

THE UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

CHARACTERISTICS OF TEACHER-SELECTED LEADERS, PEER-
SELECTED LEADERS, AND NON-LEADERS AMONG NINTH
GRADE JUNIOR HIGH-SCHOOL STUDENTS

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GRADE JUNIOR HIGH-SCHOOL STUDENTS

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CHAPTER I

INTRODUCTION

Background and Need for the Study

In contrast to other countries, the purposes of secondary education in the United States were not restricted to achievement in areas of formalized subject matter, to preparation for further study, or to vocational training. While purposes relating to academic or vocational preparation were unquestionably necessary, it was recognized that secondary schools had other functions which were equally important. The American public secondary school, designed to educate all the students as future citizens of a democracy, had no counterpart in any other country.¹

Since education was related to the needs of the society which supported it, the purposes of public education became identified early with the purposes of American

¹James B. Conant, The American High School Today (New York: McGraw-Hill Book Company, Inc., 1959), p. 7.

democracy. The men who formulated the principles of the new republic realized that citizens would have to be trained in order to function effectively as participants in self-government. Such leaders as Washington, Jefferson, John Adams, James Madison, and John Quincy Adams joined in the belief that the success of a democratic-republican society was founded on the education of its citizenry. In the early years of this country's history the grammar school was judged adequate for training citizens. The more selective secondary school served the cause of democracy by preparing potential leaders for advanced study, usually in the professions.

As public education was extended upward, it became necessary to redefine the purposes of America's secondary schools. When the doors of schools, once reserved for the few, were opened to many, goals other than "preparation for college" had to be devised. Such purposes were not difficult to find in a twentieth century world caught in the throes of economic, technological, scientific, and political upheavals. The complexities of living demanded a different quantity and quality of education for this country's citizens.

New purposes were set for America's secondary schools in 1918 by the Commission on the Reorganization of Secondary Education. A secondary education, as set forth in the Commission's Seven Cardinal Principles, was designed to provide training in (1) health, (2) command of the

fundamental processes, (3) worthy home-membership, (4) orientation to a vocation, (5) citizenship, (6) worthy use of leisure time, and (7) ethical character.¹ In addition to the fundamental processes, which traditionally had referred to subject-matter skills, was added training in the process of effective citizenship.

The report of the Commission on the Reorganization of Secondary Education shifted the emphasis from the needs of society to the needs of the individual. Since democratic institutions were established to serve the people, a reciprocal advantage for both the individual and for society materialized. If a citizen was to reach optimum growth, he had to adjust constructively to his environment; and, in turn, the environment was buttressed by the skills which the individual brought to it. In a free society the needs of the individual and the needs of society were not incompatible.²

Adopting the needs-of-the-individual approach to the problem of clarifying the purposes of secondary education, the Educational Policies Commission delineated the Ten Imperative Needs of Youth. The third Imperative Need, as

¹National Education Association, Cardinal Principles of Secondary Education, A Report Prepared by the Commission on the Reorganization of Secondary Education; Department of the Interior, Bureau of Education, Bulletin 1918, No. 35 (Washington: U. S. Government Printing Office, 1918), pp. 10-16.

²Ibid.

stated by the Commission in 1944, was:

All youth need to understand the rights and duties of the citizen of a democratic society, and to be diligent and competent in the performance of their obligations as members of the community and citizens of the state and nation.¹

Specifically, the Commission stated that the curriculum in grades seven, eight, and nine should provide, among other things, experiences which would foster the pupil's development as a citizen. The development of civic competence was also set as one of the goals for grades ten through fourteen.²

Transferring the Ten Imperative Needs of Youth from the area of theory to the area of the classroom, Madsen found that junior high school students expressed interest in studying topics and participating in activities which met their needs as listed by the Educational Policies Commission.³ Another inventory conducted by the faculty of a junior high school in Missouri corroborated Madsen's

¹Educational Policies Commission, Education for All American Youth (Washington: National Education Association and the American Association of School Administrators, 1944), pp. 225-26.

²National Association of Secondary-School Principals, Planning for American Youth (Washington: The Association, 1944), p. 21.

³Helen M. Madsen, "Expressed Interests of Junior High School Students," The Bulletin of the National Association of Secondary-School Principals, XXXII (April, 1948), pp. 172-78.

findings.¹ Persistent problems or the felt needs of students in secondary schools paralleled the Commission's list of Imperative Needs. The need to acquire skills in citizenship, for example, was echoed by junior high-school students who indicated that among their persistent problems were a concern about their relationship to the group, a need to learn how to choose leaders, and a desire to understand democratic processes for abiding by or changing rules.

