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An Evaluation of Social Stars, Regulars, Neglectees, and Isolates in Ability-Grouped and Random-Grouped Classrooms

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AN EVALUATION OF SOCIAL STARS, REGULARS, NEGLECTEES, AND ISOLATES IN ABILITY-GROUPED AND RANDOM-GROUPED CLASSROOMS

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INTRODUCTION

Origin and Nature of the Problem

Education in the United States attempts to present maximum opportunities for learning in a democratic atmosphere. Many great educators have sought means to accomplish this end. Today, because of the stimulating force of other nations, even greater pressure is being brought to bear to achieve these goals. The plan of grouping pupils according to their abilities has been presented as one way to facilitate learning.

Ability grouping is the assigning of pupils who are essentially alike to special grade levels and to parallel sections of the same grade. Although it may be thought that ability grouping is a new procedure, as early as 1920 the Detroit schools divided ten thousand students entering the first grade into three groups, on the basis of group intelligence tests. A letter classification of X, Y, or Z was given to each group. Group X was composed of the highest 20 per cent of the new enrollment; Group Y, of the middle 60 per cent; and Group Z, of the lower 20 per cent of the pupils (Hunt, 1942).

From the first recorded use of ability grouping, different methods of grouping have been used, with varying degrees of success. In the United States, during 1947-48, over half of the 1,598 city school systems were using ability grouping in some form or another in at least one of their schools. The percentage of cities using ability grouping ranged from 72 per cent in cities of more than 100,000 population,

to 44 per cent in cities of 2,500 to 5,000 population (Otto, 1953).

Typical of problems arising in ability grouping are: the relationship of ability grouping to achievement, the relationship of ability grouping to attitudes, the relationship of ability grouping to emotions, and the relationship of ability grouping to social acceptance.

The purpose of this thesis is an evaluation of problems arising in ability grouping in relation to social acceptance, or sociometrics.

Hypotheses

Each aspect of sociometrics and the variables involved are covered by the following hypotheses:

1. The over-all number of stars, regulars, and neglectees plus isolates does not differ significantly in ability-grouped classrooms, as compared with random-grouped classrooms.

2. There are no significant differences between superior, average, or slow pupils in an ability-grouped situation, as compared with a random-grouped situation in the proportion of stars, regulars, and neglectees plus isolates.

3. (a) There are no significant differences in the proportion to which superior, average, and slow pupils appear as stars, regulars, or neglectees plus isolates in a random-grouped situation. (b) There are no significant differences in the proportion to which superior, average, and slow pupils appear as stars, regulars, or neglectees plus isolates in an ability-grouped situation.

4. There are no significant differences between boys and girls in the number of stars, regulars, and neglectees plus isolates.

Definitions of Terms

Ability grouping

Ability grouping may be defined as "assignment of pupils to special classes, to grade level, and to parallel sections of the same grade." (Gowan, 1955)

Random grouping

Random grouping may be defined as "haphazardly assigning students to a classroom." (Webster, 1957)

Star

A star is a person who receives a larger number of choices on a sociometric test than would be expected (Bronfenbrenner, 1959).

Regular

A regular is a person who receives the number of choices within the range that could be expected by chance (Bronfenbrenner, 1959).

Neglectee

A neglectee is a person who receives fewer choices on a sociometric test than could be expected (Bronfenbrenner, 1959).

Isolate

An isolate is a person who receives no choices on a sociometric test (Bronfenbrenner, 1959).

REVIEW OF LITERATURE

Ability Grouping

Opinion articles

Since education is so important to our way of life, any change that is seriously considered is sure to arouse controversy. The following brief summary of opinion articles gives a few of the pros and cons of ability grouping.

Hamalainen (1950) felt that modern education favored the heterogeneous method of grouping, rather than the homogeneous method, because it allowed a more normal situation for children. He believed a student is under less mental pressure in a heterogeneous situation than in a homogeneous situation because homogeneous groups form highly competitive situations, such as many fast students pitted against each other. He also stated that all students realize the contribution of fast and slow students to the world only if fast and slow students have the opportunity to work together as they do in real life situations.

Tonsor (1953) stated that students who are put in special groups--especially slower groups--resent the differences in texts and class work, and that segregation makes people feel that they are second-class citizens if they are not in the fast group. He also indicated that segregation will limit, to some extent, the social growth of a student; and that, more than anything else, a student wants to be socially equal.

In these two articles, and in numerous other articles of opinion, the single most frequent comment against homogeneous grouping seemed to

be that it is not democratic to separate one student from another simply because of his ability.

Gowan (1955), in answer to the opinions of "undemocratic procedure," said that homogeneous grouping has always been an integral part of school practice. Grouping on a basis of age and degree of maturity has been a pattern throughout the country, he stated, and that to keep a person in a class where he does not have an interest is just as undemocratic as to separate pupils of higher intelligence and those of lower intelligence. He also stated that since a child does not have the same abilities in all subjects, he would be grouped with many different pupils, both superior and/or slow, who have about the same ability as his. In his opinion, ability grouping makes possible greater learning--especially in the extreme cases.

Potter (1933) specified that a teacher can spend time on a new pace designed for superior pupils. In a class situation, the slower pupils will find new leaders and need no longer be frustrated by trying to achieve beyond their reach. She advocated also that superior pupils should better prepare for college through an accelerated course, and that boys could pursue a vocational curriculum rather than a pre-college curriculum.

Method of grouping

As a number of methods of grouping are used in the United States, a few articles explaining some of them will be here reviewed:

Marsh (1953) made an interesting study pertaining to a method of grouping in California. In the Culver City High School, grouping of students was accomplished by a screening process which involved five

factors. Teacher rating, the first factor, was done the spring preceding fall enrollment. A pupil was rated in every subject in the school with a system of designated numerals: 1 was high; 5 was low. The teacher used scholastic achievement, I.Q., reading and mathematics achievement scores, emotional maturity, social adjustment, work habits, and attitudes toward school as a criteria for placement. The second factor was a choice given to pupils of elective subjects they wished for the next fall. The third factor was a choice of friends. This information was obtained from records made by their teachers. The fourth factor was the selecting, by the administration, of the right teacher to instruct the class. The fifth factor was the scheduling of restless pupils into morning English and social studies. According to officials of this school, the criteria as set up as above were successful because of a higher teacher and pupil morale. Also, discipline problems were reduced to an all-time low for the school.

In a review of grouping practices in over six hundred western schools by Vredevoe (1937), the following data were collected. It was found that 39 per cent of the pupils grouped were classified through a composite of intelligence, achievement, maturity, social adjustment, and chronological age. Eleven per cent were grouped according to ability. Eighteen per cent were grouped according to social adjustment and maturity; 32 per cent were grouped according to chronological age. This review did not indicate what degree of success, if any, these various methods of grouping attained.

Research studies

A review of four research studies follows:

Cook (1924) presented a study that attacked two problems. The first problem was: Are pupils in grouped classes obtaining better results than pupils of the same ability in mixed groups? The second problem was whether grouping according to ability may be of value in some subjects and not in others.

English 1 (Freshman English), English 3 (Sophomore English), plane geometry, and ancient history were used as test subjects. Two teachers were assigned as a team to teach a strong section, a weak section, and a mixed section of these three subjects. The classes were scheduled so that a strong class of one teacher came at the same time of day as a weak class of the other teacher so that time of day would not be a variable. With two teachers teaching both strong, weak, and mixed classes and then combining their results, the factor of teaching ability was reduced in importance. The teachers were even asked to test and grade together in order to reduce to a minimum differences in grading and testing.

The students were classified in English 3 and geometry according to the grades they received in pre-requisite classes or in the nearest related class. Standards of grading were set up to minimize differences in this area. Pupils who had received "A" or "B" and part of the students who received high "C" were placed in the higher group. The balance of the pupils were put in the lower group.

In English 1 and ancient history, pupils were classified by the Terman Group Test of Mental Ability that was administered one week after the opening of the term. Pupils graded in the lower one-third were

placed in the lower section. Pupils in the middle one-third were equally divided into both groups, and pupils in the top one-third were placed in the higher group. A few changes and minor adjustments were made. Teachers were placed carefully and students were told of the experiment. The teachers administered the tests at designated times throughout the term.

The findings were secured from 495 of the original 600 pupils under the system. All of the test scores were assembled in separate tables. The scores were totaled and averaged in each group and the distribution of term grades tabulated.

In English 3 and geometry, where previous grades could be compared, a tabulation was made of pupils whose grades improved, whose grades stayed the same, and whose grades went down. A comparison showed that pupils of the superior ability group did not improve as a result of this grouping, since their grades were nearly the same as the superior pupils in the mixed group. There were improvements, however, in the slow pupils who were grouped, as their grades did show more improvement than those of the slow pupils in the mixed group. More improvement was shown in the inferior pupils in geometry than in English. None of the differences were significant.

