

SOCIOMETRY IN THE CLASSROOM

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Summary

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The rapid developments in the study of small group behaviour, the findings that behaviour of a group is determined to a large extent by the patterns of communications that develop and by the nature of the structure or structures that form as a result of the interaction, the fact that most of the teaching in schools is done in classes (or groups), the fact that teachers are often heard speaking of "difficult" classes where everything seems to go wrong, and "good" classes where the general 'tone' is usually fine, and the realisation by teachers that the classroom climate has an important influence upon an individual's learning and behaviour, all point to one thing, namely, that classroom group behaviour is becoming an important study for teachers and counsellors. The day does not seem to be far off when understanding, predicting and improving classroom group behaviour will become a part of a teacher's needed professional knowledge. The teachers will be required to learn the skills necessary to develop the classes into cohesive groups that have good morale, and work co-operatively for students' social, emotional and intellectual development.

This study was undertaken to provide teachers and counsellors with a handbook¹ on the principles and procedures of Sociometry that have significant implications for educational practice. It was based on empirical studies and programmes planned for and carried out in actual classroom situations, in view of the fact that so far little work had been done in sociometric research in India in general and in the classroom in particular.

¹ Sharma A. Handbook on Sociometry for Teachers and Counsellors. National Council of Educational Research & Training, New Delhi (under print).

The handbook is organised into three parts following an introductory chapter which discusses the role of the classroom group in the teaching-learning process. The first part is devoted to the sociometric technique and the method of collecting sociometric data. Stepwise procedures for constructing and administering the sociometric tool, as also for recording, analysing and interpreting sociometric results are presented. Validity and reliability of sociometric data have been discussed and the typical sociometric results for students from 6th grade through 11th grade are presented to give an idea of the incidence of 'accepted' and unaccepted pupils at various grade levels. The second part is devoted to the findings of three research studies pertaining to the personal and social factors related to sociometric status. The third part deals with the application of sociometric results for the improvement of social-emotional climate of the classroom. The findings of three action programmes - sociometric seating, sharing responsibility, and study of biographies are described in different chapters. In the last chapter some possible applications of sociometry throughout the school have been discussed.

A summary of the three research studies and of the three action programmes are given here in 2 sections:

- A. Research Studies I, II, III.
- B. Action Programmes I, II, III.

Report

Section A

Study I: Some correlates of Sociometric Status

A study was undertaken to investigate the relationship of intelligence, academic achievement, personality adjustment, interest patterns, life at home, and life at school to popularity and isolation.

The Sample

Class VII students of three higher secondary schools - one boys', one girls' and one co-educational, situated in the same locality of Delhi were the subjects of this study. All the three schools had equal reputation in public regarding their educational standards, achievement, tone, discipline etc., and attracted pupils from homes of the same level of socio-economic status. There were 2 sections in the boys' school, three in

the girls school, and three in the co-educational school. In each section there were about 35 students, treated as one group for the study. Thirty two populars and twenty seven isolates were identified from the eight groups on a three criteria - three choice sociometric questionnaire using the Bronfenbrenner's Fixed Frame of Reference. ¹

Intelligence was measured through Ravan's progressive Matrices Test. ² The academic achievement was measured through the aggregate of marks obtained by the students in the final examination conducted by the schools.

The personality adjustment was determined by administering Vyaktitava Parakh Prashnavali's ³ personality adjustment inventory to study their adjustment. The inventory provides a total adjustment score as well as five separate measures of adjustment in different areas, viz, home adjustment, health adjustment, social adjustment, school adjustment, and emotional adjustment. A high score on this inventory indicates a superior adjustment while a low score shows a poor adjustment.

The interests of populars and isolates were identified by using the Chatterjee's Non Language Preference Record ⁴ in ten broad areas, namely, literary, fine arts, scientific, agricultural, technical, medical, crafts, outdoor, sports and household.

The family is a miniature society of which a singular feature is constant interaction between the members. The interactive process in the family takes place at various levels. Seven aspects of family life were studied through a checklist ⁵ to determine the interactive process and the scope and limitation of this process on popularity and isolation. The seven aspects included in the checklist and the items included under each aspect are shown in Table 1. The items were blocked together on content basis alone into sub-groups.

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- 1 U. Bronfenbrenner. The Measurement of Sociometric Status, Structure and Development. Sociometry Monograph No.6, New York, Beacon House, 1945.
 - 2 Raven J.C., Standard Progressive Matrices, Sets A, B, C, D and E. H.K. Lewis & Com., Ltd., London, 1958.
 - 3 Saxena M.S.L. Vyaktitva-Parakh-Prashnavali (MA-62, Banaras Hindu University, Varanasi-5.
 - 4 Chatterji, S. Chatterji's Non-Language Preference Record, Form 1962, Bratalaya, Station Road, Patna 1.
 - 5 S. Aatish. A study of Leadership Among Adolescent children in Delhi Schools. Unpublished Thesis.1963.

Table 1: Family Life Aspects and Number of Items Included in each Category.

S. No.	Aspects of Family Life	No. of Items
1.	Emotional Life	15
2.	Discipline & Control	10
3.	Social Weaning	10
4.	Social Status	25
5.	Intellectual & Cultural Activities	15
6.	Economic Aspect	10
7.	Religion & Conviction in God	12
Total		77

Although the school does not have the total responsibility for the social-personal development of children, it is an important institution providing some assistance. Eight aspects of school life were studied through a checklist¹ to determine the classroom atmosphere and its effect on popularity and isolation. The eight aspects included in the checklist and the number of items included under each aspect are shown in Table 2. The items were blocked together on content basis alone into subgroups.

Table 2: Eight Aspect of School Life and Number of Items under each Category

S. No.	Aspects of School Life	No. of Items
1.	Class Atmosphere	15
2.	Discipline	10
3.	Teacher-Student Relations	10
4.	Student-Student Relations	15
5.	Teacher-Teacher Relations	10
6.	Extra-Curricular Activities	10
7.	Moral Education	10
8.	Guidance & Counselling	20
Total		100

¹ S. Aatish, Ibid.

Since no scale was available to determine the socio-economic status, the parental occupation, income, education etc. were analysed.

Findings

The results of the investigation may be briefly summarised as under:

1. The populars, on the average were of higher intelligence than the isolates and scored higher in the scholastic achievement also. The difference between their mean intelligence scores as well as between their mean achievement scores was significant at 1% level.

2. The populars had a better adjustment than the isolates in the five areas - home, health, social, emotional, school, and on the whole (total personality adjustment). However, the differences in any one area or the total personality were not statistically significant.

3. The interest profiles of popular boys and girls and isolates boys and girls were almost similar. The intra-interest differences were larger in the case of populars than those of the isolates.

The three most liked interests of popular boys were scientific, mechanical and technical, while those of isolate boys were mechanical, scientific and sports. The three least liked interests of popular boys were outdoor, household and fine arts, whereas the least liked interests of isolate boys were household, agriculture and crafts.

The popular girls showed more interest in mechanical scientific and fine arts, whereas the isolate girls showed more interest in literary, mechanical and household areas. The least liked interests of popular girls were outdoor, crafts and household, while those of isolates girls were technical, crafts and outdoor.

4. The populars and isolates had almost similar home life, and the number of problems checked by them was low. The problems of family life were found to have little influence on sociometric status of a pupil ($Rho = -.05$).

In the "discipline and control" aspect of family life there was a significant difference between the scores of populars and isolates. The most grievous factors associated with the discipline and control appear to be inordinate comparisons, public confession of faults, non-acceptance of explanations of mistakes, and planning and organisation of their activities by elders.