A note of urgency has more recently underlined the necessity for the secondary school to recognize the role it must play in the emergency brought about by the present conflict between the East and the West. Since this emergency is in large part a struggle of ideas and of loyalties, the understandings and concomitant skills demanded for implementing this country's way of life take on greater importance. The American people during the period ahead may well seek to intensify education for democratic citizenship.²

One skill which is indispensable for a free citizen is the skill of selecting good leaders:

In terms of education this . . . means a careful inventory of all the useful abilities of all young people.

¹C. F. McCormick, "What About Common Learnings in the Junior High School?" The Bulletin of the National Association of Secondary-School Principals, XXXIV (March, 1950), pp. 265-66.

²Educational Policies Commission, Public Education and the Future of America (Washington: National Education Association and the American Association of School Administrators, 1955), p. 91.

It means emphasis on the necessity of selecting leaders and representatives in terms of their probity and good judgment. It means teaching the individual's responsibility for recognizing and placing in posts of leadership persons of the highest talent, training, and virtue.¹

That the most capable should assume positions of leadership has been an ideal since the time of Plato. Nevertheless, only a meager beginning has been made in developing methods of discovering potential leadership ability and in giving specific training in order that the most capable individuals will gravitate to positions of leadership. Through their curricular and extra-class activities, the secondary schools constitute a rich field for the selection and training of leaders and potential leaders in the techniques of responsible leadership in a democracy.²

The consideration of the skill of selecting leaders, the opportunities provided by the secondary school's curriculum for its acquisition, and the ramifications involved in strengthening this skill raise questions which lead to the "Purpose of the Study."

Purpose of the Study

This study proceeds from the premise that one of

¹Educational Policies Commission, Moral and Spiritual Values in the Public Schools (Washington: National Education Association and the American Association of School Administrators, 1951), p. 25.

²Henry C. Link, "The Definition of Social Effectiveness and Leadership through Measurement," Educational and Psychological Measurement, IV (Spring, 1944), pp. 66-67.

the important purposes of secondary schools is to provide training in the skills of citizenship. In the "Background and Need for the Study" it has been shown that this purpose developed in order to meet the need both of society and of the individual. The skill which has been selected as a prerequisite to the effective functioning of a citizen is the skill of selecting leaders.

If students are to learn to recognize and place "in posts of leadership persons of the highest talent," the level and effectiveness of communication between the teacher and the students regarding "leaders" should be ascertained. The semantics involved in verbalizing about "citizenship," "democracy," and "leader" may mean little to students.

One purpose of this study is to learn if teachers and students tend to choose the same students for posts of leadership.

If the students and teachers agree as to who the best leaders are, one may conclude that similar criteria for leaders are being used by the students and the teachers. If they disagree, it can perhaps in part be determined wherein the criteria of teachers and students differ by comparing selected characteristics of teacher-identified leaders and peer-identified leaders. This is the second purpose.

The study's third purpose is to compare the leaders, identified by both the students and the teachers, with the non-leaders in order to learn if there are significant

differences in regard to selected characteristics of individuals in each category. If there are, one may then conclude that these traits can be of service in identifying potential leaders. Once the school is able to associate successful leadership in its environment with certain characteristics and traits, the school should be more successful in discovering leaders and potential leaders and in assisting them to plan their education and life work.¹

Thorndike asserts that the education of the follower is as important as the education of the leader:

At all events the education of leaders should be paralleled by an education in following. And this applies not merely to the dull and weak, but to everybody. Everybody needs to learn which persons and which doctrines to follow. For nobody can be expert in everything.²

Information regarding the concept of the teachers and of the students in relation to the identification of student leaders is fundamental to the structuring of experiences which enable the secondary school to achieve the purpose of educating free men for productive participation in a free society.

The Problem

The problem was stated as a three-fold question:

¹Floyd J. Reynolds, "Factors of Leadership among Seniors of Central High School, Tulsa, Oklahoma," Journal of Educational Research, XXXVII (January, 1944), p. 356.

²Edward L. Thorndike, "How May We Improve the Selection, Training, and Life-Work of Leaders?" Teachers College Record, XL (April, 1939), p. 605.

1. To what extent do home-room teachers and junior high-school students agree regarding the identification of student leaders in home rooms?

2. What significant differences can be found when selected characteristics of teacher-identified student leaders are compared with similar characteristics of peer-identified leaders?