Nearly the same results were found in English 1 as in English 3.

In ancient history, superior pupils who were grouped showed a decided advantage over the superior pupils in the mixed group, whereas slow pupils improved a great deal more with the mixed group than they did in their own slow group.

From these results, the second problem posed might be answered in this way: It seems that ability grouping is of more value in some

subjects than in others; but it cannot, however, be stated with any degree of certainty that ability grouping in this study helped or hindered the progress of the pupils involved.

Barthelmess and Boyer (1932) obtained results favorable to grouping when they did research to evaluate ability grouping. They presented the problem of determining whether ability grouping brings greater improvement to pupils than does random grouping.

The pupils of five schools were placed into high, medium, and low groups of intelligence, by comprehensive individual examinations by clinical psychologists--or, in cases of younger pupils, they were grouped according to group intelligence tests or classification tests that were highly verbal. The groups were placed so that the largest number of pupils fell in the middle group, the next largest in the fast group, and the smallest number in the slow group.

Pupils who matched pupils in the five experimental schools were then picked from sixteen schools which taught on a heterogeneous basis. The pupils were matched according to grade placement, intellectual brightness, chronological age, initial status in the factors to be improved by the school, and efficiency of teaching. Through this system, 565 matched pupils were located for the study.

The researchers attempted to match the two groups on each level so that the only variable would be that one group was grouped according to ability and the other was random grouped.

The pupils in both the ability group and the random group were tested in September, 1930, and again in January, 1932. The method of evaluation was the same for both schools. The Otis Classification

Test, the Philadelphia Test in Problems in Arithmetic, the Philadelphia English Test, the Philadelphia Test in Fundamentals of Arithmetic, the Philadelphia Geography Reading Test, and the Stanford Test in Paragraph Reading were all used as methods of evaluation.

A cumulative record card was kept on all pupils in the experimental and control groups. All test scores were recorded in terms of standard score units, and an "ability correction" was used so the teacher might diagnose achievement in relation to ability and differentiate instruction accordingly.

The findings were listed by groups and by schools. In group findings, the group norm of ten points each year was used. The control group improved 10.4 points, or above what was expected; however, the experimental group improved 12.8 points. The ability group had an advantage of 2.4 months (1 point per month), with a standard error of .31 indicating statistical significance of the difference.

Four of the schools with experimental groups showed greater improvement than the random-grouped schools. One had not improved as much as the random-grouped schools.

In conclusion, this study stated that there is a distinct advantage in homogeneous grouping in arithmetic, reading, and technical English skills. The authors indicated, however, that it is possible, although not probable, that the superiority may have been due to greater teacher enthusiasm in the experimental schools.

A study by Rankin (1936) in the Detroit schools was also favorable to ability grouping. In this study, two methods of homogeneous grouping were used, with the result that both of the homogeneous methods of grouping showed superiority over the mass grouping method.

This study indicated a positive result in favor of homogeneous grouping.

In the summary of a number of articles, Turney (1942) found fifteen cases of subject matter gains under homogeneous grouping, four cases of subject matter losses, and ten cases where the results were inconclusive.

Summary

Various writers have listed advantages and disadvantages to ability grouping. A summary of these statements is listed below: (Eales, 1955)

Some advantages of ability grouping.

1. Grouping provides brighter students far greater preparation for college.
2. Grouping of slower students could provide them with a combination of non-academic classes with academic classes.
3. Ability grouping contributes to improved work by the better students and reduces failures among the slower learners.
4. Ability grouping is generally favored by teachers.
5. Ability grouping provides students with more opportunity to develop leadership and a feeling of personal adequacy.
6. Ability grouping provides a greater challenge to students and contributes to a more efficient use of ability.
7. Ability grouping creates a situation which makes it easier for teachers to provide material appropriate to the level of the ability of students.
8. Ability grouping assists the more capable learner to perform closer to his level of ability.

Some disadvantages of grouping. (Eales, 1955)

1. Teachers are divided in their support of any particular system of grouping, particularly those assigned to teach slow groups.
2. Some educators feel that ability grouping is not consistent with certain psychological principles or learning theories.
3. Ability grouping tends to prevent adequate training for meeting competition in out-of-school situations where people are not grouped by ability.
4. Ability grouping is a concession to average teaching ability.
5. A system of ability grouping is not truly democratic.
6. A system of grouping contributes to scheduling problems.
7. Slow groups are more difficult to teach because of the concentration of problems in one class.

Sociometric Status in Relation to Sex Choice

Possible clues to sociometric differences have encouraged researchers to investigate boys choosing girls and girls choosing boys on a friendship-measuring device. A number of these studies have been made, but they all seemed to reach the general conclusion that there was no significant difference in the choice of boys by girls or girls by boys.

In a study by Bonney (1954) approximately 2,370 pupils served as subjects. They were taken from the third through the eighth grades. A weighted scoring was adopted for the "How I Feel Toward Others" scale, consisting of

+2 for a number 1 choice
+1 for a number 2 choice
0 for a number 3 choice
-1 for a number 4 choice
-2 for a number 5 choice

Thus, each subject's score was the algebraic sum of the positive and negative feelings expressed toward him by all the other members of his group. All intersex choosing was calculated through a simple mathematical process found in the above reference (Bonney, 1954, pp. 104-109).

The findings of this study showed that although there was a greater tendency for boys to choose girls than for girls to choose boys in the lower four grades, the difference of the critical ratio in all four grades was not significant. In the sixth grade, however, the ratio of boys choosing girls was higher than it was in the previous three grades. In the seventh and eighth grades a change of trend was noted. The critical ratio leveled out to the point where the two sex

group's interpersonal attitudes toward each other was almost of equal intensity.

Moreno (1953) reported data on intersex choosing in grades from kindergarten through the eighth grade in a public school in New York City. The pupils chose others in their respective rooms they would like most to have remain in their rooms with them. He found the highest degree of intersex choosing to be in the kindergarten and first grade. The percentages in these grades were 25 and 27 per cent, respectively. In the remaining grades the per cents of intersex choosing varied from 2.5 to 16.5, with a median of 4. There was a greater number of boys who chose girls than girls who chose boys in the second through the sixth grades. In Moreno's population, however, the boy for girl choices were about twice as extensive as the girl for boy choices, which would account for the differences. In the upper two grades, as in Bonney's study, the intersex choice was very significant.

Dahlke (1953) made a study that was similar to the two above in its results. The study involved sociometric choices in the second, fourth, fifth, sixth, seventh, and eighth grades of a New England elementary school. Three hypotheses were tested, one of which was stated: The requirements of age status and sex status order social relationships. The results showed that boys were found to have a slightly lower choice status than girls. Chi square significance was at the 5 per cent level.

Thorpe (1955) investigated through research the effects of sex on sociometric status. He used 34 classes, one each from 34 secondary schools in London. This involved 980 pupils with a mean age of 12-8, and an S.D. of 16 months.

The sociometric test required three choices in order of preference for each of the criteria: (a) sitting by in class, (b) playing with at break, and (c) taking home to tea. A negative criteria was also used, and the difference of the two scores gave the status of the student.

The results of this study showed no correlation between sex and sociometric status.

Of the preceding studies, Bonny's (1954) and Moreno's (1953) indicated that although there was a tendency for more boys choosing girls than girls choosing boys in the lower grades, there was little correlation between the sexes in the upper grades. Only one finding showed significance, and that was boys choosing girls of the sixth grade, which was significant at the 5 per cent level.

Sociometric Status of Children in Relation to Their Intelligence

One of the many important phases of this review pertains directly to pupils placed in a fast-learner group in comparison to peers placed in a normal heterogeneous class situation.

Goldworth (1958) conducted research pertaining to the fast-learner area in a suburban community in a San Francisco Bay community. Fast-learner pupils attended special classes held for 90-minute periods twice a week. Pupils admitted to this special school were from grades four through eight whose I.Q.'s were 130 or higher on the California Test of Mental Maturity, or 120 or higher on the short form of the Revised Stanford-Binet.

The subject areas that were used included art, biological science, physical science, and social studies. In each area, two groups were

formed: grades four through six, and grades seven through eight. The number of pupils was limited in each group to fifteen. These special classes were conducted over a five-month period, beginning January, 1956. Four special teachers were employed, all of whom were doctoral candidates in the School of Education at Stanford University, and each was a specialist in one of the subject areas involved. Only limited coordination among teachers was used, in spite of an attempt to have a common understanding of goals and activities.

An experimental group of fast learners and another group of average students, the control group, was formed (N-204 in the experimental group and N-211 in the control group). Pre-measures and post-measures used were the Columbia Classroom Distance Scale and three sociometric tests.