5. The populars and isolates reported more problems in school life as compared with family life. Also the isolates had more problems than the populars in almost all aspects of school life. The school life was not conducive to the social personal development of the children ($Rho = -.48$).

The populars had a larger number of problems (median score being five) in the areas of 'extra-curricular activities' and 'guidance & counselling'. The isolates had the largest number of problems (median score being nine) in the 'guidance & counselling' aspect, but their problems in the 'class atmosphere' aspect (median score being seven) and in extra-curricular activities' aspect (median score being six) were also in no way less. It was rather unfortunate that the function of guidance had received

little attention in the school understudy (and this was true of almost all the Indian Schools), and its services were not made available to students. More than this, the schools neither know nor do they attempt to determine the needs of the students and their ability to meet these needs.

6. The median monthly income of the parents of populars was Rs. 700/- and it was 1.75 times the median monthly income of the parents of isolates (Rs. 400/-).

The fathers of populars had better education than those of the isolates. This was also true of their mothers; mothers of 23% populars were graduates while none of the isolates had mothers having education to that level.

7. The median position amongst siblings of populars was fourth and that of isolates was second.

Study II: Social Skills and Activities and Social Status

This study was undertaken to provide some understanding of the actual nature and frequency of social skills and activities possessed by adolescent students and to compare the social skills and activities of the popular, neglectee, isolated and rejectee.

The Sample

Class IX students of three Higher Secondary schools - one boys', one girls' and one public school of Delhi were the subjects of this study. Two higher secondary schools were housed in the same building, the girls' school functioning in the morning and the boys' school functioning in the evening. There were 4 sections in the boys' school, three in the girls' school, and three in the public school.

The populars, neglectees and rejectees were first identified separately on two tools - Sociometric Questionnaire and a Social Acceptance Scale. On both the tools unweighted scores on the criteria taken compositely were used for labelling the various social categories. The method of classifying the pupils into sociometric categories was based on Bronfenbrenner's Fixed Frame of Reference. Those obtaining the same status on the two sociometric tools were regarded as belonging to the categories of populars, neglectees, rejectees and isolates.

There were 37 populars (11.01%), 48 Neglectees (14.29%), 3 isolates (0.89%) and B rejectees (2.38%).

Social Skills and Activities Scale

A social skills and activities scale was constructed for the study. All the boys' higher secondary schools of Delhi were stratified into four zones and schools were selected from each zone proportionally to contribute approximately an equal number of subjects, 1889 students studying in the ninth class of the twenty one schools thus selected were asked to write down the skills and activities performed by them 'in the school', 'at home' or 'at any other place' on a plain sheet of paper supplied to them. The modal age for the group was fourteen plus.

The skills and activities were analysed, listed and the frequency distributions for each of them prepared. It showed that the adolescents were engaged in a variety of skills and activities, 50 skills and activities having the largest frequency were included in the scale, some skills and activities which were regarded as important were also included in it. The skills and activities were classified into ten broad categories.

Inter Item Correlations

To study the relationship between the different skills and activities product-moment r 's were calculated on the I.B.M. tabulator. The coefficients of correlation having a value .153 or more were statistically significant at 1% level. While this value of $r(.153)$ is itself not high, 762 correlations coefficients were not significant even.

Table 3: Size of Inter Activity Correlations.

Size of r		Frequency
Less than	.20	1260
.20	- .40	1126
.40	- .70	64
.70 and above		----

From the above table it is obvious that no correlations were high, and the number of moderate correlation coefficients was 64 only, of which 48 were of the order of 0.4, 14 were of the order of 0.5 and 2 were of the order of 0.6. Therefore, the skills and activities included in the scale could be regarded as fairly independent.

Inventoried Social Skills and Activities

Information regarding the skills and activities was obtained by asking subjects to check those activities in which they participated in the school, at home or at any other place. The medians, upper-quartiles and lower-quartiles of social skills and activities scores for Populars, Neglectees, Rejectees and Isolates were worked out. They are shown for the different groups in the table below.

Table 4: Upper Quartiles, Median & Lower Quartiles of Social Skills of Populars, Neglectees, Isolates & Rejectees.

S.No.	Group	Statistics	Populars	Neglectees	Isolates	Rejectees
1.	Boys School	N	15	21	-	3
		P75	18.25	17.25	-	18
		P50	12.00	10.50	-	15
		P25	4.75	6.75	-	8
2.	Girls School	N	14	19	2	2
		P75	19.25	17.50	-	-
		P50	12.50	9.00	-	-
		P25	6.75	3.75	-	-
3.	Public School	N	8	8	1	8
		P75	17.75	20.25	-	26.00
		P50	12.50	17.00	-	17.50
		P25	4.75	13.25	-	13.00

It is seen from the above table that for the boys the median social skills scores for the populars was more than that of the neglectees but it was less than those of the rejectees.

For the girls also the median social skills score was higher than that of the neglectees but it was less than that of the rejectees.

For the public school, the results were opposite to those of the boys' and girls' schools. The median social skills score for the populars was less than those of the neglectees and rejectees; the latter had the highest median score.

Listed Social Skills and Activities

Check lists and inventories are useful in determining the skills and activities of secondary school students but the results can be faked in order to give a more socially desirable picture of their skills and activities and it is rather difficult to determine the accuracy of the skills and activities checked by them. Therefore, it is recognised that data from inventories should also be supplemented.

With a view to supplement the data obtained from the social skills scale the students were asked, about a month before administering the social skills scale, to list the skills and activities performed by them in the school, at home or any other place, on a blank sheet of paper.

Number of Skills

The analysis of the expressed skills indicated that only few new items were reported by the students in addition to those included in the

social skills' and activities scale. These items were: Pen Friend, Arranging Exhibition, Debates, Handicraft, Carpentry, Hide and Seek, Tennis, Base Ball, Sports, (Javelin Throw, Shot Put, High Jump, Long Jump, Discuss Throw, Throw Ball), Skating, Shooting, Riding, Leather Work, Clay Modelling and Science Club. However the frequencies of these new additions were very small.

The medians, upper-quartiles and lower-quartiles of listed social skills and activities for Populars, Neglectees, Rejectees and Isolates are shown for the different groups in Table 5.

Table 5: Upper-Quartiles, Median & Lower-Quartiles of listed Social Skills of Populars, Neglectees, Isolates and Rejectees.

S.No.	Group	Statistics	Populars	Neglectees	Isolates	Rejectees
1.	Boys School	N	15	21	-	3
		P75	5	5	-	10
		P50	3	3	-	2
		P25	2	1.50	-	0
2.	Girls School	N	14	19	2	2
		P75	4	4	-	-
		P50	3	3	-	-
		P25	0	1	-	-
3.	Public School	N	8	8	1	8
		P75	7.50	9.75	-	10.50
		P50	4	4.50	-	6
		P25	3	3.25	-	5

Thus, for the boys and the girls schools the median scores for the populars and the neglectees were the same. It was only 3 for all the four groups. Further it was seen that these medians for listed activities were lower than the checked skills and activities. The popular boys and girls were seen to have higher median scores than the neglectees. Thus it appeared that while both the populars and neglectees had tried to fake the results the populars tried to paint a more desirable picture of themselves.

For public school, the median social skills score for the populars was less than those of the neglectees and rejectees. The latter had the highest median scores. Although the medians of listed skills and activities were less than the medians of the checked skills and activities the nature of the results was the same for both; that is, the rejectees possessed more skills and activities than the neglectees, who in turn possessed more than the populars.

The results of the investigation may be briefly summarised as under:

1. 50 skills and activities which were almost independent and were performed by a larger number of students reading in class IX constituted the social skills scale.

