0.1064	0.2834	0.0292	-0.0564	0.0292	0.0138
9	-0.3663	-0.3829	0.1429	-0.0177	-0.1572	0.2303	-0.2422
10	0.1255	-0.2875	-0.0485	-0.2675	0.1788	-0.2675	0.0504
11	0.1815	0.1402	-0.0682	0.0485	-0.2028	-0.1213	-0.0572
12	-0.3545	-0.3449	-0.2280	-0.0993	-0.3746	0.3642	-0.1561
13	0.1635	0.0454	0.1443	0.2389	-0.2457	-0.0796	0.3003
14	-0.4737	-0.4004	-0.2008	0.1654	-0.1006	0.3197	-0.2859
15	-0.0207	0.1446	-0.2947	-0.1414	0.1030	-0.1414	-0.0667
16	0.5192	0.3721	-0.2035	0.0761	0.0930	-0.1903	-0.0897
17	0.4483	0.2666	-0.2359	-0.1132	-0.1892	-0.1132	-0.0534
18	-0.0331	0.2075	-0.2021	-0.3247	0.1561	0.0706	-0.0133
19	0.3219	0.1277	-0.3519	-0.3265	0.3257	-0.1689	-0.0796
20	-0.0390	-0.0645	-0.2841	-0.2657	0.3212	-0.2657	-0.1253
21	0.2159	0.3796	0.0513	-0.1132	0.2184	0.2831	-0.0534
22	-0.0207	0.2388	0.0641	0.1886	0.2727	-0.1414	-0.0667
23	0.3913	0.3807	-0.1170	-0.0430	0.3541	-0.0430	0.4057
24	-0.0207	0.0504	0.3032	-0.1414	-0.0667	-0.1414	-0.0667
25	0.2847	0.2960	-0.3001	-0.1903	0.5041	-0.1903	0.4128
26	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DIX D

ation Categories
ation Matrix

	8	9	10	11	12	13	14
1							
2							
3							
4							
5							
6							
7							
8	1.0000						
9	0.1771	1.0000					
10	0.0688	0.1706	1.0000				
11	0.0213	-0.3018	-0.2856	1.0000			
12	0.5111	0.2112	-0.0354	-0.1736	1.0000		
13	0.3352	-0.3047	-0.1022	0.1391	-0.2531	1.0000	
14	-0.2185	0.4934	-0.2714	-0.0369	0.5739	-0.5057	1.0000
15	-0.4383	-0.2956	-0.1917	0.4736	-0.0187	-0.0901	-0.0780
16	0.0334	-0.1335	0.2363	0.3270	-0.1664	0.0000	-0.2695
17	0.0199	-0.1805	-0.0969	0.6100	-0.0675	0.1082	-0.0974
18	-0.1337	0.0810	-0.0665	0.0370	0.0224	-0.4587	0.0542
19	0.0296	-0.0180	0.3783	-0.0311	-0.1163	-0.3442	-0.1139
20	-0.2144	-0.1073	0.0114	0.1316	-0.3062	-0.2031	-0.0316
21	0.2979	-0.1805	-0.0969	-0.0824	-0.2250	-0.0000	-0.0974
22	0.0248	0.1253	-0.1917	-0.1030	-0.2810	-0.0901	0.0094
23	-0.1510	-0.3568	0.1566	-0.0752	-0.0855	0.0822	-0.4156
24	-0.2067	0.1253	-0.0504	0.0892	0.1124	-0.1802	-0.1653
25	-0.1536	-0.4735	0.2363	0.3270	-0.2723	-0.1455	-0.3400
26	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	15	16	17	18	19	20
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15	1.0000					
16	0.1400	1.0000				
17	0.3523	0.5948	1.0000			
18	0.1997	0.0581	0.1151	1.0000		
19	0.1242	0.4552	0.2065	0.5856	1.0000	
20	0.4059	0.0364	0.3250	0.2071	0.2836	1.0000
21	-0.0961	-0.1293	-0.0769	0.1151	0.2065	0.0722
22	-0.1200	0.1400	-0.0961	-0.1358	-0.1433	0.1954
23	-0.1217	0.2949	-0.0292	-0.1094	0.0581	-0.2607
24	0.2533	-0.1615	-0.0961	0.1997	-0.0541	-0.0150
25	0.4415	0.2696	0.2328	0.3290	0.3832	0.2064
26	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	21	22	23	24	25	26
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21	1.0000					
22	-0.0961	1.0000				
23	-0.0292	0.2191	1.0000			
24	-0.0961	-0.1200	0.0487	1.0000		
25	0.2328	-0.1615	0.4325	0.1400	1.0000	
26	0.0000	0.0000	0.0000	0.0000	0.0000	

APPENDIX E

APPENDIX E

The eight factor solution of a factor analysis of the 26 items of the behavior rating scale. The items most heavily loaded on each of the factors and their respective loadings are presented. Item numbers are in parentheses.