The purpose of this study was to see if there was a difference between children in the experimental classrooms and children in the control classrooms with respect to change in their

1. Acceptance of each other as friends
2. Acceptance as friends by their classmates
3. Acceptance of their classmates as friends
4. "Group cohesion"
5. "Sub-group cohesion"

The study gave some revealing results. First, in their acceptance of each other as friends, the experimental group was accepted by their classmates to a greater degree, probably because they were in a separate building for two 90-minute periods each week. The control group showed an increase in the degree to which they were accepted

as friends by their classmates--however, the difference was not significant in either group. At all grade levels no significant difference was found between the experimental group and the control group. Thus, the fast-learner program produced no apparent ill feeling toward fast-learners on the part of their classmates within the regular classroom. This finding seemed to contradict the common view that special grouping fosters attitudes of intolerance. In regard to "group cohesion," the three sociometric tests (with one exception) showed that no significant difference was found at any grade level for any of the three sociometric test criteria.

Sub-group preference was determined for each regular classroom by dividing the number of choices made by the fast-learners of other fast-learner classmates by the total possible number of such choices that could have been made by fast-learners. At all three grade levels, and for each of the criteria, no significant difference was found between experimental and control fast-learners.

Goldworth concluded that the fast-learner program did not result in the formation of identifiable sub-groups or cliques among the fast learners within their regular classroom groups.

On the whole, this study suggests that for regular classroom groups the fast-learner program had a limiting effect on the number of classmates which children accepted as best friends. The fast-learner study had no effect on the fast-learner's acceptance of classmates as best friends, on "group cohesion," or on sub-group preferences. Goldworth also concluded that despite the occurrence of some negative changes, these pupils' social relationships remained fairly stable.

Very similar in results to the Goldworth study was a study done in Connecticut by Williams (1958). The study included 117 gifted pupils with I.Q.'s of 130 or more according to the results of the California Test of Mental Maturity.

The Classroom Social Distance Scale was administered to establish the pupils' social status; however, adjustments were made on this scale to accommodate kindergarten and primary grade pupils.

The data revealed that four out of five pupils high in total acceptance were achieving within or beyond expectancy, whereas more than three out of five pupils low in acceptance were achieving below in expectancy. There were no appreciable differences in intelligence between high and low acceptees, and this was not considered an important variable in establishing social acceptance.

Gallagher (1958) stated that "among the more prominent variables positively related to social choice are: intelligence, socio-economic status, physical proximity in the classroom, sex, and family size." His study was to investigate the variables listed above. Two of the four hypotheses he studied were:

1. There is a positive relation between intelligence and the number of social choices a pupil will receive.

2. Pupils of similar intellectual levels have a tendency to choose each other as friends more frequently than they will choose children of different intellectual levels.

A total of 355 pupils from grades two through five from eight elementary schools were used in the study. These pupils were given the California Test of Mental Maturity, the Otis Test of Mental Ability,

and the Five-Choice Sociometric Test. The Stanford-Binet was also used in each classroom to reveal the pupils' I.Q.'s. Each classroom had at least one pupil with an I.Q. of 150 or over.

The results of this study showed that pupils with higher levels of intelligence tended to receive more choices than those of lower levels of intellectual ability.

Hypothesis number two was rejected with one exception, indicating that intelligence may not be as important as had been previously assumed. Although the first result was not given on a percentage basis, it is an indication that the somewhat superior social perception of the intellectually bright children probably accounts in part for their generally greater popularity.

A continuation study of the one above was also done by Gallagher (1958). The study involved once again the second through fifth grades, with 29 boys and 25 girls having I.Q.'s of 150 on the Stanford-Binet test.

The hypotheses were:

1. Gifted children are more socially accepted by their peers than children of average intelligence in the classroom.

2. The popularity of children in the gifted group decreases as their intelligence reaches an extremely high level.

3. The popularity of gifted children is higher in schools where there are many other bright children than in schools where there are few bright children.

4. Gifted children are chosen by other bright children as friends more frequently than they are chosen by the less bright children in the classroom.

5. Gifted children choose children near their own intellectual level, rather than children of lower levels of ability.

The results showed that peer acceptance of highly gifted pupils was significantly greater than for pupils of average intelligence. Fifty-two per cent of the gifted group were in the top quarter of their class in terms of sociometric choice. The sociometric device used was a simple listing of the names of the individuals by their friends. Only 11 per cent were in the lowest quarter of their class. This difference was significant at the 1 per cent level.

High level of acceptance did not seem to be affected by sex or grade level of the child.

Contrary to the third hypothesis, there seemed to be no tendency for gifted children in schools containing few gifted to be less popular than the gifted children in schools containing many gifted.

A special comparison was made between peer acceptance of children with I.Q.'s over 165 and those from 150 to 164. There was some trend for those with 165 or above to be less well accepted, although this was not a marked trend nor significant.

Hypotheses four and five were not supported. That is, gifted pupils were chosen by pupils of all levels of intellectual ability and not more so by bright pupils. Gifted pupils also chose pupils of all levels of intellectual ability as friends. This result suggests that the gifted child is not concerned or unduly influenced in his choice of friends by his intellectual level.

In support of the first hypothesis in the study above was the study of the relationship between selection-rejection and intelligence, social status and personality among sixth graders by Grossman and

Wrighter (1948). This study involved 117 sixth-grade children in four classes in a small university city. Wage earners in the families of the children were professional workers, farmers, and laborers.

A "near-sociometric" instrument for determining selection-rejection was used. Other tests used were the California Test of Personality, for determining personality differences; the Stanford Binet, for intelligence; Stanford Achievement Test, for reading achievement; and a father's occupational scale, which will not be included in this review.

On the sociometric test, each of the three choices for each question was weighted. The difference between the sums of the selection and rejection scores served as an individual score for each pupil. After the classes were analyzed separately, standard scores were obtained and a composite analysis made utilizing social status, intelligence, reading achievement, and personality and adjustment.

The results showed that intelligence did make a difference up to a certain point, and that point was normal intelligence--but beyond that it did not materially affect the selection score. An important over-all result was that a significant difference was found in the average selection-rejection score between those in the below-normal group and the normal-superior group. In other words, pupils with the highest selection-rejection scores were more intelligent than the other pupils.

Miller (1956) conducted a study to ascertain whether significant differences exist between mentally superior, mentally typical, and mentally retarded pupils in a regular classroom at the upper elementary level with regard to sociometrically ascertained social status and certain socio-empathic abilities. The only hypothesis used in his

research that has importance to this review was: There was no significant difference between the samples of mentally superior, mentally typical, and mentally retarded in respect to the extent to which they were socially accepted.

One hundred and twenty pupils, which included 65 boys and 55 girls--20 in each I.Q. group (120 to 140, 90 to 110, and 60 to 80) at each of two grade levels (fourth and sixth)--were included in the study. The pupils were in thirteen different classrooms in eleven different buildings. They were not separated for any testing, however--the entire classroom was tested in each instance, and only the appropriate papers were analyzed.

Tests used were the Primary Mental Abilities, for determining I.Q., and a "sociometric test," for determining social status. To score this sociometric test, the average of the friendship ratings given each pupil by his classmates was found.

The results of this study showed that the superior pupils were wanted as friends by their classmates, then the typical pupils, and then the retarded following in succession. The difference was significant in all cases except between the typical and retarded groups at the fourth-grade level.

Miller concluded that superior pupils chose other superior pupils as friends significantly more often than they chose typical or retarded pupils. The typical group choices were equally proportioned at the fourth grade, but shifted to significantly more choices of superior pupils at the sixth grade level. The retarded group proportioned their choices equally between the other two groups at both grade levels.

Barbe (1954) agreed with Miller as to the popularity of intelligent pupils. His study was devoted entirely to the question of intelligence and its relationship to sociometric status. The hypotheses involved in this study were:

1. From what intellectual level do children of above and below average intelligence select their friends?
2. Is there a difference in the intellectual level of the friends of children above and below average in intelligence?
3. From what intellectual level do "bright" children and slow learners select their friends?
4. Are bright children and slow learners chosen as friends by those of average intelligence?

Subjects used were 244 pupils with a mean I.Q. of 104 (range 65 to 140), in grades four through seven, in three public elementary schools in Ohio.

The California S-F Test of Mental Maturity was used as the measure of intelligence, and a sociometric test in which each pupil was asked to list his three best friends was used as a measure of social status.

All the data gathered from the study was tabulated and grouped into intellectual levels.

The findings showed that the pupils of above-average intelligence tended to select their friends from children in the superior range of intelligence, although some of their friends came from each different level of intelligence. Pupils of below-average intelligence tended to select their friends from children in the high average (100 to 110) range of intelligence, although some of their friends, too, came from each level of intelligence. The above-average group showed more preference for pupils of higher intelligence than the below-average group. Slow learning pupils chose their friends from the 120 I.Q. level downward, choosing no one above 120. The bright pupils chose their friends

primarily from the above-average group, but only 30 per cent from among their own I.Q. group, which Barbe believed was due to the limited choice in this group. Bright pupils were chosen by the average group as friends far more frequently than were slow pupils.

