CLASSROOM SOCIAL STATUS OF CHILDREN WITH CLEFT PALATES

by

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Recent reports on the social status of handicapped children placed in regular classrooms appear to be motivated, in part, by concern with the effects of this type of integration on the children and by the need to plan programs that will deal with their social problems. Children with speech deviations have been enrolled in regular classrooms for many years, but there are few reports on how they survive in that social milieu and few programs designed to deal with their social problems. Text books allude to the effects of speech deviations on social interactions but offer little evidence to support their statements. One might conclude that the effects are obvious and there is little to be gained from attempts to document them; or there are no demonstrable effects.

One study of hearing impaired (Kennedy and Bruininks, 1974) and one of mildly retarded children (Bruininks, Rynders and Gross, 1974) suggest that the social impact of these problems in the integrated classroom is not as severe as one might expect. Furthermore, a careful look at existing studies of school social problems associated with speech deviations provides inconsistent support to the assertion that problems exist. Perrin (1954), Freeman and Sonnega (1956), Marge (1966) and Blood and Hyman (1977) offer data suggesting that speech deviations have a negative effect on classroom social status, but Kennedy (1965) and Muma (1968) report studies that do not support this conclusion.

The study reported here was motivated by concern for children being served by the University of Minnesota Cleft Palate Clinic. Clinic records do not show that these children have extensive problems in their classrooms. However, procedures for obtaining this type of information may not be sensitive enough to identify the problems. Therefore, a study was designed to answer the following questions:

Question 1. Are children with cleft lips and palates accepted by their classmates in the same manner as children without these conditions?

Question 2. Is acceptance related to the presence of speech and cosmetic deviations?

Question 3. Is acceptance related to the severity of the deviations?

METHODS AND PROCEDURES

Selection of Subjects

Experimental: Three groups of subjects were used in this study.

Group I contained subjects with cleft lips and palates. They represented subjects with cosmetic and speech deviations.

Group II contained subjects with cleft palates only. They represented subjects with speech deviations only.

Group III contained subjects with cleft lips only. They represented subjects with cosmetic deviations only.

All experimental subjects were enrolled in public schools in grades one through five. It was assumed that subjects within these grades would most likely have been exposed to basic surgical, dental and speech therapy procedures, and secondary, often optional, procedures are being considered. All data were gathered at the end of the school year. It was assumed that at this time in the school year, subjects would have been together for a sufficient period of time to establish interpersonal relationships and that their responses to other children would encompass more than first impressions.

All experimental subjects were selected from patients enrolled in the Cleft Palate Maxillofacial Clinic at the University of Minnesota School of Dentistry. The following guidelines were used to select subjects:

1. Subjects must have surgically repaired clefts of the lip and palate, palate only, or lip only. This information was obtained from clinic files.
2. Subjects must not have congenital or acquired characteristics that cause cosmetic deviations, other than lip or palate clefting. This information was obtained from clinic files and interpreted by the investigators.
3. Subjects must have speech deviations but only those frequently associated with palatal clefting. They may have resonance and articulation deviations, but not rhythm or language deviations. This information was obtained from clinic files and from the investigator's judgments, made while evaluating subjects in the schools.
4. Subjects must be present in a regular classroom for more than half of the school day. This guideline was established to increase the probability that subjects would know each other well and that they would have no special problems other than clefting.
5. No effort will be made to control for subjects' therapy history, educational history, or for sociological or psychological variables.

Using these guidelines, the investigators selected 13 subjects for Group I, six subjects for Group II, and one subject for Group III. Only four subjects were found who met all selection criteria for Group III. Therefore, two subjects with submucous clefts were added to this group. Fifteen of the subjects were male and five were female. Two were in first grade, two in second, three in third, nine in fourth, and four in fifth.

Control: The control group used in the study consisted of all children present in

classrooms that contained an experimental subject, on days that data for the study were collected. Twenty different classrooms were involved. Their enrollments ranged from 24 to 66.