2. The median inventoried skills and activities of popular, neglectee and rejectee students of Boys, Girls and Public school were:

School	Popular	Neglectee	Rejectee
Boys	12	11	15
Girls	13	9	22
Public	13	17	18

3. Thus for the higher secondary schools the populars possessed more skills and activities than the neglectees but less than those of the rejectees. However, for the public school, rejectees performed the largest number of skills and activities, and even the neglectees possessed more skills and activities than the populars. In other words, the hypothesis that possession of social skills and activities is an important factor in being accepted socially by one's group has little evidence in its favour.

4. The percentage of inventoried common skills and activities of the popular and neglectees and popular and rejectees are tabulated below.

School	Populars & Neglectees	Populars & Rejectees
Boys	37.47%	3.97%
Girls	43.60%	38.45%
Public	48.39%	56.04%

5. There were no significant differences in the percentage of different categories of boys and girls performing various skills and activities, but in the case of the public school the proportion of neglectees (100%) engaged in reading magazines/novels/stories was significantly higher than the proportion of populars (37.5%) engaged in it; and the proportion of rejectees (87.5%) engaged in learning music was also significantly higher than the proportion of populars (0%) engaged in learning music.

6. Due to social desirability phenomenon all categories of students checked more skills and activities than what they listed.

7. The percentage of listed common skills and activities of the populars and neglectees, and populars and rejectees were:

School	Populars & Neglectees	Populars & Rejectees
Boys	38.42%	34.76%
Girls	80.31%	56.19%
Public	35.88%	26.59%

8. There were no significant differences in the percentage of different categories of boys and girls performing various skills and activities, but in case of the public school the proportion of neglectees (75.00%) engaged in reading magazines/novels/stories was significantly higher than the proportion of populars (12.50%) engaged in it; the proportion of rejectees playing football (75.00%) was significantly higher than the proportion (50%) of neglectees, and also the proportion (87%) of rejectees playing hockey was higher than that of populars (37.50%).

9. It appeared that students in particular, and the public in general, lacked the skill to make worthwhile friends, to live in a democracy, and to become increasingly self directive. It was, therefore, suggested:

- (i) That education should aim at excellence in all areas of human growth rather than 'excellence' in academic fields only.
- (ii) That co-curricular activities when properly planned and executed contribute to the total development of the personality of the student.
- (iii) That the criteria for determining the number of activities to be performed should be, 'school activities of the student, by the student, for the student'.
- (iv) That the time and effort consumed in extra curricular activities did not affect the achievement of pupils in curricular subjects.

Study III: Personality Characteristics and Sociometric Status

The term personality is frequently used in our present day terminology to refer to man's behaviour and characteristics. The commonest way of talking about it is through trait vocabulary by describing a person as ambitious, aggressive dependent etc.

A practical reason for speaking of personality in terms of traits, apart from the reason of understanding behaviour, is, that it has to do with the problem of anticipating or predicting what an individual may do in future on the basis of what we know about him in the past. Such predictions are an important part of our every day social behaviour and essential for social success and achievement in various occupations.

Further, it is the common traits (and not the unique traits) which are important in every day social behaviour. Common traits are found widely distributed through the population or among certain groups and are useful for evaluating the behaviour of persons in general.

Teachers, counsellors, psychologists must be able to discover inter-relationships within the whole personality, the syndromes or clusters of

traits which are most essential for certain purposes, for instance, social success or achievement in various occupations.

The study was extended to discover the personality characteristics of popular, neglectee, isolated and rejected students.

The Sample

The sample was the same as for Study II, classified on the same basis into sociometric categories.

Guess Who Rating Scale

The Guess who technique is a device whereby bipolar trait ratings of a group of children may be obtained by using the members of the same group as the raters. It is one of the few promising tools which yield information regarding the way each member of a large adolescent group is perceived by the group. To have a wide coverage of the personality traits 40 pairs of brief positive and negative description of common personality traits were included in this scale. The traits were seemingly mutually exclusive.

The Scale was administered to 325 students reading in ten sections of ninth class of three schools - one boys', another girls' and one public school of Dehli.

Scoring

Scoring was done by using the following three formulae.

Formula A¹ Trait Score =

(No. of positive mentions) - (No. of negative mentions).

Formula B² Trait Score =

$$\frac{\text{No. of positive mentions}}{\text{Total No. of pos. and neg. mentions on the trait}} \times 100$$

Formula C³ Trait Score =

$$\frac{(\text{No. of pos. mentions}) - (\text{No. of neg. mentions})}{\text{Total No. of mentions on a variety of traits}} \times 100$$

Formula A gave a Lepto Kurtic distribution with a mean at zero ranging from -22 to +23. Formula B gave a U shape. Formula C gave a normal distribution.

¹ Hugh Hartshorne, Mark A. May, & Frank K. Shuttleworth, Studies in the Organization of Character, New York: The Macmillan Company 1930, pp. 503.

² Robert J. Havighurst & Hilda Taba, Adolescent Character & Personality. New York: John Wiley & Sons. Inc., 1949. pp. 315.

³ Keislar E.R., An Improved Formula For Sorting Certain Guess Who Ratings At the Adolescent Level, "Journal of Educational Psychology, Vol. 45, 1954.

On the basis of the empirical comparison of the forms of distribution of scores obtained by the three formulae, formula C appeared to be more suitable as the distributions of the different traits approximated normality and the statistical technique based on the normal curve model could be used with confidence in dealing with problems involving them.

Inter Item Correlations

To study the relationship between the different personality traits included in the scale, product-movement r 's were calculated on the IBM tabulator.

The coefficient of correlation having a value of $+ .110$ or beyond were statistically significant at 5% level. While this value of r ($.110$) is itself not high, 347 correlation were not significant even. The frequency distribution of sizes of ' r ' is shown in the Table below.

Table 6: Size of Inter Trait Correlations.

Size of r	Frequency	Size of r	Frequency
$-.40$ to $-.21$	12	$.12$ to $.20$	198
$-.20$ to $-.12$	27	$.21$ to $.40$	152
$-.11$ to $-.01$	113	$.41$ to $.70$	04
$.00$ to $.11$	234	$.70$ to above	Nil

Thus, it is seen that no correlation was high and the number of moderate correlation coefficient was 4 only. It is, therefore, evident that the traits included in the scale were almost mutually exclusive, and could form a good basis for studying the personality characteristics. However, five items which greatly deviated from normality, as also did not discriminate between accepted and unaccepted pupils, were dropped from the scale.

Personality Characteristics

The scores for the 35 personality characteristics included in the scale ranged between -12.50 and $+12.50$. A positive score meant possession of the positive trait described by the statement, and a negative score the possession of the negative characteristic. The means and standard deviation for the populars, neglectees, isolates and rejectees were worked out and profiles for the four groups of students drawn.

From the profiles it was evident that the personality pattern of isolates, neglectees and rejectees (that is of unaccepted students) were somewhat similar, and they were different from those of the populars (that is accepted pupils). A glance at the personality profiles of populars, neglectees, and isolates and rejectees revealed that, corresponding to peaks in the profiles of populars, there were depressions in the profiles of neglectees, isolates and rejectees. The populars generally possessed positive characteristics. The mean scores for all the characteristics except two were positive. The isolates and neglectees had generally negative traits. The rejectees too possessed negative traits, and the mean scores for all traits except one were negative. The profiles of isolates and rejectees were similar.