Another aspect of Thorpe's (1955) study showed that sociometric status of students was related to the following variables: (a) age, (b) intelligence, (c) number of siblings, and (d) position in family. The present study is concerned with the intellectual relationship only.

Subjects involved were from thirty-four complete school classes, one each from thirty-four different schools--mainly modern secondary schools of London. Included in the study were 980 pupils, with a mean age of 12-8 and an S.D. of 16 months.

The tests involved a sociometric test, giving three choices in preference order for each of the criteria: (a) sitting by in class, (b) playing with at break, and (c) taking home to tea. A negative criteria was also used, with the total score being the positive choices minus the negative choices. The intelligence test used was Thurstone's Primary Mental Abilities (11-17 year old version).

Scores were calculated for each of the 980 pupils on intelligence. Correlations were then run between sociometric status scores and intelligence scores for each class taken separately. The classes were then subdivided into three groups each in respect to age, three groups in respect to intelligence, and three in respect to sex. For each of these subgroups, the mean correlations were tested for significant differences, using analysis of variance. The within-class correlation between sociometric status and intelligence was positive.

A study by Davis (1957) used a total of 100 eighth-grade pupils of a boys' school as subjects. Sociometric status was determined by each student's rating of a variety of traits of all the other members of his homeroom group on a five-step scale. Reliabilities of the scale, determined by retesting a randomly selected section eight weeks later, ranged from .88 to .96. Sociometric status was based on a general acceptance scale (r = .90) in which the boys rated others as to whether they would like them as friends. Tests used to check intelligence were: Otis QS Beta Test for mental age, the Otis I.W. Test, and the Nelson-Denny Reading Test for achievement.

The results of this study showed a positive correlation between intelligence and popular social status. Significance was shown in regard to I.Q. and social status on the 1 per cent level, and mental age and social status on the 5 per cent level.

Relative to the preceding study was one by Burchinal (1959) on "Social Status, Measured Intelligence, Achievement, and Personality Adjustment of Rural Iowa Girls." Two of the four hypotheses of his study are valuable to this review:

1. There is a positive relationship between each of the social groups and the measured intelligence of the girls.

2. There is a positive relationship between each of the social status groups and each of the over- or under-achievement scores of the girls.

Subjects of this study involved 176 girls in grades four through ten or four rural schools in a Central Iowa County. Tests used were the

Otis Mental Abilities Test, Jastak-Bijou Wide Range Achievement Test, Mental Health Analysis, and home interviews for determining social status.

Rank order correlations were then computed for the relationship between each of the estimates of the independent variable (social status) with each of the girl's test scores and several combinations of scores taken as measures of over- or under-achievement.

The results of this test showed very little or no relationship between each of the family social status groups and the three achievement scores of the four over-under achievement scores.

As far as this study is concerned in relationship to the information necessary to this review, it is noted that the measure of social status was too crude to be of material worth. It does present an indication of the relationship between intelligence and social status, however.

Bonney's (1943) study, "The Relative Stability of Social, Intellectual, and Academic Status in Grades Two through Four, and the Interrelationships between These Various Forms of Growth," showed a positive relationship between the measures of social success and the measure of intelligence. Bonney stated that although the relationship mentioned above was positive, the results were interpreted as meaning that attainment of social skills could be assumed to be a natural sequence of intellectual brightness or the mastery of subject matter.

Summary

Although the studies mentioned above show a high correlation between intelligence and social status, and although more students who had a high social standing were in the upper intellectual group, intelligence was not shown to be a prerequisite of social standing.

Comments on the Review of Literature

The plan of ability grouping was conceived with the hope that pupils placed in their own group or level of intelligence would achieve faster than if they were placed in an ungrouped situation. More than half of the studies reviewed seemed to indicate that achievement can be improved in some groups and in some subjects, but some researchers feel social status difficulties might arise from this grouping situation.

The second and third sections of this review have presented information pertaining to social status and intelligence. This information has shown that:

1. There is some difference, but not of significant value, in the choosing between the sexes.

2. A fast-learner group taken out of regular situations results in a fairly stable social status for all concerned.

3. There is some correlation between high intelligence and social status.

PROCEDURE

Selection of Subjects

In the following treatise, the districts involved will be referred to as District R, which signifies a random-grouped district, and District A, which signifies an ability-grouped district. City School District R lies in the center of County School District A in the same area. In 1957, County School District A began homogeneously grouping pupils. Because homogeneous grouping has had both favorable and unfavorable reports, an excellent opportunity presented itself for research, since schools in City School District R are heterogeneously grouped.

Dr. Walter Borg, of the Utah State University, drew up an extensive research draft which would study a number of problems involved in random- versus ability-grouped situations. The research plan was then presented to the superintendents of both districts, and they agreed to cooperate in the study in every way possible. A research grant was then received to complete the four years of this study.

School District R was used as the control group, and School District A was used as the experimental group. Schools were hand-picked to provide, insofar as possible, similar conditions in the two districts. Similar schools in each district were not difficult to find, as the living conditions in parts of District A were consistent with those found in parts of District R.

Inasmuch as this is the second of a four-part study, only fifth-grade pupils were used. The total number from both groups was 1,027. From District A, 451 pupils were chosen; from District R, 576. These pupils were first tested during the 1958-59 school year as fourth graders and will continue to be tested until the 1961-62 school year, when they will be seventh graders.

Classification of Subjects

Achievement

The pupils from experimental District A were grouped into superior, medium, and slow groups, according to the results of the California Achievement Test, Form WXYZ, subject to teacher evaluation. To classify the pupils in control District R, that they might be hypothetically grouped similar to those in the experimental group, the mean scores of the superior, average, and slow groups in District A were found. The point halfway between the means of the superior and average scores was the separation point for the superior pupils. Average pupils were designated as those whose scores fell halfway between the means of the superior pupils and average pupils to a point halfway between the means of the average and slow achievers. The balance of the pupils were designated as slow pupils.

The students in District R were classified in the same manner, based on the results of the same achievement test.

Sociometrics

A Sociometric Choice Questionnaire, which supplied written instructions for standardizing the administration (Appendix C), was

administered to find the peer choice totals of each pupil in both districts. Each choice made by a pupil was weighted one point, regardless of the level of choice given.

Classification of pupils into sociometric categories was obtained from Bronfenbrenner's (1959) fixed frame of reference. Three criteria were used, with five choices allotted for each pupil for each of the three criteria. The choices were then added together to give each pupil a peer choice total. This total revealed the social status, by numerical value and by name, for each pupil:

Numerical Value of Choices	Social Status Designation
0	Isolate
1-9	Neglectee
10-21	Regular
22+	Star

In this study the number of isolates were so few that they were combined with the neglectees and this group of pupils was referred to as "neglectees plus isolates."

The terms "star," "neglectee," and "isolate" were conceived by Moreno (1953); however, the definitions used in this part of the thesis are those of Bronfenbrenner (1959). A "star" refers to a person who receives a larger number of choices on a sociometric test than could be expected. A "neglectee" is a person who receives fewer choices on a sociometric test than could be expected. An "isolate" is a person who receives no choices on a sociometric test. A "regular" for this study, indicates an individual who receives the number of choices within the range that could be expected by chance.

The classification was completed when all pupils were given the sociometric level of star, regular, or neglectee plus isolate,

according to his social status--along with the achievement level of superior, average, or slow, according to the results of the achievement test scores. Each pupil was then totally classified. For example, a girl may be superior, a star, and in the random group. When the students were grouped by district, by sex, and by level, twelve separate groups were formed (see Table 1, Appendix A).

Statistical Procedure

The three variables were: district, level, and sex. One variable was expressed, while the other two variables were held constant.

Two by three contingency tables were used with the chi square statistical method to test the agreement between expected results and actual results among the groups of pupils.

In order to answer the first hypothesis, the question was formulated: Is there a significantly different proportion of stars, regulars, and neglectees plus isolates in District A as compared with District R?

To answer the second hypothesis, the problem was presented: Does District A have a significantly different proportion of stars, regulars, and neglectees plus isolates among superior boys than does District R? This same problem was presented for each of the achievement groups for boys and girls in comparing the two districts (see Tables 2 to 7, Appendix A). The variables of level and sex were held constant.

The third hypothesis was answered by the following question? Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between superior boys and average boys in District A? This same question was presented for each of the achievement levels for boys and girls in District A. The procedure was then

repeated for District R (see Tables 8 to 19, Appendix A). The variables of sex and district were held constant.