3. What significant differences can be found when selected characteristics of teacher-identified and peer-identified leaders are compared with like characteristics of non-leaders?

Definition of Terms

Characteristic--a trait or quality that is possessed by the different members of a group; it may vary in kind or in degree or amount.

Home Room--a room presided over by a single teacher to which a class is assigned for purposes of group guidance, as well as for purely administrative purposes.

Home-Room Teacher--the teacher assigned to the home room to perform group-guidance activities and administrative functions.

Junior High School--a school enrolling pupils in grades seven, eight, and nine; it is a separate school from both the high school and the elementary school, having its own building, administration, and purposes.

Leader--one who helps a group release its inherent creativity.¹ He is one whom people follow in seeking to find socially acceptable and constructive ways to achieve the needs of the group. He has more potential for leadership in the home room than others.

Non-Leader--one who, in the opinion of either his home-room teacher or his peers, is not a leader and has less potential for leadership in the home room than others.

Peer-Selected Leader--one who, in the opinion of his peers, is or would make a good leader.

Teacher-Selected Leader--one who, in the opinion of his home-room teacher, is or would make a good leader.

Delimitation of the Problem

This study of selected characteristics of student leaders in secondary schools is limited to students in a junior high school's ninth grade home rooms. The junior high-school level of the school organization was chosen because one of the original aims of the separately established junior high school was to provide more effective training in the skills of citizenship.² The junior high school's club organizations, socialized recitations,

¹Ernest O. Melby, "Leadership Is Release of Creativity," The School Executive, LXVIII (November, 1948), pp. 43-46.

²Clarence E. Howell, "Junior High School: How Valid Are Its Original Aims?" The Clearing House, XXIII (October, 1948), pp. 76-78.

exploratory experiences, and committee and project work should give more opportunities for leadership to manifest itself than the more traditional classroom methods usually found in the senior high school.

The ninth grade of a junior high school particularly lends itself to the purposes of this study because the 6-3-3 organization provides three "seniorships," three points at which the child is at the peak in his social and interdependent school circumstance.¹ Without older boys and girls to rely on, sixth graders and ninth graders find leaders among themselves.

The home room has been chosen as the site for this study because, ideally, it is in the home room where student leadership is recognized, nurtured, and practiced.²

No attempt is made to judge the quality or success of the leadership demonstrated by the subjects in this study. The identification and description of leaders, not their functions or roles, are the primary concerns.

When variables are isolated for study, it is not to imply that a causal effect exists between the characteristics and the fact that a subject is a leader. From a study of these characteristics, however, insights may be gained

¹Archibald B. Shaw, "The 8-4 Type Organization," The School Executive, LXVIII (October, 1948), p. 69.

²R. G. Mogill, "Educational Value of the Home Room," The Bulletin of the National Association of Secondary-School Principals, XXXV (May, 1951), p. 149.

which will enable one to make a more accurate estimate, not only of potential leaders, but also of the degree of agreement between the concept of the teacher and the concept of the students regarding leaders and leadership.

Benne rightly warns educators that they must see leadership in terms of functions to be performed rather than solely in terms of inherent qualities.¹ However, in specified situations or settings leadership may reside more in one person than in another. Consequently, it is assumed that it is proper and feasible to make a study of leadership in places where leadership would appear to exist and that if a person occupies a leadership position he is a fit subject for study.²

The effectiveness of the school and its curriculum in fostering training in citizenship or leadership is not of direct concern. It is a fundamental premise of this study, however, that the findings of research of this type are a necessary first step in evaluating, constructing, or revising materials and experiences designed to train good citizens.

The relative generality of leadership qualities will not be ascertained by this study, since it is

¹Kenneth D. Benne, "Leaders Are Made, Not Born," Childhood Education, XXIV (January, 1948), pp. 203-08.

²Ralph M. Stogdill and Carroll L. Shartle, "Methods for Determining Patterns of Leadership Behavior in Relation to Organization Structure and Objectives," Journal of Applied Psychology, XXXII (June, 1948), p. 287.

restricted to a consideration of the characteristics of leaders in only the setting of the home room.

The characteristics which will be studied in connection with junior high-school leaders and non-leaders are characteristics which have been commonly associated with leaders and non-leaders in the literature dealing with this area of research.