The rank difference correlation between the mean personality characteristics scores of populars and neglectees, populars and isolates populars and rejectees worked out to $-.59$, $-.50$ and $-.71$ respectively which indicated that the relationship was negative and high although it was not perfect. On the other hand, the rank difference correlation between the mean trait scores of neglectees and isolates, neglectees and rejectees, isolates and rejectees worked out to $+.68$, $+.73$ and $+.77$, which was positive and high although not perfect. Thus, the personality characteristics of unaccepted students (neglectees and isolates) were quite similar, whereas those of accepted and unaccepted students were quite dissimilar.

The traits of these four categories of students, arranged in their rank order, are shown in Table 7.

Table 7: Personality Characteristics of Populars, Neglectees, Isolates & Rejectees Arranged In Rank Order.

Rank Order	Populars	Neglectees	Isolates	Rejectees
1.	Assertive	Non-confident	Submissive	Non-confident
2.	Confident	Non-group Participation	Non-confident	Coward & Weak
3.	Group Participation	Selfish & non-cooperative	Coward & Weak	Non-group participation
4.	Good looking	Cowardly & Weak	Selfish & non-cooperative	Selfish & non-cooperative
5.	Responsible	Not humourous	Shares no responsibility	Lazy & careless
6.	Shares Responsibility	Lazy & careless	Needs pressure to finish work	Shares no responsibility
7.	Well informed	Submissive	Not calm & not restrained	Not good looking
8.	Courageous & Vigorous	Not calm & not restrained	Silent	Lacks initiative
9.	Friendly	Shares no responsibility	Indifferent	Not humourous
10.	Cheerful	Not good looking	Not good looking	Unfair & dishonest
11.	Liked by others as work companion	Lacks initiative	Irresponsible	Every one dislikes to work with him.
12.	Has initiative	Not liked by others as work companion	Lazy & careless	Not calm & not restrained
13.	Humourous	Irresponsible	Lacks initiative	Silent
14.	Helpful & cooperative	Needs pressure to finish work	Lack of social sense	Untidy

Rank Order	Populars	Neglectees	Isolates	Rejectees
15.	Sympathetic	Indifferent	Ignorant	Irresponsible
16.	Good natured	Rude	Inferiority role	Not humorous
17.	Fair & Honest	Does not admit a mistake	Does not admit a mistake	Needs pressure to finish work
18.	Tidy	Untidy	Not good natured	Takes other's things without permission
19.	Seeks additional work	Not active in games	Does not enjoy jokes on himself	Does not enjoy jokes on himself
20.	Daring	Inferiority role	Untidy	Indifferent

Thus, it became evident that popular children were aggressive and overt in the responses shown by the personality characteristics - assertive, courageous and vigorous, confident superiority role, plays active games, seeks additional work and has initiative. The finding is against certain traditional and normal teaching which over-emphasises obedience, conformity and submissiveness. It seems that to be well-accepted a child, as well as an adult, must possess some positive attributes which enable him to make himself count in a group. A person is more popular far more because of what he does than because of what he refrains from doing. If he does vigorous things which make him stand out from the group and win admiration, he has a much better chance of being well-accepted (even though he has some obnoxious personal defects) than has a person who has no offending personal traits, but who is unable to make his personality register on the group. Popularity is tied up with marked and strong personality characteristics rather than with negative and neutral abilities and characteristics.

Being friendly, good looking and tidy are other characteristics which make persons popular. Emphasis is usually given by popular writers on social success to such personal appearances.

Personality traits like social sense, sympathy, helpfulness, good nature, group participation, to be calm and restrained are characteristics found in most socially successful persons for maintaining good human relations. Such characteristics contribute to a feeling of confidence, and to gaining success with persons of all ages - younger, equal in age, and older.

Implications of the results

Thus, characteristics which proved most significant in differentiating between accepted and unaccepted children fall into three syndromes: (1) strong, aggressive personality characteristics, (2) characteristics that count in direct inter-personal contacts (3) characteristics that are important in making better human relationships. The first syndrome has been over-looked by moral and religious education. Great emphasis is laid on conformity, and submission to authority; and the importance of the first syndrome has also not been very well appreciated by popular writers, who have usually laid greater emphasis on characteristics falling in the third syndrome.

Another implication is that popularity and winning of friends are not the superficial things that they are often assumed to be; rather they are tied up with the most basic qualities of personality and character. Reading a book on how to win friends and influence people cannot possibly have the value which many people believe. To parents and teachers who are concerned with the social success of children, it is suggested that they should develop in their wards a wide range of abilities. Also, enough flexibility in group control should be allowed to permit the development of some daring and initiative, and some socially approved aggressiveness. But this is not enough. Ability alone is no guarantee of being liked. There must also be skill in the art of friendly intercourse. There is a warning in this point for those teachers and parents who assume that because a child has an outstanding ability which others admire, and may occasionally be elected to positions of leadership, that he is well liked and is on the road of personal happiness. Although this assumption would generally be true, there are enough exceptions to warn against its uncritical acceptance. The attitudes and kinds of behaviour essential to friendliness must also be developed.

The results of the investigation are summarised as follows:

1. Three formulae were applied to analyse the scores obtained to 'Guess Who? Social Analysis Scale? The formula Trait Scores =
$$\frac{(\text{No. of Pos. mentions}) - (\text{No. of Neg. mentions})}{\text{Total No. of mentions on a variety of traits}} \times 100$$
 gave a normal distribution of personality characteristics scores and was, therefore, used in the study.
2. 35 personality characteristics which were almost independent and which discriminated between accepted and unaccepted pupils constituted the social analysis scale.
3. The personality characteristics of unaccepted pupils were quite similar whereas those of accepted and unaccepted students were quite dissimilar.
4. It was noticed that personality trait scores decrease consistently as the degree of acceptance decreased. The scores of populars were generally positive, which indicated that they possessed positive characteristics. The scores of isolates were generally negative and they possessed negative characteristics. The rejectees too possessed negative characteristics.
5. Populars were found to be more aggressive and overt, having these characteristics - 'assertive' 'courageous and vigorous', 'confident', 'superiority rule', 'group-participation', and 'friendly'; whereas unaccepted pupils were more 'submissive' 'non-confident', 'coward and weak', 'selfish and 'non-cooperative' and 'non-group participating'.
6. Thus characteristics which proved most significant in differentiating between accepted and unaccepted children fall into three syndromes: (1) strong aggressive personality characteristics (2) characteristics that count in direct interpersonal contacts (3) characteristics that are important in making better human relationship.

Section B

Programme 1: Sociometric Seating and Classroom Social Relations

Whenever data is collected through a sociometric tool and the results have been analysed, the first step of improving social relations is that of putting the choices of students into effect. If the students were asked to choose companions for laboratory work, field trips for cocurricular activities, classroom committees and the like, then these groups should be organised along sociometric lines. Similarly, if students were asked to select seating companions, the classroom seating arrangement should be done in accordance with their preferences. When students are grouped in a manner which provides each group member satisfying social experiences then it results in the development of a cohesive and interrelated group structure along with a desirable personal social development of the individual. The sociometric grouping is regarded as effective to the degree that it is beneficial to the individual and the group.

A programme was designed to study the effect of sociometric seating on classroom social relations.

The sample was class VII students of a Government Boys' Higher Secondary school, located in a Central Government Employees colony in New Delhi housing officers of grades I and III. However, the school also served children from a geographically adjacent locality, a rural population, in which families were in the lower socio-economic levels.

The students were categorised into five sociometric categories - Popular, Above Average, Average, Below Average, Neglectees and Isolates, by administering the three criteria - three-choice sociometric questionnaire, and using the Bronfenbrenner's fixed frame of reference.