Factor 1: Independence

(8)	Initiates new tasks when appropriate	.7174
(21)	Prosocial aggression	.4045
(13)	Maintains task attention	.3766
(1)	Approaches peers	.3133
(3)	Active peer group participation	.3129
---		
(12)	Complies with orders	-.6898
(14)	Attends to teacher or ongoing activity	-.4487
(15)	Disobeys teacher's order	-.2278

Factor 2: Attentiveness

(13)	Maintains attention to task	.6067
(4)	Rejects others	.4594
(3)	Active peer group participation	.3211
---		
(19)	Motoric restlessness	-.7411
(18)	Easily distracted	-.7079
(25)	Hostile physical	-.4280
(20)	Inappropriate going off on own activity	-.4056
(5)	Is rejected	-.3916
(21)	Prosocial aggression	-.2702
(10)	Seeks help, praise or attention from teacher	-.2538
(15)	Disobeys teacher	-.2295

Factor 3: Self Sufficiency

(9)	Contributes in class	.3547
(10)	Seeks help, praise, attention from teacher	.2847
(23)	Prosocial aggression	.2278
(6)	No interaction	.2116

(3)	Active peer group participation	.2101
---		
(11)	Copies work of peers	-.7393
(15)	Disobeys teacher	-.6734
(17)	Delays obeying	-.6477
(20)	Inappropriate going off on own activity	-.4579
(25)	Hostile physical	-.2735
(16)	Disruptive	-.2267

Factor 4: Class Involvement

(9)	Contributes in class	.5916
(14)	Attends to teacher	.5257
(12)	Complies with orders	.2492
(3)	Active peer group participation	.2120
---		
(7)	Non participation in group activity	-.6599
(25)	Hostile physical	-.6306
(23)	Appropriate aggression	-.6108
(5)	Is rejected	-.5129
(13)	Maintains attention to task	-.2530
(1)	Approaches peers	-.2081

Factor 5: Attention Seeking

(10)	Seeks help, praise, attention from teacher	.5858
(16)	Disruptive	.2100
---		
(6)	No interaction in free play	-.4595
(2)	Accepts or continues interaction	-.4523
(21)	Prosocial aggression	-.4766

Factor 6: Assertive

(22)	Stands up for his rights	.6207
(5)	Is rejected	.4625
(4)	Rejects approach of others	.3338
(20)	Inappropriate going off on own activity	.3267
(2)	Accepts the approach of peers	.2325
---		
(12)	Complies with orders	-.3967
(6)	No free play interaction	-.2902

Factor 7: Activity

(16)	Disruptive	.7457
(1)	Approaches peers	.7028
(2)	Accepts the approach of peers	.5887
(17)	Delays obeying	.4610
(23)	Appropriate aggression	.4070
(19)	Motoric restlessness	.3291

(11)	Copies work of peers	.2024
---		
(14)	Attends to teacher	-.3113
(9)	Contributes	-.1918
(6)	No interaction	-.1886
(20)	Inappropriate going off on own activity	-.1832

Factor 8: Non Group Participation

(14)	Attends to teacher or ongoing activity	.3058
(6)	No interaction in free play	.2539
(16)	Disruptive	.2257
(17)	Delays obeying	.2121
---		
(24)	Hostile verbal	-.6140
(3)	Active peer group participation	-.5029
(2)	Accepts or continues interaction	-.2412

APPENDIX E

Table E-1.--Eight factor solution of the factor analysis calculated on the behavior observation categories.

1	2	3	4	5	6	7	8
0.3133	-0.0263	-0.0910	-0.2081	0.0291	0.0239	0.7028	-0.1042
0.1798	-0.0393	-0.1130	-0.1731	-0.4523	0.2325	0.5887	-0.2412
0.3129	0.3211	0.2101	0.2170	-0.0396	0.0256	0.0632	-0.5029
-0.0300	0.4594	0.0340	0.0870	-0.1361	0.3338	0.1318	0.0276
0.0492	-0.3916	0.1216	-0.5129	0.0462	0.4625	-0.0523	0.1736
-0.1386	-0.0259	0.2116	0.1391	-0.4595	-0.2902	-0.1886	0.2539
0.0342	0.0803	0.0815	-0.6599	0.0957	-0.0601	-0.1456	0.1366
0.7174	0.1281	0.1878	0.1411	-0.0385	-0.0782	0.1231	0.1407
-0.0671	-0.1011	0.3547	0.5916	0.1691	0.0134	-0.1918	0.0472
0.0891	-0.2538	0.2847	-0.1253	0.5858	-0.1503	0.1246	0.0469
0.0192	0.1007	-0.7393	0.0024	-0.0864	-0.1113	0.2024	-0.0053
-0.6898	0.0234	0.1577	0.2492	-0.0722	-0.3967	-0.1252	0.0687
0.3766	0.6067	-0.1239	-0.2530	0.0384	-0.1951	0.0421	0.0699
-0.4487	-0.0715	0.0763	0.5257	-0.1938	0.0669	-0.3113	0.3058
-0.2278	-0.2295	-0.6734	-0.1551	-0.0254	0.0351	-0.0512	-0.1634
-0.0275	-0.1164	-0.2267	-0.0393	0.2100	0.0778	0.7457	0.2257
0.0314	-0.0689	-0.6477	0.0774	0.0484	-0.1456	0.4610	0.2121
-0.0696	-0.7097	-0.0944	0.0430	-0.1380	-0.0744	0.0373	-0.1278
0.1010	-0.7411	-0.0211	-0.0449	0.1719	-0.0481	0.3291	0.1443
0.1022	-0.4056	-0.4579	0.0050	0.1694	0.3257	-0.1832	0.0713
0.4045	-0.2702	0.1062	-0.1204	-0.4766	-0.0432	0.0262	0.0454
0.0062	0.1102	0.0886	0.0398	-0.0234	0.6207	0.0856	0.0473
-0.1581	0.0541	0.2278	-0.6108	-0.0061	0.0893	0.4070	-0.0320
-0.1454	-0.1191	-0.0605	-0.0018	0.0361	-0.0806	-0.-576	-0.6140
-0.0054	-0.4280	-0.2735	-0.6306	-0.0051	-0.0118	0.1885	-0.0529
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000