The fourth hypothesis was answered as a result of the following question: Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between superior boys and superior girls of District A? This same question was presented for all groups of the same level of opposite sex within District A, and then within District B (see Tables 20 to 25, Appendix A). The variables of district and level were held constant.

STATISTICAL ANALYSIS

For each of the following analyses, using the two by three contingency tables and two degrees of freedom, it was found that a chi square of 5.991 was necessary for significance at the 5 per cent level and 9.210 was needed for significance at the 1 per cent level.

Variable of District

The first hypothesis was: The over-all number of stars, regulars, and neglectees plus isolates does not differ significantly in ability-grouped classrooms as compared with random-grouped classrooms.

This hypothesis was supported by a chi square of only .67 (see Table 1, Appendix A).

This result proved valuable because it indicated that the over-all number in proportion of stars, regulars, and neglectees plus isolates in both districts was similar. Percentage analysis revealed that 35 per cent of the pupils in each district were neglectees plus isolates. In District A, 20 per cent of the pupils were stars and 45 per cent were regulars; District R had 18 per cent stars and 47 per cent regulars. It seemed that ability grouping, pertaining to this point, had neither increased nor decreased the total percentage of pupils placed in the social status categories.

The second hypothesis was: There are no significant differences between superior, average, or slow pupils in an ability-grouped situation as compared with a random-grouped situation in the proportion of stars, regulars, and neglectees plus isolates.

This hypothesis was analyzed by six processes, using two by three contingency tables (see Tables 2 to 7, Appendix A). The first in this group of six comparisons, that of superior boys of the two districts, was not significant, with a chi square of 1.63 (see Table 2). This indicated that there were nearly the same proportion of superior boys who were stars, regulars, and neglectees plus isolates in both districts.

In the same problem as above, but pertaining to superior girls, the chi square was 5.27, which did not quite reach significance at the 5 per cent level (see Table 3). The difference was greatest in the neglectees plus isolates group, where 20 per cent of the superior girls in District R were neglectees plus isolates, while 35 per cent of the superior girls in District A were neglectees plus isolates. This indicated that one would expect to find a greater proportion of neglectees plus isolates among superior girls in homogeneous situations than in heterogeneous situations.

The comparison involving average boys showed a chi square of 8.53, which was significant at the 5 per cent level, and almost reached significance at the 1 per cent level (see Table 4). The difference seemed to be attributable to all three social status groups. District A had 21 per cent stars, 40 per cent regulars, and 39 per cent neglectees plus isolates; District R had 13 per cent stars, 59 per cent regulars, and 27 per cent neglectees plus isolates. The trend showed District A had a greater proportion of stars and neglectees plus isolates and a smaller number in proportion of regulars, which indicated homogeneous grouping in average boys created more stars, but also created more neglectees plus isolates and fewer regulars.

No significant difference was shown in the proportion of the three social status groups among average girls, the chi square being 2.52 (see Table 5).

Among slow boys, the difference was significant at the 1 per cent level, with a chi square of 12.87 (see Table 6). The trend here was for District R to have fewer stars and regulars and more neglectees plus isolates than District A. A percentage analysis verified this information. District R had 8 per cent stars, 27 per cent regulars, and 65 per cent neglectees plus isolates; District A had 18 per cent stars, 49 per cent regulars, and 33 per cent neglectees plus isolates. Therefore, this homogeneous situation yielded a greater number of stars and regulars, and also a smaller number of neglectees plus isolates than this heterogeneous group of academically slow boys.

Similar to the trend in the slow boy study above, was the study of slow girls. This difference was significant at the 1 per cent level, with a chi-square of 9.25 (see Table 7). The District A slow girls had 20 per cent stars, 50 per cent regulars, and 30 per cent neglectees plus isolates. District R, in comparison, had no stars, 42 per cent regulars, and 58 per cent neglectees plus isolates. As mentioned above, the trend was similar to that for slow boys in that District A had more stars and regulars and fewer neglectees plus isolates. These results indicate that there is a tendency for homogeneous groups to have more stars and regulars and fewer neglectees plus isolates among slow girls than a similar group in a heterogeneous situation.

Variable of Level

The first part of the third hypothesis was: (a) There are no significant differences in the proportion to which superior, average, and slow students appear as stars, regulars, or neglectees plus isolates in a random-grouped situation.

By keeping the variables of district and sex constant, the third hypothesis was answered by the use of twelve, two by three contingency tables. The first six tables (Tables 8 to 13) involved District A, and the second six tables (Tables 14 to 19) involved District R.

None of the six studies in District A involving the different proportions of the social status groups among the different achievement groups were found to be significant. These results held true for both boys and girls in the district.

The percentage table data indicated that all the foregoing groups were similar in percentage.

As no significant difference in the proportion of stars, regulars, and neglectees plus isolates among the various achievement groups of boys or girls in District A was found, the indication is that homogeneous grouping tends to distribute the proportion of social status groups to each of the achievement levels so that one group does not have a significantly greater number than another.

The second part of the third hypothesis was: (b) There are no significant differences in the proportion to which superior, average, and slow students appear as stars, regulars, or neglectees plus isolates in an ability-grouped situation.

The second six tables (14 through 19) involved the students in District R. Five of the six problems were found to be significant.

In the problem involving superior boys and average boys, the total chi square was 16.37, which was significant beyond the 1 per cent level (see Table 14). This trend showed that the greatest difference was found among stars and regulars and not among neglectees plus isolates. Among superior boys there were 34 per cent stars, 37 per cent regulars, and 29 per cent neglectees plus isolates. In contrast, among average boys, there were 13 per cent stars, 59 per cent regulars, and 27 per cent neglectees plus isolates. The results showed a significant difference in proportion of stars and regulars between superior boys and average boys. Therefore, in this heterogeneous grouping situation, the trend was to have significantly more stars among superior boys than among average boys, and significantly fewer with "regular" status among superior boys than among average boys. Also, one would expect to find no significant difference in proportion of neglectees plus isolates in either group.

This trend is in compliance with the material gathered for the review of literature where correlation was found between high achievement and high social status (Barbe, 1954; Gallagher, 1958; Goldworth, 1958; Miller, 1956; and Thorpe, 1955).

The above information is further verified in the study involving superior boys and slow boys in the random situation. The difference proved significant beyond the 1 per cent level, with a chi square of 27.62 (see Table 15). The greatest difference was found in the stars and in the neglectees plus isolates groups. The degree of this difference is illustrated by the percentage table (Appendix B), which showed

superior boys with 34 per cent stars and 29 per cent neglectees plus isolates, while the slow boys had 8 per cent stars and 65 per cent neglectees plus isolates. This indicates that there is little difference in regulars when comparing superior boys and slow boys, but extremes were found among stars and neglectees plus isolates. The full implication is that in a heterogeneous situation one would expect to find more stars and fewer neglectees plus isolates among superior boys than among slow boys.

The comparison between average boys and slow boys showed a significant difference beyond the 1 per cent level, with a chi square of 25.15 (see Table 16). It was found that average boys had a proportionately greater number of regulars and a proportionately smaller number of neglectees plus isolates. From the percentage table it was found that average boys had 59 per cent regulars and 27 per cent neglectees plus isolates. The slow boys had 27 per cent regulars and 65 per cent neglectees plus isolates.

This indicates that although there is a similar proportion of stars among average and slow boys, there are proportionately more regulars and fewer neglectees plus isolates among average boys than among slow boys in a heterogeneous situation.

The implication mentioned at the beginning of this section holds true, since the correlation is high between intelligence and social status.

It would seem that the results of the same problem for random-grouped girls would be similar. This was true in two cases, but not in the third

The comparison involving superior girls and average girls was consistent with the boys' group and was significant beyond the 1 per cent level, with a chi square of 12.93 (see Table 17). The greatest difference was found among the stars, where the proportion was greater for superior girls over average girls by 11 per cent; and among the neglectees plus isolates, where the proportion was greater for average girls over superior girls by 20 per cent.

This indicates that in a heterogeneous situation superior and average girls are of nearly the same proportion in the number of social regulars. However, the superior girl pupils tended to have more stars and less neglectees plus isolates in proportion than did average girls.

An interesting relationship between the superior and slow pupils in the heterogeneous groups might be noted. The superior boys had a greater proportion of stars than the average boys, just as in the girls' groups. Among the boys, however, the second greatest difference was found among the regulars; while among the girls, the second greatest difference was found among the neglectees plus isolates. This divergence may have been due, in part, to the fact that fifth-grade boys have a more diversified program in which to gain recognition than do girls of the same grade. Girls might have less chance to be recognized and gain social status on this grade level than would boys.