One section of the seventh grade (VII B) was used as a control group; while the seating plan in another section (VII A) the experimental group, was arranged on the basis of inter-personal choices made. The enrolment of the control and experimental groups was 37 and 34 respectively.

Procedure for Sociometric Seating

The procedure for sociometric seating was as below:

(i) First the unchosen pupils (isolates) were placed with their higher choices. No two isolates were seated in a group. (ii) Next neglectees who received only one choice were considered. If the choice a neglectee received was reciprocated by him, he was seated with the pupil with whom he had the mutual choice regardless of the level of choice. Then an attempt was made to satisfy his first choice, or the highest level of choice it was possible to satisfy without disrupting the groups that were already formed. (iii) Choosing seating companions was continued from pupils receiving the smallest number of choices to the pupils receiving the largest number of choices. In each case, attempt was made to satisfy the chooser's mutual choices first and his highest level of unreciprocated choices next.

The new seating plan was introduced in January, 1968 in the experimental section. This plan was continued till April, 1968, that is, for a period of 120 days approximately. The sociometric questionnaire was then re-administered to determine the changes in social structure resulting from sociometric seating. The sociometric questionnaire was also administered to the control section.

Changes in Social Status of Unaccepted Pupils

What changes occurred in the Sociometric Categories during the 120 days period can be studied from Table 1.

Table 1: Sociometric categories of students (Experimental Group)

		Post Sociometric Seating						Total
Pre-Sociometric Seating	'Sociometric Category'	P	AA	A	BA	N	I	
	P	2	0	1	0	0	0	3
	AA	2	0	0	2	2	0	6
	A	1	1	1	2	3	0	8
	BA	0	1	6	6	0	0	13
	N	0	1	0	0	0	0	1
	I	0	0	0	0	2	0	2
	Total	5	3	8	10	7	-	33

Table 2: Sociometric Categories of Students (Central Group).

		Post Sociometric Seating						Total
Pre-Sociometric Seating	'Sociometric Category'	P	AA	A	BA	N	I	
	P	4			1			5
	AA	1	1		1	1		4
	A	1		2		2	1	6
	BA		1	1	5	2	1	10
	N			2	1	3	2	8
	I					2	2	4
	Total	6	2	5	8	10	6	37

From Table 1, it is seen that as a result of sociometric seating none remained unchosen (isolate). The two 'isolates' become 'neglectees'. The one 'neglectee' attained 'above average' category. Of the 13 'below average' category pupils 6 remained 'below average', 6 attained 'average' and 1 attained 'above average' category. Thus, it is noticed that 100% improvement took place in the 'isolate' and 'neglectee' categories and 54% improvement in the 'below average' category and there was no deterioration in these categories in the experimental group.

From Table 2, it is noticed, that during the 120 days period, of the 4 'isolates' 2 remained 'isolated' but 2 attained the 'neglectee' category. Of the 8 'neglectees' 3 remained 'neglectee'; 1 attained 'below average'

category, and 2 attained 'average' category, but 2 became 'isolates' also. Of the 10 'below average', 1 attained 'above average' and 1 attained 'average' but 2 became 'neglectees' and 1 even became an 'isolate'. Thus, it is seen that there was 30% and 25% deterioration in 'below average' and 'neglectee' categories respectively. The improvement in the 'below average', 'neglectee' and 'isolate' categories was 20%, 38% and 50% respectively in the control group.

The Wilcoxon Matched Pairs Signed-Ranks Test¹ was applied to test the Null Hypothesis that the social status of unaccepted pupils remained unaffected by sociometric seating. The hypothesis was rejected, in the case of the experimental group at the 5% level ($N=14$, $T=20.5$, 21 value required at 5% level) but was accepted in the case of the control group. ($N=16$, $T=50$, 30 value required at 5% level). It can thus be concluded that sociometric seating does affect the social status of pupils; it helps to improve social relations in a classroom.

Changes in Social Status of Accepted Pupils

From Table 1, it is noticed that, in the experimental group, out of the 3 populars 2 remained as 'popular' but 1 became 'average'; out of the 6 'above average' category pupils 2 improved their status and became 'populars' but 2 became 'below average' and another 2 became 'popular', 1 became 'above average' but 2 became 'below average' and 3 became 'neglectees'. Thus the deterioration in social status was noticed in all the categories of accepted pupils. It was 33% in the case of 'populars', 66% in the case of 'above average' and 62% in the case of 'average category'. The improvement in the categories of 'above average' and 'average' categories was 33% and 25% respectively. The deterioration in the category of accepted students (till they belong to one of the accepted categories) need not cause any anxiety; as the number of choices for a group is constant, and the receiving of more choices by some pupils decreases the sociometric score of others, which may in turn affect their social category.

From Table 2, it is noticed that in the case of the control group, out of the 4 'populars' only 1 became 'below average' and the remaining retained their category of 'populars'; of the 4 'above average', 1 remained above average, 1 became 'popular', 1 became 'below average' and 1 became 'neglectee'; of the 6 'average' 2 remained 'average', 1 became 'popular' but 2 became 'neglectee', and 1 was an 'isolate'. Thus deteriorations in social status was also noticed in the case of accepted category pupils in the control group. It was 20%, 50% and 50% respectively in the categories of 'populars' 'above average' and 'average'. The improvement in social status in each of the categories of 'above average' and 'average' was only 25%.

However, the Null Hypothesis of no significant differences in social status of accepted pupils in the 120 days period was accepted for both the groups: experimental ($N=17$, $T=48.5$ 35 value required at 5% level) and control ($N=15$, $T=57.5$ 25 value required at 5% level). It can be concluded, therefore, that the sociometric status of accepted pupils is not adversely affected due to sociometric seating.

The sociograms for the experimental group before and after sociometric seating were drawn; the sociogram for the second situation (after sociometric seating) indicated more inter-group relations and group acceptance of its pupils.

¹ Sidney Siegel: Non Parametric Statistics for the Behavioural Sciences, International Student Edition, 1956, pp. 78-83.

Implications

Sociometric seating appears to be a useful technique of improving interpersonal relationships within a group. It appears to weaken the barriers which stand in the way of the formation of a cohesive class. It is felt that it can be a good supplementary technique to other group and individual techniques for improving social relations in the classroom.

Programme II: Sharing Responsibility and Classroom Social Relations

An opportunity for interaction is essential to good group living, and looking at the back of the head of the pupil in front and answering questions posed by the teacher is not group interaction. Interaction takes the form of discussion, planning, games and sports, student organisation, class organisation etc. However, if such experiences are to be valuable and meaningful, they must be selected purposefully, in terms of the maturity of learner.

The Government Higher Secondary School in which the study on 'Sociometric Seating' was conducted in one section of seventh class had another section which appeared to be lacking in group living and in understanding the value of give-and-take relationships that are fundamental to group action. The classroom behaviour of students of this section is described here.

When the investigator was first introduced to the class by the class teacher, he found that there was no order in the class. Some boys were moving in the class, some were laughing and whispering, some were throwing paper balls, some were eating groundnuts. One or two pupils were outcast and target of every joke in the class. Some were solving sums and some were reading books. When the students started introducing themselves the picture became more revealing. A few students were shy, and before they could introduce themselves fellow students called out their nick names by which they used to tease them; some were aggressive and introduced themselves boldly even in the face of opposition, and shouted at those who tried to pull their leg, and one or two found it impossible to tell their names.

The school 'controls' did not seem to work in this class, and no 'codes' seemed to have been developed by the class. The class behaviour was not at all conducive to the teaching - learning process or any other group activity.