Review of the Related Literature

A survey of the literature reporting research related to the problem of this study was undertaken in order to isolate characteristics which could serve as variables for purposes of comparing leaders and non-leaders. An examination of several reports of studies disclosed 62 characteristics which have been described and compared between leaders and non-leaders:

- | | |
|---------------------------------|-----------------------------------|
| 1. ability to amuse | 19. experiences, broadness of |
| 2. accuracy | 20. health |
| 3. achievement | 21. height |
| 4. active bodily movements | 22. heterosexuality |
| 5. adjustment | 23. home, non-family members in |
| 6. age, chronological | 24. impartiality |
| 7. aggressiveness | 25. individuality |
| 8. appearance | 26. intelligence |
| 9. athletic ability | 27. interests |
| 10. attendance record in school | 28. introversion-extroversion |
| 11. character | 29. knowledge |
| 12. daringness | 30. leisure time, organization of |
| 13. dependability | 31. leisure time pursuits |
| 14. dominance | 32. liveliness |
| 15. emotional status | 33. motor impulsions |
| 16. endurance | |
| 17. energy | |
| 18. enthusiasm | |

- | | |
|---|---------------------------|
| 34. neurotic tendencies | 47. self-confidence |
| 35. parents, education of | 48. self-control |
| 36. parents, intelligence of | 49. self-sufficiency |
| 37. parents, interests of | 50. selfishness |
| 38. participation, both as
a leader and a follower | 51. sex |
| 39. persistence | 52. siblings, number of |
| 40. personality traits,
self-concept of | 53. social adaptability |
| 41. popularity | 54. social intelligence |
| 42. prestige | 55. socio-economic status |
| 43. reading, ability and
interest | 56. sportsmanship |
| 44. relatives, influence of | 57. strength |
| 45. responsibility, sense of | 58. suggestibility |
| 46. school marks | 59. verbal ability |
| | 60. vocabulary |
| | 61. vitality |
| | 62. weight |

Since many of these characteristics were closely related, the list of 62 variables was reduced by grouping associated characteristics into broader categories. These categories, plus the characteristics which appeared most frequently, gave fifteen traits or clusters of traits around which to organize the survey of the literature.

1. Age, chronological:

The evidence as to the relation of age to leadership was quite contradictory.

In a study of the qualities associated with high-school leaders in extra-curricular activities Bellingrath found girl leaders were younger than non-leaders, but boy leaders were older.¹

¹George C. Bellingrath, Qualities Associated with Leadership in the Extra-Curricular Activities of the High School (New York: Bureau of Publications, Teachers College, Columbia University, 1930), p. 56.

Finch and Carroll's study of gifted children who were high-school leaders found the leaders were younger than their followers.¹ The research of Garrison,² Rummel,³ and Gowan⁴ concurred with this conclusion.

On the other hand, Partridge's study of leaders showed that they were older than non-leaders.⁵ Since Partridge's study dealt only with boys, however, his findings agreed with those of Bellingrath.

2. Ascendency or Dominance:

aggressiveness, daringness, individuality, introversion-extroversion, prestige, selfishness, suggestibility.

Findings concerning the relationship of ascendency or dominance to leadership were not so contradictory as the conclusions of the studies comparing the chronological ages of leaders and non-leaders.

¹Frank H. Finch and Herbert A. Carroll, "Gifted Children as High-School Leaders," Journal of Genetic Psychology, XLI (December, 1932), p. 478.

²K. C. Garrison, "A Study of Some Factors Related to Leadership in High School," Peabody Journal of Education, XI (July, 1933), p. 17.

³Madaline K. Rummel, "Analysis of Leaders among High-School Seniors," Journal of Experimental Education, VI (June, 1938), p. 422.

⁴John C. Gowan, "Relationship between Leadership and Personality Measures," Journal of Educational Research, XLVIII (April, 1955), p. 624.

⁵E. DeAlton Partridge, Leadership among Adolescent Boys (New York: Bureau of Publications, Teachers College, Columbia University, 1934), p. 92.

Hanawalt and Richardson concluded after a series of analyses of the characteristics of leaders as related to the Bernreuter Personality Measures that leaders were more dominant than non-leaders.¹ Carter and Nixon found that ". . . power seeking, money oriented, persuasive, masculine people are often rejected as leaders in expressions of opinion by supervisors and associates, while in actual performance situations they become the leader."² Among high-school students Yeager ascertained that office-holders were likely to be more dominant than students who did not hold offices.³ Tryon reported a low positive correlation between dominance and leadership among 15-year-old boys and girls.⁴

There appeared to be a distinction drawn between "dominance" and "domineering." Jennings found that high-

¹Nelson G. Hanawalt and Helen M. Richardson, "Leadership as Related to the Bernreuter Personality Measures: IV An Item Analysis of Responses of Adult and Non-Leaders," Journal of Applied Psychology, XXVIII (October, 1944), p. 410.