Design and Administration of a Sociometric Test

A sociometric test of the type devised by Moreno (1956) was selected for use in this study. This type of test provides a means of assessing attractions and repulsions within a group. It usually involves having each member of a group privately specify persons with whom he or she would like to engage in particular activities or those with whom they would not like to engage in activities. The frequency with which a given child is chosen or rejected is used as a measure of social status. This type of test was chosen because of existing evidence on its validity and reliability (Lindzey & Byrne, 1968) (Moulton, Blake & Fruchter, 1955), and because of its ease to use and apparent acceptability by teachers in public schools.

In constructing the test to be used in this study, the investigators relied heavily on the advice provided by Moreno (1953) and Gronlund (1959) and on available research studies that have used sociometric tests. According to Moreno, construction of a sociometric test involves selecting appropriate criteria, determining the number to be used, deciding on the number of children each subject will be allowed to select for each criterion, and developing directions that will assure valid responses. He suggests that criteria reflect actual situations or activities in which group members participate, and that group members have reasonable expectations that teachers will use the data obtained for classroom activities. He argues that children will be motivated to give spontaneous and valid choices if criteria are meaningful and consequences acceptable. He recommends that several criteria be used in situations where investigators are interested in overall social structure of a group or social acceptability of individual group members within the group, and he suggests that criteria be general enough to minimize the influence of situational factors and skills associated with specific activities. Gronlund stresses the avoidance of negative criteria that may make individuals more conscious of their feelings of rejection.

Based upon Moreno's advice, four criteria, *sit, work, play,* and *talk* were selected for use in this study. In the investigators' judgment, these criteria reflect actual situations in which students find themselves, and attitudes and feelings that teachers conider when structuring small groups. Criteria were considered to be general enough to minimize situational factors and sufficient in number to serve the purposes of the study. A review of available literature indicated that sit, work and play are the most commonly used criteria. Talk was included because it appeared relevant to a study of the social status of children with speech deviations. Based on Gronlund's recommendation, negative criteria were not used.

Gronlund (1959) recommends that each child be allowed a fixed number of choices for each criterion in a sociometric test. He argues that use of a fixed number has statistical and practical advantages, and also suggests that five choices enable teachers to organize groups so that all children have some choices satisfied. Available research reports indicate that early elementary school children can perform a task in which they are required to make three choices for each criterion (Bonney, 1955), that third grade children can make at least five choices (Smith, 1957), and that five choices provide the most stable sociometric data (Gronlund, 1955; Gronlund and Barnes, 1956; Newstetter, Feldstein and New-

comb, 1938). Based upon these suggestions and data, each child was allowed five choices per criterion in this study.

Gronlund (1959) states that the validity of a sociometric test is dependent upon the manner in which it is administered. He (1959) and Moreno (1934) offer four suggestions for administration.

(1) They suggest that a standard form be used for all administrations, that the form contain clear statements of choices, and that it provide clear spaces for children to record responses.

(2) They suggest that the test be administered by the classroom teacher. They argue that he or she has working relations with the children that will allow incorporation of test procedures into a daily schedule. Within their teacher's presence, it is assumed that children will consider the procedure to be meaningful and to respond appropriately.

(3) They stress the need to assure children of the confidentiality of their choices, so they will not be reluctant to choose freely.

(4) They urge that instructions to children be thorough and carefully given and that the administrator be certain they are understood, before data are collected.

Based upon these suggestions, the investigators designed a form that appeared to be simple and clear (Appendix A). Written directions, patterned after those that had been used successfully in other studies, were developed and given to the teachers, along with verbal instructions (Appendix A). Classroom teachers administered all tests.

Procedures for Rating Speech and Cosmetic Appearance

Speech and cosmetic rating procedures developed and used by the staff of the University of Minnesota Cleft Palate Clinic were used to evaluate children in the study. All of the Clinic ratings were obtained for each experimental child, but only the ratings of Overall Communications Skill and of Overall Appearance were used. Overall Communications Skill is rated on a ten-point scale with one labeled excellent, three labeled normal and 10 labeled severe. Overall Appearance is a ten-point scale with one labeled attractive, three average and 10 unattractive.