The difference between the proportions of the social status groups among superior girls and slow girls in District R was significant beyond the 1 per cent level, with a chi square of 21.99 (see Table 18). Similar to the previous study, the trend was weighted in the stars and the neglectees plus isolates groups. Twenty-three per cent of the superior

girls were stars and none of the slow girls were stars. Conversely, 58 per cent of the slow girls were neglectees plus isolates, and only 20 per cent of the superior girls fell in this classification.

The above results indicate that there is a significantly greater proportion of neglectees plus isolates among slow girls than among superior girls.

The homogeneous grouping tended to have more stars and fewer neglectees plus isolates among the higher intellectual groups than among the lower intellectual groups. Also, there was little difference in proportion of regulars among these two groups.

The only comparison in District R involving the level variable which was not significant, was between average girls and slow girls. The chi square was 3.21 (see Table 19), which indicated that there was no significant difference in the proportion of stars, regulars, and neglectees plus isolates between average girls and slow girls in this district.

In this heterogeneous situation there was little difference in proportionate number of the social status groups among average and slow girls.

Variable of Sex

Hypothesis number four was: There are no significant differences between boys and girls in the number of stars, regulars, and neglectees plus isolates (see Tables 20 to 25).

To answer the questions involved in the fourth hypothesis, the variables of district and level were kept constant. Two by three

contingency tables were used--three for each district (see Tables 20 to 25).

In the first three relationships involving District A, no significance was found in the proportion of stars, regulars, and neglectees plus isolates among superior, average, and slow groups between boys and girls (see Tables 20 to 22).

This indicated that in a homogeneous situation one would expect to find no significant difference in the proportionate number of stars, regulars, and neglectees plus isolates between girls and boys of superior, average, and slow achievement levels.

In District R in the study of the same relationships, the trend was toward a near significance in two parts and significance at the 1 per cent level in the third (see Tables 23 to 25).

The study involving superior boys and superior girls was found to be significant at the 1 per cent level, with a chi square of 10.60 (see Table 23). The difference tended to be equally distributed to all social status groups. The superior boys had a larger number of stars than the superior girls by 11 per cent. They also had a larger number of neglectees plus isolates by 9 per cent, and a smaller number of regulars by 20 per cent.

This indicated that there was a greater number in proportion of stars and neglectees plus isolates among superior boys than among superior girls in District R. Also, among this same group, there were more regulars among superior girls than among superior boys.

The indication of this study is that in a heterogeneous situation one would expect to find more stars among superior boys than among superior girls, but one would also expect to find more neglectees plus

isolates and fewer regulars among superior boys than among superior girls.

The two studies involving average students and slow students in a heterogeneous situation were not significant (see Tables 24 and 25). This indicated that there was no significance in the difference in the proportion of stars, regulars, and neglectees plus isolates between average girls and average boys. Also, the proportion of these social status groups between slow boys and slow girls was negligible.

SUMMARY, FINDINGS, AND CONCLUSIONS

Summary

The purpose of this study was to evaluate an ability-grouped situation and a random-grouped situation in regard to social acceptance in each group. This evaluation was investigated through the use of the following hypotheses:

1. The over-all number of stars, regulars, and neglectees plus isolates does not differ significantly in ability-grouped as compared with random-grouped classrooms.

2. There are no significant differences between superior, average, or slow students in an ability-grouped situation as compared with a random-grouped situation in the proportion of stars, regulars, and neglectees plus isolates.

3. (a) There are no significant differences in the proportion to which superior, average, and slow pupils appear as stars, regulars, or neglectees plus isolates in a random-grouped situation. (b) There are no significant differences in the proportion to which superior, average, and slow pupils appear as stars, regulars, or neglectees plus isolates in an ability-grouped situation.

4. There are no significant differences between boys and girls in the number of stars, regulars, and neglectees plus isolates.

The location and conditions of the schools used in the two districts involved were very similar. From the experimental District A, 451 pupils from the fifth grade were used; and from the control District R,

576 pupils from the fifth grade were used. The pupils in District R were hypothetically grouped similar to those in District A. Within the conditions mentioned above, the three variables of district, level, and sex were tested.

A standardized sociometric choice questionnaire was employed, with a value of one point given for every choice received. Pupils were given a numerical value as to the choices made for them by their peers. This numerical value was translated, giving a social status designation of "star," "regular," "neglectee," or "isolate." Later the neglectee and isolate groups were combined. The total classification of a pupil involved his district, his intelligence, and his social designation.

The statistical procedure involved two by three contingency tables and chi square statistical method to test the agreement between expected and actual results among the groups of pupils. A percentage table was also used to clarify the results, both significant and not significant, from each of the contingency tables.

Findings

1. This study revealed that there was nearly the same percentage of stars, regulars, and neglectees plus isolates in District A as there was in District R. This indicated that hypothesis No. 1 is not significant. That is, the over-all proportion of stars, regulars, and neglectees plus isolates does not differ significantly in ability-grouped classrooms as compared with random-grouped classrooms.

2. It was found that there was a significantly different proportion of stars, regulars, and neglectees plus isolates between superior boys and superior girls in District R. However, this was the only significant factor on the sex variable. This indicated that in hypothesis No. 4 there is only one significant difference between boys and girls in the number of stars, regulars, and neglectees plus isolates, and that is in the group of superior boys and superior girls in District R.

3. It was found that hypothesis No. 3b was not significant in any of the comparisons. This indicated that there are no significant differences in the proportion to which superior, average, and slow students appear as stars, regulars, or neglectees plus isolates in an ability-grouped situation.

In hypothesis 3a, it was found that there are a number of significant differences in the proportion to which superior, average, and slow students appear as stars, regulars, or neglectees plus isolates in a random-grouped situation. There were more stars among superior girls than average or slow girls, and also less neglectees among superior girls than among average or slow girls. The only comparison on this variable that was not significant was the comparison of average and slow girls, where one would expect to find about the same number of stars, regulars, and neglectees plus isolates.

Among boys, it was found that there were more stars in the superior group than in the average or slow group, and more stars among the average group than among the slow group. It was also found that both superior and average groups had less neglectees plus isolates than the slow group, but nearly the same number of neglectees plus isolates as each other.

4. There was no significant difference found between superior boys or girls, or average girls in an ability-grouped situation, as compared with a random-grouped situation, in the proportion of stars, regulars, and neglectees plus isolates. Among average boys, there were more stars, less regulars, and more neglectees plus isolates in an ability-grouped situation as compared with a random-grouped situation. It was also found that among slow boys and girls there were more stars, more regulars, and less neglectees plus isolates in an ability-grouped situation as compared with a random-grouped situation.

Conclusions

In situations comparable to conditions involved in this study, one could be justified in expecting the following:

1. One would expect to find nearly the same total number of stars, regulars, and neglectees plus isolates in ability grouping as in random grouping.

2. In an ability-grouped situation, one would expect to find fewer stars and more neglectees plus isolates among superior boys and girls than in a random-grouped situation. One would expect to find more stars and fewer neglectees plus isolates among average girls. Among average boys, ability grouping would be expected to have more stars, but also more neglectees plus isolates than a random-grouped situation. Among slow students, one would expect to find more stars and fewer neglectees plus isolates in ability-grouped situations than among random-grouped situations.

3. One would expect to find an even distribution of stars, regulars, and neglectees plus isolates among superior, average, and slow students in an ability-grouped situation. One would also expect to find a larger number of stars among the superior students and more neglectees plus isolates among the slow students in a random-grouped situation.

4. One would expect to find very little difference in the proportion of stars, regulars, and neglectees plus isolates among superior, average, and slow girls in comparison with superior, average, and slow boys in either situation.

LITERATURE CITED

Abbott, H. 1944. Ability grouping in the junior high school. National Association of Secondary School Principals Bulletin, 28:39-43.

Barbe, W. B. 1954. Peer relationships of children of different intelligence levels. School and Society, 80:60-62.

Barthelemess, H. M., and P. A. Boyer. 1932-33. An evaluation of ability grouping. Journal of Educational Research, 26:284-294.

Bedoian, V. H. 1954. Social acceptability and social rejection of the underage, at age, and overage pupils in the sixth grade. Journal of Educational Research, 48:513-20.

Bonney, M. E. 1943. The relative stability of social, intellectual, and academic status in grades II to IV, and the inter-relationships between these various forms of growth. The Journal of Educational Psychology, 34:88-102.

_____. 1954. Choosing between the sexes on a sociometric measurement. Journal of Educational Psychology, 39:99-114.

_____. 1955. Social behavior differences between second grade children of high and low sociometric status. Journal of Educational Research, 48:481-495.

Burchinal, L. G. 1959. Social status, measured intelligence, achievement, and personality adjustment of rural Iowa girls. Sociometry, 22:75-80.

Busswell, Margaret M. 1953. The relationship between the social structure of the classroom and the academic success of the pupils. Journal of Experimental Education, 22:37-52.