²Launor Carter and Mary Nixon, "Ability, Perceptual, Personality, and Interest Factors Associated with Different Criteria of Leadership," The Journal of Psychology, XXVIII (April, 1949), p. 388.

³Tressa C. Yeager, An Analysis of Certain Traits of Selected High-School Seniors Interested in Teaching (New York: Bureau of Publications, Teachers College, Columbia University, 1935), p. 68.

⁴Caroline M. Tryon, "Evaluations of Adolescent Personality by Adolescents," Society for Research in Child Development Monographs, IV:4 (1939), pp. 42, 63.

school students often rejected domineering persons as leaders.¹

In face-to-face situations, leaders on the college level were found to be more dominant by Hunter and Jordan.² Gowan, however, characterized the high-school student leader as less dominant.³

3. Emotional Status:

adjustment, emotional status, enthusiasm, neurotic tendencies, self-control.

Self-control was a characteristic often associated with leaders. Jennings maintained that the only characteristic common to the leaders in her study was a marked degree of self-control or emotional maturity, which gave the followers a sense of strength and security;⁴ and Bellingrath reported a correlation coefficient of .70 between leadership and stability.⁵ Wetzel also found that self-control was a factor related to leadership.⁶

¹Helen H. Jennings, Leadership and Isolation (New York: Longmans, Green and Co., 1950), p. 152.

²E. C. Hunter and A. M. Jordan, "An Analysis of Qualities Associated with Leadership among College Students," The Journal of Educational Psychology, XXX (October, 1939), p. 509.

³Gowan, loc. cit.

⁴Jennings, op. cit., pp. 209-17.

⁵Bellingrath, op. cit., p. 49.

⁶William A. Wetzel, "Characteristics of Pupil Leaders," The School Review, XL (September, 1932), p. 534.

Fauquier and Gilchrist, however, reported that leaders were more excitable than non-leaders,¹ and Tryon computed correlation coefficients of .48 and .40 between fighting and leadership for 15-year-old boys and 15-year-old girls, respectively.² Flemming reported zero order coefficients of correlation between leadership and excitability.³

4. Health

active bodily movements, adjustment, appearance, attendance record in school, endurance, energy, liveliness, motor impulsions, strength, vitality.

There was considerable evidence that good health was a significant characteristic when comparisons were drawn between leaders and non-leaders. Hunter and Jordan's analysis of qualities associated with leadership among college students found leaders possessed fewer physical defects.⁴ Reals' study of high-school students presented data showing that leaders had better school attendance and health

¹William Fauquier and John Gilchrist, "Some Aspects of Leadership in an Institution," Child Development, XIII (March, 1942), p. 53.

²Tryon, op. cit., pp. 16, 18.

³Edwin G. Flemming, "A Factor Analysis of the Personality of High School Leaders," The Journal of Applied Psychology, XIX (October, 1935), p. 602.

⁴Hunter and Jordan, loc. cit.

records.¹ According to Bellingrath² and Wetzel,³ leaders were also characterized by a high rate of energy output.

5. Height and Weight:

The general trend of the studies reviewed indicated a low positive relationship between leadership and height and weight. Bellingrath⁴ and Partridge⁵ found that leaders were taller and heavier than non-leaders. Gowan's high-school leaders had a tall-thin type of body build.⁶ In the junior high school, however, Hostetter and McDaniel found leaders were not significantly different from their followers in physical development.⁷

6. Home, Adjustment to:

home, non-family members in; parents, intelligence of; parents, interests of; relatives, influence of; siblings, number of.

In 1904 Terman's "A Preliminary Study in the Psychology and Pedagogy of Leadership," one of the earliest

¹Willis H. Reals, "Leadership in the High School," The School Review, XLVI (September, 1938), p. 530.

²Bellingrath, op. cit., p. 49.

³Wetzel, loc. cit.

⁴Bellingrath, op. cit., p. 56.

⁵Partridge, op. cit., p. 36.

⁶Gowan, op. cit., p. 627.