Ratings were made by one of the investigators and the speech clinician who served each of the classrooms that contained children in the experimental group. Prior to making ratings, the investigator provided the school's clinician with the rating form and with directions for its use. After the clinician read the directions, the procedure was discussed and when the investigator was assured that the clinician understood the process, the experimental child was brought to the room and asked to count to 10 and to read a standard paragraph. Speech and appearance ratings were made at the time of this contact with the child.

RESULTS AND DISCUSSION

In order to respond to the first two questions posed, a procedure was devised to compute a sociometric score for each subject and to determine if this score placed the subject above or below the median score for his / her classroom.

First, raw scores were computed for each criteria by adding all the choices a subject received from classmates for that criteria. A composite raw score was computed by adding all choices a subject received for all criteria. Next, students in each classroom were ranked according to the size of their raw scores. Separate rankings were made for each criteria and for the composite scores. Finally, a ratio score was computed for each of the experimental subjects by determining the subject's rank within their classroom and dividing that rank by the total number of children in the classroom. This ratio score was used to determine each subject's position in relation to the median rank for a classroom. If the ratio score was .50 or higher, the subject was arbitrarily classified as being above the median and if it was .49 or lower, subjects were classified as falling below the median. In those instances in which an experimental subject received the same raw score as others in the classroom, the number of subjects receiving that score was added to the number of subjects receiving lower scores, and the total was divided by the number of children in the classroom. If the resulting ratio was .50 or higher, the experimental subject was classified as being above the median. If the ratio was .49 or lower the subject was classified as falling below the median.

RESPONSE TO QUESTION 1, "Are children with cleft lips and palates accepted by their classmates in the same manner as children without these conditions?"

In response to this question, it was hypothesized that if children with cleft lips and palates are accepted in the same manner as other children, their sociometric scores will be equally distributed above and below the median scores for the classes in which they are enrolled. A two-tailed binomial expansion formula (Conover, 1971) was used to test this hypothesis. The formula predicted that if six or fewer experimental subjects fell above or below the median the hypothesis could be rejected at the $>.05$ level of confidence.

Information on the number of experimental subjects who fell above and below the median for each criteria and for the composite score are presented in Table 1.

TABLE 1

Number of experimental subjects with sociometric test scores at or above the median score for their classroom and those with scores below the median.

	SOCIOMETRIC CRITERIA									
	Sit-Next-To		Work-With		Play-With		Talk-To		Composite*	
	Above	Below	Above	Below	Above	Below	Above	Below	Above	Below
Group I Cleft Lips & Palate Ss N = 13	8	5	6	7	8	5	6	7	7	6
Group II Cleft Palate Ss N = 6	2	4	3	3	3	3	2	4	3	3
Group III Cleft Lip Ss N = 1		1		1		1		1		1
All Experimental Ss N = 20	10	10	9	11	11	9	8	12	10	10

*Composite: Sum of all criteria.

Data in this Table (bottom line), indicate that the no-difference hypothesis cannot be rejected for any of the criteria or for the composite score. These findings can be interpreted as indicating the answer to Question 1 is "yes," children with cleft lips and palates are accepted by their classmates in the same manner as children without these conditions.

It is possible that experimental subjects might be distributed equally above and below the median, but that they fall low in the distributions above and below the median. In order to test this possibility, Bronfenbrenner's (1975) fixed frame of reference for classifying subjects as Stars, Neglectees and Isolates was used. This form of analysis has been used extensively in sociometric studies.

Bronfenbrenner defined a Star as any individual who receives more choices on a sociometric test than can be expected by chance alone. Isolates are those who receive no choices and Neglectees are those who receives fewer choices than can be expected from chance alone.

Applying Bronfenbrenner's procedures in studies allowing five choices, it was determined that subjects receiving nine or more choices would be Stars, those receiving one choice, Neglectees, and those receiving no choices, Isolates. Table 2 provides information on the percent of experimental and control subjects in each of these categories.

TABLE 2

Percent of control and experimental subjects falling in Bronfenbrenner's (1944) Categories.