Cook, R. R. 1924. A study of the results of homogeneous grouping of abilities in high school classes. National Society for the Study of Education, 23:302-112.

Cooke, E. W. 1952. Ability grouping. National Association of Secondary School Principals Bulletin, 36:79-83.

Davis, J. A. 1957. Correlations of sociometric status among peers. Journal of Educational Research, 50:561-569.

Dahlke, H. Otto. 1953. Determinants of sociometric relations among children in the elementary school. Sociometry, 16:327-338.

Eales, J., H. Reed, and C. Wilson. 1955. Grouping practices in the secondary schools of Los Angeles County. California Journal of Secondary Education, 30:54-57.

Gallagher, J. J. 1958. Social status of children related to intelligence, propinquity, and social perception. The Elementary School Journal, 58:225-231.

Gallagher, James J. 1958. Peer acceptance of highly gifted children in elementary schools. The Elementary School Journal, 58:465-470.

Goldworth, Mary. 1958. Measuring social relationships in a special grouping program for fast learners. California Journal of Educational Research, 9:167-173.

Goldworth, Mary N. 1959. The effects of a fast-learner program on the social relationships of elementary school children. Exceptional Children. (Doctoral dissertation, School of Education, Stanford University, 1957.)

Gowan, M. S. 1955. Why homogeneous grouping. California Journal of Secondary Education, 30:22-59.

Gronlund, Norman E. 1959. Sociometry in the classroom. Harper and Brothers, New York.

Grossman, B., and J. Wrighter. 1948. The relationship between selection-rejection and intelligence, social status, and personality amongst sixth grade children. Sociometry, 11:346-355.

Hamalainen, A. E. 1950. Method of grouping pupils should provide normal social situations. Nation's School, 45:34-35.

Havighurst, R. J., and L. L. Janke. 1944. Relations between ability and social status in a midwestern community. I: Ten-year-old children. The Journal of Educational Psychology, 35:357-368.

Hunt, W. 1942. Ability grouping. Educational Administration and Supervision, 28:591-9.

Jackson, G. T. 1943. Each according to his ability. School Executive, 62:37-8.

Lazarus, A. 1955. Grouping based on high interest vs. general ability: a school teacher's viewpoint. California Journal of Secondary Education, 30:33-40.

Marsh, D. E. 1955. An interesting experience in grouping. California Journal of Secondary Education, 30:49-53.

Miller, R. V. 1956. Social status and socioempathic differences. Exceptional Children, 23:114-119.

Moreno, J. L. 1953. Who shall survive? Beacon House, New York.

Morrison, I. E., and I. F. Perry. 1955. Acceptance of average children by their classmates. Elementary School Journal, 56:217-220.

Otto, H. T. 1953. Organization of the education program. Report on Educational Research, 23:181-7.

Parker, J. C., and D. H. Russell. 1954. Ways of providing for individual differences. Educational Digest, 19:35-8.

Polkinghorne, Ada R. 1950. Grouping children in the primary grades. Elementary School Journal, 50:502-8.

Potter, Mary A. 1933. Using homogeneous grouping to lead pupils to their own highest level of achievement. National Council for Teaching Mathematics Yearbook, 22:27-33.

Rankin, Paul T., C. T. Andersen, and W. G. Bergman. 1936. Thirty-fifth Yearbook. National Society for the Study of Education. Public School Publishing Company, Bloomington, Illinois.

Routh, M. R. 1960. Sociometric aids. Education, 80:307-310.

Thorpe, J. G. 1955. An investigation into some correlates of sociometric status within school classes. Sociometry, 18:49-61.

Tonsor, C. A. 1953. Must we segregate. National Association for Secondary School Principals Bulletin, 37:75-7.

Vredevoe, L. E. 1955. Grouping of secondary school pupils. California Journal of Secondary Education, 30:33-37.

Webster's New World Dictionary. 1957. World Publishing Company, New York.

Williams, Meta F. 1958. Acceptance and performance among gifted elementary school children. Education Research Bulletin, 37:216-20.

APPENDIXES

APPENDIX A

Table 1. Is there a significantly different proportion of stars, regulars and neglectees plus isolates in District A as there is in District R?

District	Stars	Regulars	Neg.+ Isol.[a]	Total	Total X^2
A	85.2 / 90	207.7 / 203	158.1 / 158	451	.67
R	108.8 / 104	265.3 / 270	201.9 / 202	576	
Total	194	473	360	1027	

[a]Neglectees plus isolates

Table 2. Does District A have a significantly different proportion of stars, regulars and neglectees plus isolates among superior boys than does District R?

District	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
A	18.7 / 15	22.7 / 24	18.7 / 21	60	1.63
R	37.3 / 41	45.3 / 44	37.3 / 35	120	
Total	56	68	56	180	

Table 3. Does District A have a significantly different proportion of stars, regulars and neglectees plus isolates among superior girls than does District R?

District	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
A	15.5 13	40.4 36	19.1 26	75	5.27
R	27.5 30	71.6 76	33.9 27	133	
Total	43	112	53	208	

Table 4. Does District A have a significantly different proportion of stars, regulars, and neglectees plus isolates among average boys than does District R?

District	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
A	22.5 27	63.1 52	43.4 50	129	8.53
R	18.5 14	51.9 63	35.6 29	106	
Total	41	115	79	235	

Table 5. Does District A have a significantly different proportion of stars, regulars and neglectees plus isolates among average girls than does District R?

District	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
A	15.2 19	48.1 48	36.7 33	100	2.52
R	16.8 13	52.9 53	40.3 44	110	
Total	32	101	77	210	

Table 6. Does District A have a significantly different proportion of stars, regulars, and neglectees plus isolates among slow boys than does District R?

District	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
A	7.0 / 10	20.9 / 28	29.2 / 19	57	12.87
R	9.0 / 6	27.1 / 20	37.8 / 48	74	
Total	16	48	67	131	

Table 7. Does District A have a significantly different proportion of stars, regulars, and neglectees plus isolates among slow girls than does District R?

District	Stars	Regulars	Neg.+Isol.	Total	Total X^2
A	2.9 / 6	13.8 / 15	13.3 / 9	30	9.25
R	3.1 / 0	15.2 / 14	14.7 / 19	33	
Total	6	29	28	63	

Table 8. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between superior boys and average boys in District A?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Superior	13.3 / 15	24.1 / 24	22.5 / 21	60	.47
Average	28.7 / 27	51.9 / 52	48.5 / 50	129	
Total	42	76	71	189	

Table 9. Is there a significantly different proportion of stars, regulars and neglectees plus isolates between superior boys and slow boys in District A?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Superior	12.8 15	26.7 24	20.5 21	60	1.36
Slow	12.2 10	25.3 28	19.5 19	57	
Total	25	52	40	117	

Table 10. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between average boys and slow boys in District A?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Average	25.7 27	55.5 52	47.9 50	129	1.24
Slow	11.3 10	24.5 28	21.1 19	57	
Total	37	80	69	186	

Table 11. Is there a significantly different proportion of stars, regulars and neglectees plus isolates between superior girls and average girls in District A?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Superior	13.7 13	36.0 36	25.3 26	75	.10
Average	18.3 19	48.0 48	33.7 33	100	
Total	32	84	59	175	

Table 12. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between superior girls and slow girls in District A?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Superior	13.6 13	36.4 36	25.0 26	75	
					.25
Slow	5.4 6	14.6 15	10.0 9	30	
Total	19	51	35	105	

Table 13. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between average girls and slow girls in District A?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Average	19.2 19	48.5 48	32.3 33	100	
					.11
Slow	5.8 6	14.5 15	9.7 9	30	
Totals	25	63	42	130	

Table 14. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between superior boys and average boys in District R?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Superior	29.2 41	56.8 44	34.0 35	120	
					16.37
Average	25.8 14	50.2 63	30.0 29	106	
Totals	55	107	64	226	

Table 15. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between superior boys and slow boys in District R?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Superior	29.1 41	39.6 44	51.3 35	120	27.62
Slow	17.9 6	24.4 20	31.7 48	74	
Total	47	64	83	194	

Table 16. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between average boys and slow boys in District R?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Average	11.8 14	48.9 63	45.3 29	106	25.15
Slow	8.2 6	34.1 20	31.7 48	74	
Total	20	83	77	180	

Table 17. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between superior girls and average girls in District R?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Superior	23.5 30	70.6 76	38.9 27	133	12.93
Average	19.5 13	58.4 53	32.1 44	110	
Total	43	129	71	243	

Table 18. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between superior girls and slow girls in District R?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Superior	24.0 30	72.1 76	36.9 27	133	21.99
Slow	6.0 0	17.9 14	9.1 19	33	
Total	30	90	46	166	