⁷Helen M. Hostetter and H. B. McDaniel, "Student-Leadership in Junior High School," California Journal of Secondary Education, XXIII (January, 1948), p. 58.

attempts to place the study of leadership on a scientific basis, showed that leaders among school children were often favored by better home environments.¹ According to Reals, the high-school leaders' parents were more cooperative, had wider interests, and established a better home atmosphere.² There was a predominance of "only" children in Reals' leader group. On the junior high-school level, the leaders did not differ significantly from their fellows in home background, according to Hostetter and McDaniel.³

7. Intelligence:

Leadership status was more often than not associated with superiority in intelligence. Evidence indicating that the average adolescent leader surpassed the average member of his group in intelligence was presented by Brown,⁴ Flemming,⁵ Partridge,⁶ Rummelin,⁷ and Reynolds.⁸ In most of

¹Lewis M. Terman, "A Preliminary Study in the Psychology and Pedagogy of Leadership," Pedagogical Seminary, XI (December, 1904), p. 433.

²Reals, loc. cit.

³Hostetter and McDaniel, loc. cit.

⁴Marion Brown, Leadership among High School Pupils (New York: Bureau of Publications, Teachers College, Columbia University, 1933), p. 89.

⁵Flemming, op. cit., p. 601.

⁶Partridge, op. cit., p. 36.

⁷Rummelin, op. cit., p. 422.

⁸Reynolds, op. cit., p. 360.

these studies there was considerable overlapping of intelligence test scores, indicating that superior intelligence was not an absolute requirement for leadership. On the junior high-school level, Hostetter and McDaniel found that leaders had only slightly higher IQ's than the led.¹

Hollingworth suggested that there was a direct ratio between the intelligence of the leader and that of the led.² To be a leader a child had to be more--but not too much more --intelligent than those who were to be led. Hollingworth found that leadership patterns did not form when a discrepancy of more than about 30 points of IQ existed between the leader and the led.

8. Language, Ability and Achievement:

reading ability and interests, verbal ability, vocabulary.

Skill in communication appeared to be prerequisite to skill in leading. Terman found that leaders among school children were more fluent in speech and more interested in reading.³ Wetzel's high-school leaders were better readers than the average of the school.⁴ Leaders among college

¹Hostetter and McDaniel, loc. cit.

²Leta S. Hollingworth, "What We Know about the Early Selection and Training of Leaders," Teachers College Record, XL (April, 1939), pp. 580-81.

³Terman, loc. cit.

⁴Wetzel, op. cit., p. 532.

students who were subjects in the study by Hunter and Jordan had more extensive vocabularies than non-leaders.¹ Gowan found a significant difference between leaders and non-leaders on the "literary" scale of the Kuder Preference Record.²

9. Participation, both as a leader and a follower:

athletic ability; experiences, broadness of; interests; leisure time, organization of; leisure time pursuits.

J. K. Folsom, commenting on various studies of leadership, stated that extensive and intensive activity go together. "The more activities one is engaged in, the more offices he is likely to hold."³ Among high-school students, Reals found that the leader group surpassed the non-leader group in participating in more broadening experiences, in leading in extramural activities, and in participating in extramural activities.⁴ Athletic participation and honors in high school were more predictive of future leadership than nonathletic participation and honors.⁵

¹Hunter and Jordan, loc. cit.

²John C. Gowan, "The Interest Patterns of Student Leaders," Educational and Psychological Measurement, XIV (Spring, 1954), p. 152.

³Joseph K. Folsom, Social Psychology (New York: Harper & Brothers, 1931), pp. 596-97.

⁴Reals, loc. cit.

⁵John D. Krumboltz, Raymond E. Christal, and Joe H. Ward, Jr., "Predicting Leadership Ratings from High School Activities," The Journal of Educational Psychology, L (June, 1959), p. 105.

A study by Smith and Nystrom, in which 40 outstanding leaders and 40 non-leaders were selected, showed that leaders participated in an average of 6.8 activities compared with 1.7 activities for the non-leaders.¹ Leaders had over twice as much spare time as the non-leaders, in spite of engaging in four times as many activities. Smith and Nystrom attributed this to the fact that non-leaders wasted much of their time, while the leaders used all their time in a better organized and more efficient fashion. This study also found that good leaders were good followers as well.

10. Personality Adjustment and Traits, Self-Concept of:

modesty, absence of; self-confidence; self-sufficiency.

The authors reporting data on the relationship of personal adjustment to leadership were almost uniform in the positive direction of their findings. Of the studies reviewed, only Gowan's characterized leaders as less self-sufficient.² Gowan, however, differentiated between self-sufficiency and self-confidence. Since his leaders were more self-confident than their followers, perhaps their lesser degree of self-sufficiency tended to make the leaders

¹Mapheus Smith and W. C. Nystrom, "A Study of Social Participation and of Leisure Time of Leaders and Non-Leaders," Journal of Applied Psychology, XXI (1937), pp. 254-59.