	%		%		
	Control Subjects/Experimental Subjects Sociometric Criteria				
	Sit	Work	Play	Talk	TOTAL
Stars	12/5	12/5	11/0	11/0	11/3
Neglectees	9/5	8/10	7/0	9/0	8/4
Isolates	6/5	6/0	4/0	3/0	5/1

Inspection of Table 2 reveals that the percent of experimental subjects is lower than the percent of control subjects in 14 of the 15 comparisons made. Also, it can be seen that on three of the five criteria, no experimental subjects were Stars, on two of the five criteria, no experimental subjects were Neglectees, and on four of the five criteria, no experimental subjects were Isolates. These observations suggest that few of the children with cleft lips and palates have extremely high or low social status in their groups. This may be interpreted as indicating that these children are treated differently by their peers, in that they are seldom accorded high or low social status.

RESPONSE TO QUESTION 2, "Is acceptance related to the presence of speech and cosmetic deviations?"

In order to respond to this question, the previously described procedure for determining experimental subjects' positions in relation to the median was used.

Experimental subjects were categorized into Groups I, II and III. Group I, 13 subjects, had clefts of the lip and palate and were classified as having speech and cosmetic deviations. Group II, six subjects, had clefts of the palate and were classified as having speech deviations. Group III, one subject, had a cleft lip and was classified as having a cosmetic deviation.

Information on the distribution of subjects above and below the median for these groups is presented in Table 1. Because of the uneven distribution of subjects in each group, these data were not statistically analyzed.

Inspection of Table 1 does not suggest that any Group had uniquely low social status or that any Group was particularly low in relation to any other group. These findings may be interpreted as suggesting that this study failed to find evidence to support the hypothesis that childrens' social status is related to the pre-

TABLE 3

Data on the Sociometric Test Rankings of Experimental Subjects, Based on the Composite Score, and the Subjects Communication, Appearance and Communication-Appearance Scores.

Sociometric Ranks-Experimental Subjects	Communication Score	Appearance Score	Communication-Appearance Score
92	1.0	2.0	1.5
88	1.0	1.0	1.0
77	1.0	1.0	1.0
74	2.0	1.0	1.5
68	1.0	1.0	1.0
67	3.5	2.0	2.75
60	1.0	2.5	1.75
58	1.0	1.0	1.0
53	1.0	1.0	1.0
50	2.5	1.0	1.75
Median			
39	1.0	1.0	1.0
38	1.5	3.0	2.25
34	1.5	1.5	1.5
33	1.0	1.0	1.0
31	1.5	2.0	1.75
28	1.0	1.0	1.0
22	1.0	1.0	1.0
18	2.0	2.0	2.0
18	1.5	2.0	1.75
13	2.5	1.0	1.75

sence of a speech deviation, a cosmetic deviation or a speech and cosmetic deviation.

RESPONSE TO QUESTION 3, "Is acceptance related to the severity of the deviations?"

In order to respond to this question, the investigator's and speech clinicians' ratings of speech and cosmetic appearance were used. A Communication Score was derived by determining the average of the two ratings on the Overall Communication Skills scale. An Appearance Score was obtained by averaging the ratings on the Overall Appearance scale. A Communication-Appearance-Score was computed by averaging each subject's Communication Score and Appearance Score.

Subjects in the experimental group were ranked on the basis of their sociometric ratio scores within the group. Their Communication, Appearance, and Communication-Appearance Scores were analyzed in relation to these rankings. This information is presented in Table 3. Because of the small range of Communication and Appearance Scores, the data were not statistically analyzed.

Visual inspection of Table 3 shows that only three subjects with composite social position scores (i.e. sociometric rank) above the median had speech deviations (i.e. Communication Scores greater than one), while six subjects with composite social position scores below the median had speech deviations. This could be interpreted as suggesting a tendency for speech deviations to be related to social status. However, the fact that three of the five subjects with severe deviations (Communication Scores of two or more) have composite social position scores above the median introduces controversy to the trend.

Visual inspection reveals that seven of the 12 subjects with normal appearance (i.e. Score of one or less), had composite social position scores above the median and that three of the seven subjects with the most severe appearance deviations (i.e. Scores of two or more) had composite social position scores above the median. These data could not be interpreted as indicating a trend.