What is an acceptable behaviour? The habit of listening (and this does not mean silent in-attention-when another speaks) is one element; control of voice and movement is another. Unless the student is addressing the class, his voice should not rise above a low conversational tone, nor should he speak when he has nothing of importance to say, or rush-from place to place, thereby disturbing his classmates. Consideration for others, politeness toward every member of the class, and a desire to cooperate; all these form the basis of acceptable behaviour. There is nothing new in these requisites; they have been observed in adult society.

Cause of Unacceptable Behaviour

All behaviour is directed towards satisfaction of needs - biological, psychological and social. But the need-satisfaction occurs predominantly in a social context. The first social group in time sequence for a pupil is

the family in which he is born. Behaviour which is acceptable to the culture and social group of the parents is rewarded and behaviour which is not acceptable to the parents is blocked by the withholding of rewards or by punishment.

When a child comes to a school he brings with him a unique view of himself and of the world. He has strong feelings and attitudes; he has definite values and purposes. Because ours is a multigroup society each child differs from every other child in these feelings and attitudes. Each has learned something different from his particular background, from his family, his neighbourhood, his community and his playmates.

Pupils from a low socio-economic group, because of the position of their families in the community, face a more complicated task than other children. They have difficulty in achieving status, in affiliating with others, in learning everyday skills, in retaining their own group membership while trying to obtain rewards and opportunities of other group membership.

Pupils from middle class families learn values and behaviours which are stringent and demanding. Their parents expect them to achieve high marks in schools, to win in competitive situations, to be independent of others.

Children learn different ways of expressing their feelings, e.g. two children described, "what I do when I get mad"? in two different ways:

- (a) I go and sit on the back step and cry.
- (b) I do not let my brother play and I hit him if he tells.

Children learn different ways of behaving toward other people, e.g., two pupils told what they do when they want something from their parents which they know their families cannot afford:

- (a) I act awful good for a long time without mentioning what I want and then after a long while I ask for it.
- (b) I quarrel and make things so unpleasant that eventually they give it to me.

Such terms as 'cooperation', 'responsibility', 'being a good group member', 'playing fair' etc. mean vastly different things to children from socio-economic and sub-cultural groups.

Although pupils have learned widely different social behaviours and purposes, the organisation and content of the typical school proceed on the assumption that all children have learned the same ways of behaving. Further, school follows a pattern of standard behaviour, and has expectations different from those which the majority of children have learned. It is difficult for any pupil to learn these new things in a short span of time.

The basis for rewards in school reflects middle class values and purposes. 'Good manners', 'high marks', 'compliance with adult regulation' are all rewarded by approval and by opportunities to hold certain positions, to participate in certain activities, and in short, to have more chances to learn and be rewarded for the same behaviours all over again.

The academic and selective criteria govern membership in activities. The practices in leadership selection narrow the number of children holding positions, since there is a tendency to reappoint or re-elect those who have already held such positions. Those who do participate in one activity, participate in many, both in and out of school. The majority of the students do not get a chance to learn new ways to get along in the class, and in the school, and in the larger society. Their many needs remain unsatisfied and find ways in unacceptable behaviour.

Implications

Thus a number of things happen which are inimical to classroom group mental health: (1) The students find themselves in a situation where they cannot express themselves emotionally as they learned to do; (2) they are confronted by discrepancies in behaviours, values and purposes; (3) they fail to understand why a certain behaviour is rewarded and another behaviour is punished; (4) they find their previous social-emotional learning not only ignored but devalued and even criticised; they are provided with little opportunities to affiliate with others and to feel that they belong. Therefore, there is a need to create a class atmosphere which is conducive to the group-living and the learning needs of children.

A programme was planned to study the effect of 'sharing responsibilities' on developing an atmosphere conducive to group living.

Class VII C students numbering 35 were subjected to the programme, and Class VII B students were used as a control group. The students were categorised into five sociometric categories - Popular, Above Average, Below Average, Neglectees and Isolates, by administering the three criteria three choice sociometric questionnaire and using the Bronfenbrenner's fixed frame of reference.

The main problems of the class were a lack of library and games facilities, and the unsatisfactory management of day-to-day affairs of the class by the class monitors. It was, therefore, decided that the class could elect their own library representatives, games captains and class monitors. The class should frame its own rules for managing the library, games and class affairs.

Two representatives, one senior and one junior for each of the three responsibilities were elected by the actual casting of a ballot. There were speeches seconding the nominations and speeches of acceptance by the pupils nominated. The folded ballots were collected and tabulated by the Experimenter. The winner shook hand with their opponents who pledged all support to the winners.

Next, the representatives worked with the class to frame the rules and procedures to manage their library, and games activities and the day-to-day class management affairs. The three teams managed their affairs till the end of academic session, that is, for a period of about six months. The principal afforded all cooperation in permitting the pupils to manage their affairs themselves.

Results

The sociometric questionnaire was administered to the experimental and control groups before introducing the action programme in the month of September, 1967, and at the close of the academic year April, 1968.

Changes in Social Status of Unaccepted Pupils

What changes occurred in the sociometric categories during the six months of the action programme can be studied from Tables 1 and 2.

Table 1: Sociometric categories of students (Experimental Group)

	'Sociometric' 'Category'	P	AA	A	BA	N	I	Total
Pre-Action	P	4	1	2				7
	AA			3	3			6
	A	1			1	1		3
	BA	1	1	4	4			10
	N		1	4	2			7
	I					2		2
	Total	6	3	13	10	3	0	35

Table 2: Sociometric categories of students (Control Group)

	'Sociometric' 'Category'	P	AA	A	BA	N	I	Total
Pre-Action	P	4			1			5
	AA	1	1		1	1		4
	A	1		2		2	1	6
	BA		1	1	5	2	1	10
	N			2	1	3	2	8
	I					2	2	4
	Total	6	2	5	8	10	6	37

From Table 1, it is seen that as a result of the experiences in group living none remained unchosen (isolate). The two isolates became neglectees. Also none of the seven 'neglectees' remained a 'neglectee' after the programme. They all improved their social status. One attained 'AA' category, 4 became 'average', and 2 attained 'below average' category. Of the 10 'below average' category pupils, 4 remained 'below average', 4 attained 'average', 1 attained 'above average' category, and 1 became 'popular' even. Thus it is noticed that 100% improvement took place in the 'isolate' and 'neglectee' categories, and 60% improvement in the 'below average' category. There was no deterioration in low social status categories in the experimental group.

From Table 2, it is noticed that during the six months of the 4 isolated 2 remained isolates but 2 attained the 'neglectee' category. Of the 8 neglectees, 3 remained 'neglectee', 1 attained 'below average' category,

and 2 attained 'average' category, but 2 became isolates also. Of the 10 below average, 5 remained 'below average', 1 attained 'above average', and 1 attained 'average', but 2 became 'neglectees', and 1 even became an 'isolate'. Thus it is seen that there was 30% and 25% deterioration in 'below average' and 'neglectee' categories, respectively. The improvement in the below average, neglectee and isolate categories was 20%, 38% and 50% in the control group.

The Wilcoxon Matched Pairs Test was applied to test the Null Hypothesis that the social status of 'unaccepted pupils' remained unaffected by experiences in 'group living'. The hypothesis was rejected in the case of the experimental group ($N=17$, $T=18.5$ 35 required at 5% level) but was accepted in the case of the control group ($N=16$, $T=50$, 30 value required at 5% level). It can thus be concluded that experiences in group living did affect social status, and did help to improve social relations in a classroom.

Changes in Social Status of Accepted Pupils

As the number of choices for a group is constant the receiving of more choices by some pupils decreases the sociometric score of others, which may in turn affect their social category.