²John C. Gowan, "Relationship between Leadership and Personality Measures," Journal of Educational Research, XLVIII (April, 1955), p. 624.

more gregarious. Link correlated a sense of confidence and degrees of leadership,¹ as did the studies of Hanawalt and Richardson.² Bellingrath reported a correlation coefficient of .58 between self-confidence and leadership.³ High-school leaders had a high degree of assurance in class and with adults.

Most studies of the personality and characteristics of leaders made use of teacher ratings and peer reports almost exclusively. As valuable as these studies were in suggesting the important personality variables of leadership, they told little about the manner in which the leader himself judged his own characteristics. In order to learn more about the leader's self-concept, Alexandra administered the California Test of Personality to 112 leaders and 388 non-leaders among junior high-school age Girl Scouts.⁴ According to the results of the test, the leaders' consideration of their total adjustment, self-adjustment, and social adjustment was significantly higher than the non-leaders' view of themselves in these areas.⁵ The results of the investigation

¹Henry C. Link, "The Definition of Social Effectiveness and Leadership through Measurement," Educational and Psychological Measurement, IV (Spring, 1944), pp. 62-66.

²Hanawalt and Richardson, loc. cit.

³Bellingrath, op. cit., p. 49.

⁴Sister M. Alexandra, "Personality Adjustment and Leadership," Education, LXIV (May, 1946), pp. 584-90.

⁵Ibid., p. 590.

of Terrell and Shreffler supported Alexandra's findings of significantly superior adjustment of leaders at the junior high-school grade level.¹

Wetzel found that high-school leaders rated themselves highly on a character-rating scale; but, according to the ratings of their teachers, they did not overrate themselves.² Wetzel concluded that the leader had strong character traits and was conscious of the fact.

These studies indicated that leaders tended to be persons who were not handicapped by an excessive degree of modesty. A subject's self-concept, as shown by measures of personal adjustment, may serve as an indicator of leadership potential.

11. Responsibility, sense of:

character, dependability, persistence.

Student leaders were found to rate somewhat higher than followers in carrying out responsibilities in the study by Bellingrath.³ Partridge reported a correlation of .87 between dependability and leadership.⁴ Gowan characterized his leaders as having a greater sense of responsibility than

¹Glenn Terrell, Jr. and Joy Shreffler, "A Developmental Study of Leadership," Journal of Educational Research, LII (October, 1958), p. 70.

²Wetzel, op. cit., pp. 533-34.

³Bellingrath, op. cit., p. 49.

⁴Partridge, op. cit., p. 56.

their followers.¹ Several studies found students listing dependability as one of the answers to why particular individuals had been chosen to lead the class in certain situations. Dependability was ranked first by teachers and second by students in setting forth criteria for selecting junior high school leaders.²

12. School Marks:

accuracy, achievement, knowledge.

Since leaders were usually more intelligent, had better vocabularies, and were better readers, they can be expected to achieve well in school. Conant found that high-school students elected to the student council or as officers of the class were in the group of the more academically able students who were preparing to go on to college.³ Brown's high-school leaders had slightly superior school marks,⁴ and Garrison computed a positive correlation between scholarship and leadership among high-school students.⁵ Yeager's conclusions agreed with these findings.⁶

¹Gowan, "Relationship between Leadership and Personality Measures," p. 626.

²Hostetter and McDaniel, op. cit., p. 58.

³Conant, op. cit., p. 18.

⁴Brown, op. cit., p. 89.

⁵Garrison, op. cit., p. 17.

⁶Yeager, op. cit., p. 71.

On the junior high-school level, however, Hostetter and McDaniel found no significant difference between the scholarship of the leader and the led.¹

13. Sex:

In heterosexual settings, it would appear reasonable to assume that the sex of potential leaders might have influenced their being chosen to positions of leadership. Marks' findings suggested that there were important sex differences in styles of leadership.² In Tryon's study, different trait clusters were found to characterize boy leaders and girl leaders.³ This was especially true among 15-year-olds, since girls matured somewhat more rapidly in social interests than did boys.

Among high-school students holding either elective or appointive positions, Wetzel found that the chances were three to two that the leader would be a boy.⁴ The ratio of boys to girls was greater in the group of elected leaders than in the group of those who were not leaders in high-school extra-curricular activities, according to Bellingrath.⁵

¹Hostetter and McDaniel, op. cit., p. 58.