Inspection of the Communication-Appearance Scores indicates that five of the nine subjects with no deviations (i.e. Scores of one), had composite social position scores above the median, and that three of the eight subjects with severe deviations (i.e. Scores of 1.75 or more) had composite scores above the median. The trend for Communication and Appearance factros to be related to social status is weak, if it exists at all.

Based on the data obtained, it would appear that the answer to question three is that there is consistent, though somewhat weak, evidence of a trend for the severity of Communication and Appearance deviations to be related to social status.

Discussion

Within the limitations of this study, it appears that children with cleft lips and palates, who have been in a single classroom for a long period of time, do not have inappropriately low social status. Furthermore, those children with speech deviations only, do not appear to have different social status than children with speech and cosmetic deviations. Finally, the degree of severity of the speech or appearance deviation does not appear to affect social status.

Failure to find anticipated differences suggests that speech and cosmetic deviations are not primary factors in determining social status, or that these children have acquired skills that allow them to compensate for the possible negative effects of their speech and appearance. In relation to the latter interpretation it is interesting to note that while these children do not appear to have unusually low social status, few have unusually high status. This suggests that their deviations may not be primary factors in the mid and lower social status ranges, but that they may limit their ascendancy to high status or, possibly, that they can only compensate up to a point.

An equally reasonable interpretation of the study's failure to find anticipated differences can be attributed to the methodology employed. The number of subjects used may have been too small to allow for the demonstration of differences. Subjects were not randomly selected to represent the total population, but rather they constituted the total of subjects available at a Cleft Palate Clinic. It is possible that by virtue of being enrolled in the Clinic, they have received optimal clinical management. If this is the case, the study may have missed children who would be most likely to reflect social problems. Similarly, the study population came from an urban setting with sophisticated programs for managing handicapped persons. A comparable study in another setting may have produced the anticipated differences.

Another problem may have been the tool used to measure social status. Although sociometry has been used extensively, it may not be a sufficiently sensitive tool for measuring fine degrees of social status. Also, it is possible that the criteria selected for use were not the ones most likely to reveal social status differences for children with the types of deviation under study.

Finally, it is possible that a larger sample would have made it possible to employ different types of analysis, and thereby discover differences not revealed in the present study.

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APPENDIX A

NAME: . . . . . .

AGE: . . . . . .

I WOULD LIKE TO SIT NEAR:

1. . . . . .
2. . . . . .
3. . . . . .
4. . . . . .
5. . . . . .

I WOULD LIKE TO WORK WITH:

1. . . . . .
2. . . . . .
3. . . . . .
4. . . . . .
5. . . . . .

I WOULD LIKE TO PLAY WITH:

1. . . . . .
2. . . . . .
3. . . . . .
4. . . . . .
5. . . . . .

I WOULD LIKE TO TALK WITH:

1. . . . . .
2. . . . . .
3. . . . . .
4. . . . . .
5. . . . . .

APPENDIX B

DIRECTIONS TO THE CLASSROOM TEACHER FOR ADMINISTRATION OF THE SOCIOMETRIC PROCEDURE:

1. Most of us like to do things together in small groups.
2. Today, I'd like to find out whom you would like to be with in a group.
3. In front of you is a sheet of paper with four statements on it:
   1.) I would like to sit near:
   2.) I would like to work with:
   3.) I would like to play with:
   4.) I would like to talk with:

4. Below each statements are five numbered lines.
5. On the board, I've written the names of everyone in our class.
6. You're going to write the names of the five children (students) in our class who you would like to sit near, the five you would like to work with, the five you would like to play with, and the five you would like to talk with.
7. Be sure you put down five names after each statement.
8. Now – before you start, put your name and age on the top of the paper.
9. O.K., let's do the first one:

   Write down the names of five children you would like to sit near. Is everyone done?

   Now – the five you would like to work with. Is everyone done?

   Write down the names of five children you would like to play with. Is everyone done?

   Now – the five you would like to talk with.