Table 19. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between average girls and slow girls in District R?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Average	10.0 13	51.5 53	48.5 44	110	3.21
Slow	3.0 0	15.5 14	14.5 19	33	
Total	13	67	63	143	

Table 20. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between superior boys and superior girls in District A?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Boys	12.4 15	26.7 24	20.9 21	60	1.47
Girls	15.6 13	33.3 36	26.1 26	75	
Total	28	60	47	135	

Table 21. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between average boys and average girls in District A?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Boys	25.9 / 27	56.3 / 52	46.8 / 50	129	1.37
Girls	20.1 / 19	43.7 / 48	36.2 / 33	100	
Total	46	100	83	229	

Table 22. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between slow boys and slow girls in District A?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Boys	10.5 / 10	28.2 / 28	18.3 / 19	57	.15
Girls	5.5 / 6	14.8 / 15	9.7 / 9	30	
Total	16	43	28	87	

Table 23. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between superior boys and superior girls of District R?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Boys	33.7 / 41	56.9 / 44	29.4 / 35	120	10.60
Girls	37.3 / 30	63.1 / 76	32.6 / 27	133	
Total	71	120	62	253	

Table 24. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between average boys and average girls in District R?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Boys	13.3 14	56.9 63	35.8 29	106	3.90
Girls	13.8 13	59.1 53	37.2 44	110	
Total	27	116	73	216	

Table 25. Is there a significantly different proportion of stars, regulars, and neglectees plus isolates between slow boys and slow girls in District R?

	Stars	Regulars	Neg.+ Isol.	Total	Total X^2
Boys	4.1 6	23.5 20	46.3 48	74	4.69
Girls	1.9 0	10.5 14	20.7 19	33	
Total	6	34	67	107	

APPENDIX B

Table 26. Percentage table.

Classification			Total No.	Stars %	Regs. %	Neg.-Isol. %
Superior	Girls	Ability Group	75	17	48	35
		Random Group	133	23	57	20
	Boys	Ability Group	60	25	40	35
		Random Group	120	34	37	29
Average	Girls	Ability Group	100	19	48	33
		Random Group	110	12	48	40
	Boys	Ability Group	129	21	40	39
		Random Group	106	13	59	27
Slow	Girls	Ability Group	30	20	50	30
		Random Group	33	0	42	58
	Boys	Ability Group	57	18	49	33
		Random Group	74	8	27	65
Totals		Ability Group	451	20	45	35
		Random Group	576	18	47	35

APPENDIX C

ADMINISTRATOR'S INSTRUCTIONS

Sociometric Choice Questionnaire

(Read all capitalized instructions exactly as written. This test will take about 20 minutes to complete, but additional time should be allowed if necessary. Pass out test papers.)

LEAVE YOUR PAPER FACE DOWN ON YOUR DESK. PEOPLE WHO LIKE EACH OTHER OFTEN WORK TOGETHER BETTER IN CLASS PROJECTS, HAVE MORE FUN, AND GET MORE DONE. OFTEN WE LIKE TO DO SOME THINGS BEST WITH ONE FRIEND AND OTHER THINGS WITH ANOTHER FRIEND.

TODAY WE ARE GOING TO THINK ABOUT OUR FRIENDS IN THE CLASS AND LIST THE ONES WE MOST LIKE TO BE WITH. NOW TURN OVER YOUR PAPER. YOU SEE THAT THE PAPER HAS A LIST OF ALL THE CHILDREN IN THE CLASS. LOOK AT THE LIST AND THINK OF THE CHILDREN IN THE CLASS WHO ARE YOUR BEST FRIENDS. THESE ARE THE ONES YOU LIKE THE MOST. NOW PUT A CHECK MARK LIKE THIS (illustrate on blackboard) IN FRONT OF THE NAMES OF THE FIVE CHILDREN IN THE CLASS WHOM YOU THINK ARE YOUR BEST FRIENDS. DO NOT HURRY, THINK ABOUT IT, AND BE SURE YOU CHECK THE ONES WHO ARE REALLY YOUR BEST FRIENDS. BE SURE YOU PUT THE CHECKS IN FRONT OF THE NAMES. DO NOT LOOK ON YOUR NEIGHBOR'S PAPER. RAISE YOUR HAND WHEN YOU ARE FINISHED. (Circulate around classroom to be sure that pupils are following instructions. Allow about three minutes.) HOW MANY HAVE NOT YET CHECKED FIVE NAMES? (Allow another minute and check to see if pupils not finished need help. When all students are finished, say:)

NOW THAT YOU HAVE CHECKED YOUR BEST FRIENDS, LET'S SEE WHETHER YOU CAN GUESS WHO WILL CHOOSE YOU AS ONE OF THEIR BEST FRIENDS. DO NOT CHECK MORE THAN FIVE. IF YOU DON'T BELIEVE THAT FIVE PERSONS HAVE CHECKED YOUR NAME, MAKE A CHECK BEHIND ONLY THOSE WHOM YOU THINK HAVE CHECKED YOUR NAME. (Check to see if all pupils are following directions. If necessary, caution children again not to look on their neighbor's paper. Allow three minutes and then see if pupils not finished need help. After all pupils are finished, say:) NOW, DRAW A CIRCLE AROUND YOUR NAME ON THE LIST SO I WILL KNOW WHICH PAPER IS YOURS.

NOW, TURN YOUR PAPER TO THE NEXT PAGE. THIS TIME I WANT YOU TO CHECK THE NAMES OF THE FIVE CHILDREN WITH WHOM YOU WOULD MOST LIKE TO STUDY YOUR HOMEWORK OR LESSONS. SOME OF THESE PEOPLE MAY BE THE SAME AS YOU LISTED AS YOUR BEST FRIENDS, BUT SOMETIMES BEST FRIENDS ARE NOT THE PEOPLE YOU LIKE MOST TO STUDY WITH. THINK ABOUT IT AND BE SURE TO PUT A CHECK IN FRONT OF THE NAMES OF THE FIVE CHILDREN IN THE CLASS WITH WHOM YOU WOULD MOST LIKE TO STUDY. RAISE YOUR HAND WHEN YOU ARE FINISHED. (Circulate to see if children are following directions. When everyone is finished, say:) NOW TRY TO GUESS WHICH FIVE CHILDREN WOULD MOST LIKE TO STUDY WITH YOU. PUT A CHECK MARK BEHIND THE NAMES OF THE FIVE CHILDREN YOU ARE MOST SURE HAVE CHOSEN YOU AS A PERSON WITH WHOM THEY WOULD MOST LIKE TO STUDY OR DO HOMEWORK. DO NOT CHECK MORE THAN FIVE. IF YOU DON'T BELIEVE THAT FIVE PERSONS HAVE CHECKED YOUR NAME, MAKE A CHECK BEHIND ONLY THOSE WHOM YOU THINK HAVE CHECKED YOUR NAME. RIASE YOUR HAND WHEN YOU ARE FINISHED. (When everyone is finished, say:) NOW TURN TO THE NEXT PAGE. THIS TIME I WANT YOU TO IMAGINE THAT YOU WERE TO MOVE TO ANOTHER CLASSROOM. WHICH BOYS AND

GIRLS WOULD YOU MOST LIKE TO HAVE MOVED WITH YOU? PUT A CHECK MARK IN FRONT OF THE NAMES OF THE FIVE CHILDREN WHOM YOU WOULD LIKE MOST TO BE WITH YOU IF YOU WERE MOVED TO ANOTHER CLASSROOM. RIASE YOUR HAND WHEN YOU ARE FINISHED. (Check children who are not finished after three minutes.)

NOW TRY TO GUESS WHICH BOYS AND GIRLS WOULD MOST LIKE TO HAVE YOU WITH THEM IF THEY WERE MOVED TO ANOTHER CLASSROOM. PUT A CHECK MARK BEHIND THE NAMES OF THE FIVE CHILDREN YOU ARE MOST SURE HAVE CHOSEN YOU AS ONE OF THE PERSONS THEY WOULD MOST LIKE TO HAVE WITH THEM. RAISE YOUR HAND WHEN YOU ARE FINISHED. (When all are finished, say:) NOW, TURN YOUR PAPER BACK TO THE FIRST PAGE AND PUT IT FACE DOWN ON YOUR DESK. (Designate a pupil to collect papers.) An extra name list has been provided so you can supply additional data needed in this phase of the research. Please place the following data on the extra name list:

1. Write your name at the top of sheet.
2. CIRCLE names of any children who have enrolled in your class after the first week of school.
3. Place a CHECK BEFORE the names of children who did not attend this school last year.
4. UNDERLINE the names of the three children who appear to you to be the MOST popular with their classmates.
5. Place a CHECK BEHIND the names of the three children who appear to you to be the LEAST popular with their classmates.

(Now clip your answers to the test papers, place the papers in the envelope provided, and return to the principal's office.)