From Table 1, it is noticed that in the experimental group, out of 7 'populars', 4 remained as 'populars' but 1 became 'above average' and 2 became 'average'. Out of 6 'above average' category pupils, 3 became 'average' and the other 3 became below average. Of the 3 'average' category pupils 1 even became 'neglectee'. Thus, deterioration was noticed in all the categories of accepted pupils. It was 28% in the case of 'popular', 100% in the case of 'above average' and 66% in the case of 'average' category. The 'average' category, however, recorded a gain of 33% also.

From Table 2, it is noticed that in the case of control group. Out of the 4 'populars' only 1 became 'below average' and the remaining retained their category of 'populars'; of the 4 above averages, 1 remained above average, 1 became popular, 1 became below average, and 1 became neglectee; of the six 'averages' 2 remained 'average', 1 became popular, but 3 became 'neglectee', and 1 was an isolate. Thus, deteriorations in social status was also noticed in the case of accepted category pupils in the control group. It was 20%, 50% and 50% respectively in the categories of 'populars', 'above average' and 'average'. The improvement in social status in each of the categories of 'above average' and 'average' was only 25%.

The improvement in class-tone became more and more evident as the programme advanced. The nick names were not heard, opposition and aggression had started giving way to cooperation. The wider spread of responsibility and the democratic method of solving their differences and problems was found to develop a sense of responsibility in the individuals to the group, and of the group to individuals. A start for developing a respect for reason and willingness to settle issues through an appeal to reason (rather than emotions or resorting to force) had been made.

The findings of the study are more valuable as an evidence of the utility of providing experience for 'group living' than the evaluation of the action programme. Better programmes can be planned and they can be carried out in a better way if the school authorities take interest in them.

The focus of the programme should be to afford opportunities to a student to look upon each of his peers and upon himself with a sense of worth, opportunities for recognising the good qualities of each class fellow, for understanding each, and for cooperation with each in making a contribution to the group. Such programmes should help a child in developing a constant willingness to give his peers the same treatment in his daily living that he would expect from them. Daily experiences in solving their problems and in thinking critically and creatively could help them develop respect for reason, and willingness to settle issues through an appeal to reason, rather than emotions or resorting to force. Further, if more opportunities for responsibility are planned such that every child has a chance to participate, and additional responsibilities are given to those who had little skill in taking responsibility, better results can be expected.

Programme III: The Study of Biographies and Classroom Social Relations

It has been seen that sociometry afforded a way to improve classroom social relations by putting the pupils choices into effect, in other words, by sociometric grouping. Another equally important procedure was the development of a classroom environment which provided constructive experience in social interaction through sharing of responsibility, the use of small committees etc. However, other techniques can also be developed by which teachers may be able to secure communication within groups in the regular classroom in normal academic work, such as, a discussion of behaviour characteristics related to social acceptance among class-fellows in a group guidance programme, a reading and discussion of stories which illustrate problems of human relations, role playing, study of biographies etc.

A programme was designed to determine the effect of study and discussion of biographies of some great men of India, and biographical sketches of class fellows in restructuring interpersonal relations within class.

The study was conducted on seventh class students of a Government Boys' Higher Secondary School located in a rural area of Delhi State. One section of the seventh class, having 24 pupils, was used as an experimental group and another section, having 27 pupils, as the control group. The school served a locality in which the families were in the lower socio-economic level. The parents were farmers, hawkers, holding small shops of betel, tea, vegetable, general merchandise, and the like.

As the pupils belonged to a rural area and came from families of low socio-economic status, their ways of behaving and expressing emotions were quite different from the ways of pupils who belonged to middle class urban families. They showed affection by cheerful nagging and local urban attack. They picked quarrels, and used dirty language even in small matters. If there was delay in getting the material being distributed in the class or getting a book being issued they would directly attack the other person. If it were a matter of free concession, or help for poor boys fund, or distribution of free milk they would blame the person incharge or would call him prejudiced. These pupils had met so many rebuffs that their interpretation of situations and the ways of handling them were conditioned ahead of time. They often saw rejection where it did not actually exist.

The students were categorized into five sociometric categories; Populars, Above Average, Average, Below Average, Neglectees and Isolates by administering the three criteria - three choice sociometric questionnaire and using the Bronfenbrenner's fixed frame of reference.

The Programme

The activities undertaken during the programme are outlined below:

1. A number of biographical sketches of known Indian great men (1) was placed in the classroom and each pupil was asked to read at least three sketches. The aim was to find out what kind of personality the person had, why he had the personality he seemed to have, and what traits did he possess which the pupils felt to be important to the person's success. The class was told that each member would later be asked to write his own biography as also of some other classfellow, and that this reading was in preparation for that assignment.
2. The students discussed the biographical sketches in the class and pointed out the personality traits possessed by the leaders. They also raised questions on how personality is developed, whether it can be changed and the like. The attention of the class was focussed upon what each member felt he should know about preparing an outline of a biographical sketch and about personality in order to write the sketch. It was emphasised that in the homes which cradle eminence, creativity and contentment are not always and necessarily congenial. The eminent have not necessarily experienced what is the stereotyped picture of the supportive warm relatively untroubled home and life. The comfortable and contented do not ordinarily become eminent.
3. Using his written evaluations and the outline developed for writing the biographical sketch, each student wrote an auto-biographical sketch.
4. The pupils were then paired for interviews to gain information for writing their biographical sketches. The choices of pupils made on a sociometric questionnaire formed the basis of pairing. They used the outline already developed for writing biographical sketches. A biographical sketch of each student was thus obtained, making for a better understanding of the life of the personality, and the reasons for the development of the personality of the pupil paired with him.
5. Finally the class discussed biographical sketches of two leaders.

Unit on Biography

In the initial stage of the class work the investigator determined the work of the class, and the class was kept in the usual teacher-pupil class arrangement. The biographical sketches studied were not selected on any particular basis, except that they described people who had served others, who might be said to have the personality characteristics of a secure and confident individual; and the language of the sketches was simple and within the verbal comprehension of pupils of seventh grade.

When the students started discussing biographical sketches and the personality qualities most of the work of the class revolved about leads offered from the students. At this point the investigator began to assume the role of a planning leader and resource person. As the class discussed its problems and solutions to them, the investigator's major function was to point out alternatives and offer new suggestions.

(1) Balupyogi Jiwaniah, Raj Pal & Sons, Kashmere Gate, Delhi-6, 1967.

The following outline in preparing a biography was developed.

1. Birth place and general family history
 - (a) Where and when born.
 - (b) Areas where lived.
 - (c) Present residence.
2. Paternal and Maternal Relations
 - (a) Father's name, occupation, birth place, health, education, places of employment etc.
 - (b) Same information about mother
 - (c) Brothers and sisters - name, age, education, marital status, number of children.
3. Health
 - (a) Physical development and general health history
 - (b) Other members of the family
4. Socio-economic Status
 - (a) Description of home, ownership, size, outstanding features
 - (b) Description of own room - shared, features, personal meaning
 - (c) Home duties
5. School life
 - (a) General achievement - classes repeated or skipped, attitude toward school or schools attended
 - (b) Subjects - liked and disliked, other information
 - (c) Activities - clubs and organisations, record, of participations, offices held.
6. Employment/Occupation
 - (a) Nature
 - (b) Positions held, length and emoluments
 - (c) Places of employment
7. Social Interest
 - (a) Social organisations (length of membership, record of participations, offices held)
 - (b) Religious activities
 - (c) Family social life - parties, movies, celebrations, customs

8. Leisure time activities

- (a) Hobbies
- (b) Travels
- (c) Other information

9. Miscellaneous

Interesting life experiences or incidents which had a profound effect upon the way of living. Any other thing about the individual which gave a more complete and particularised picture of the individual.

The students then wrote their auto-biographies highlighting their good qualities, their personality problems; and the difficulties felt in working with family members at home, and with class fellows in the school. The investigator treated these evaluations as confidential.

Pairing of Students

The attempts to improve interpersonal relationships among class members began when preparations were made to carry out interviews preparatory to writing biographical sketches. This activity was actually chosen as a task which would hold possibilities for changing the pupils' perceptions of one another, and for building communications among members concerning satisfactions growing out of the class work, thus providing a basis for establishing class norms behaviour. Using choices listed by students, the investigator paired the members of class taking care to associate unaccepted pupils where the best possibilities for acceptance seemed to lie. First the isolates (unchosen) were grouped with their higher choices. No two isolates were paired. Next neglectees who received only one choice were considered. If the choice a neglectee received was reciprocated by him, he was paired with the pupil with whom he had the mutual choice regardless of the level of choice. Then an attempt was made to satisfy his first choice, or the highest level of choice it was possible to satisfy without disrupting the group that were already formed. Pairing was continued from pupils receiving the smallest number of choices to the pupils receiving the largest number of choices. In each case the attempt was made to satisfy the chooser's mutual choices first, and his highest level of unreciprocated choices next.

The leading questions developed by the students to open the interviews were of a positive nature, while they followed the outline mentioned above for writing the biographical sketch of the paired pupils.

Results

To measure the changes that were induced the sociometric questionnaire was readministered, and overt behavioural changes were observed.

What changes occurred during the six months of the action programme can be studied from Tables 1 and 2.

Table 1: Sociometric Categories of Students (Experimental Group)

'Sociometric' 'Category'	P	AA	A	BA	N	I	Total
P	3						3
AA	1			1			2
A	1	1	1	1	1		5
BA			3	1			4
N			2	6			8
I			1	1			2
Total	5	1	7	10	1	-	24

Table 2: Sociometric Categories of Students (Control Group)

'Sociometric' 'Category'	P	AA	A	BA	N	I	Total
P	1						1
AA	1						1
A	1	5	1	3		1	11
BA			2	1	4	1	8
N	1			2	1		4
I				1		1	2
Total	4	5	3	7	5	3	27

Changes in Social Status of Unaccepted Pupils

From Table 1, it is seen that as a result of the action programme none remained unchosen (isolate). Of the 2 'isolates', 1 attained the 'average' category, and the 'below average' category. Of the 8 'neglectees' 2 became 'average' and 6 became 'below average'. Of the 4 'below average' category pupils, 3 became 'average' and 1 remained 'below average'. Thus, it is noticed that 100% improvement took place in the 'isolate' and 'neglectee' categories, and 75% improvement in the 'below average' category, and that there was no deterioration in these categories in the experimental group. Looking at the figures a little differently it is seen that 13 unaccepted students improved the social status while only 1 did not improve. The Binomial Test (one tailed probability of $X \leq 1$ for $N=14$ is .001 which is less than $\alpha = .01$) showed that the action programme helped to improve social relations of unaccepted children in the classroom.

From Table 2, it is observed, that during six months, of the 2 'isolates' 1 remained an isolate but the other attained the 'below average' category; of the 4 'neglectees' only 1 remained a 'neglectee', but 2 became

'below average', and 1 even became a 'popular'; of the 8 'below average' category pupils, 1 remained below average, 4 became 'neglectees' and 1 became an 'isolate', but 2 improved their status and became 'average'. Thus it is seen that there was 63% deterioration in 'below average' category but there was no deterioration in the 'neglectee' category. The improvement in the 'below average', 'neglectee' and 'isolate' categories was 25%, 75% and 50% respectively in the control group.

In the control group 6 unaccepted pupils improved their social status while 8 did not. The Binomial Test (one tailed probability $X \leq 8$ for $N=14$ is .788 which is greater than $\alpha = .01$) indicated that the probability of improving social status in the control group did not exist.

The Wilcoxon Matched Pairs Signed Ranks Test was applied to test the 'Null Hypothesis' that the social status of unaccepted pupils remained unaltered by the action programme. The hypothesis was rejected in the case of the experimental group at 1% level of significance; but was accepted for the control group. It could thus be concluded that the action programme - 'Study of Biographies' - helped to improve social relations in the classroom.

Changes in Social Status of Accepted Pupils

As the number of choices in a group is constant the receiving of more choices by some pupils decreases the sociometric scores of others, which may in turn affect their sociometric category, but it need not cause any anxiety till a student remains in an accepted category.

From Table 1, it is noticed that 3 'populars' maintained their category and remained as 'popular'. Of the 2 'above average' category pupils 1 improved his status and became 'popular' but one became 'below average'. Of the 5 'average' category pupils 1 remained 'average' but 2 improved their status, 1 became 'popular' and another became 'above average'; however, 2 deteriorated - 1 became 'below average' and another a 'neglectee'. Thus deterioration of 50% and 40% was noticed in the 'above average' and 'average' categories. The improvement in the categories of 'above average' and 'average' categories was also 50% and 40% respectively in the experimental group. Thus of the 10 accepted pupils only 3 pupils showed deterioration in their social status while 7 did not. The binomial test (one tailed probability $X \leq 3$ for $N=10$ is .172 which is greater than $\alpha = .01$) showed that there was no probability of deterioration in the social status of accepted pupils in the experimental group due to the action programme.

From Table 2, it is noticed that in the case of the control group, there was only one 'popular' who maintained this category. The one 'above average' pupil improved his category and became 'popular'. Of the 11 'above category' pupils, 6 improved their social status but five showed deterioration, also, 3 became 'below average' and 1 'isolate'. Thus, both improvement and deterioration in social status were noticed only in the 'average category'; there was 54% improvement and 36% deterioration. Of the 13 accepted pupils only 4 pupils showed deterioration in their social status while 9 did not. The Binomial Test (one tailed probability $X \leq 4$ for $N=13$ is .133 which is greater than $\alpha = .01$) indicated that there was no probability of deterioration of social status of accepted pupils in the control group.

The Wilcoxon Matched Pairs Signed Ranks Test indicated that the social status of 'accepted' pupils remained unaffected during the six months

period in the experimental group, but it had deteriorated in the control group. It could, therefore, be concluded that the action programme had no adverse effect on the social status of 'accepted' pupils.

Observed Behavioural Changes

In order to observe the changes in the pupils' behaviour the class was asked to read, discuss, and analyse a full length biographical sketch of a popular Indian leader. There was some observable improvement in classroom behaviour of pupils in comparison with the one exhibited by them on an earlier occasion when they read and discussed biographies of leaders. Almost all class members took part in the discussion. There was a decrease both in the number of remarks and in the number of individuals to whom such remarks were directed. The pupils who made mistakes were less harshly treated.

Conclusion

It can be reasonably concluded both from an analysis of objective data and from subjective observation that the social-emotional climate of the class was improved. A better understanding of a pupil's personality, and the circumstances in which it developed, coupled with the opportunity to interact, helped in accepting him instead of neglecting or being indifferent to him. The behaviour norms of the class changed in such a way that conditions of threat were reduced, and individuals found satisfaction in participation in class-work.

An action programme such as that described here offers the teacher a technique for the understanding of the interpersonal relations of a group as they relate to the teaching process. The analysis is in terms of the structure of the relations, and affords the teacher an opportunity to see the conditions which will enhance or impede learning, and to predict the individuals or groups who will be affected by a given teaching approach. It permits the teacher to predict and to alter behaviour without having to obtain detailed and complex information about each individual.