²John B. Marks, "Interests and Leadership among Adolescents," The Journal of Genetic Psychology, XCI (1957), p. 172.

³Tryon, op. cit., pp. 79-80.

⁴Wetzel, op. cit., p. 534.

⁵Bellingrath, op. cit., p. 56.

Brown found that girls exceeded boys in club memberships and in offices held in clubs; however, more boys held class offices and engaged in a larger number of class activities than girls.¹

14. Sociability and social adaptability:

ability to amuse, popularity.

Fairly high positive correlations between leadership and traits relating to sociability were reported by Tryon.² Gowan, too, found leaders were more sociable;³ and, according to Redl, a leader was the individual who could play a variety of social roles, thus satisfying many different types of groups.⁴ Reciprocally, the response the group made to the leader was the chief characteristic distinguishing him from his followers.⁵

Link held that leadership was a manifestation of social effectiveness, consisting of certain habits and skills which could be acquired through practice.⁶ He

¹Brown, op. cit., p. 112.

²Tryon, op. cit., pp. 15-18.

³Gowan, "Relationship between Leadership and Personality Measures," p. 624.

⁴Fritz Redl, "Group Emotions and Leadership," Psychiatry, V (November, 1942), pp. 573-96.

⁵Marks, op. cit., p. 172.

⁶Link, op. cit., p. 57.

asserted that most people could develop and use skills of leadership if they so desired. If this is true, Link's conclusions have important implications for the secondary school which adopts the training of skillful leaders as one of its goals.

15. Socio-economic status:

parents, education of.

Evidence presented in studies indicated that leaders tended to come from a socio-economic background superior to that of their followers. The leaders in Brown's study were superior to non-leaders in socio-economic background,¹ and Bellingrath found that office-holders in high school were likely to have a slightly higher socio-economic status.² Reals' leader group surpassed the non-leaders in neighborhood rating and in home rating.³

The junior high-school leaders in the Hostetter and McDaniel study came mostly from families whose breadwinners were in professional, managerial, and sales occupations.⁴

Concluding the review of the literature related to the fifteen characteristics or categories of characteristics isolated for further study, certain tentative generalizations

¹Brown op. cit., p. 34.

²Bellingrath, op. cit., p. 55.

³Reals, op. cit., p. 530.

⁴Hostetter and McDaniel, loc. cit.

concerning traits of leaders can be drawn, in spite of the lack of agreement among many of the studies reviewed: Generally, the leader was likely to be younger and more dominant. He was emotionally stable, vigorously healthy, and somewhat taller and heavier than his followers. The leader was well-adjusted to his home, more intelligent, facile in the use of communication skills, and a participant in many activities. He was self-confident; he was a person with a well developed sense of responsibility, and one who made good grades in school. In heterosexual settings, the leader was more likely to be a boy. He was socially skilled and adaptable, and he had a higher socio-economic status than the non-leader.

Since some factors of leadership, however, appeared only in certain age and social groups,¹ the determining of whether or not these generalizations applied to junior high-school ninth grade home-room leaders remained one of the chief concerns of this study.

Evidence from the literature as to the relative importance placed on these characteristics by teachers and students, respectively, was inconclusive. For the moment, these characteristics can serve only as variables, not as conclusions pertaining to the setting in which this

¹Ralph M. Stogdill, "Personal Factors Associated with Leadership: A Survey of the Literature," The Journal of Psychology, XXV (January, 1948), p. 36.

investigation was conducted.

Nature and Source of Data

The subjects in this study were members of the 1959-60 ninth grade class of the Jarman Junior High School in Midwest City, Oklahoma.

Jarman's 251 ninth graders were organized into twelve home rooms. Seven home rooms were composed exclusively of ninth grade boys and girls; one home room contained only ninth grade girls; one home room contained only ninth grade boys; one home room had seventh, eighth, and ninth grade boys; and two home rooms were composed of seventh, eighth, and ninth grade boys and girls.

As in many secondary schools, this junior high school's home rooms were student-centered, democratically organized local units in the school's student government. In addition to serving purely administrative functions, the home rooms were designed to offer opportunities for activities in group guidance.

Supplementing the usual extra-curricular social and athletic activities were several school clubs and organizations. Students had many opportunities to serve as leaders on the Annual Staff, in the Bowling Club, Chess Club, Drama Club, Future Farmers of America, Future Homemakers of America, Industrial Arts Club, the Junior Red Cross, Junior Tri-Hi-Y, the Newspaper Staff, the Pep Club, the Science Club,

the Service Club, and the Student Council.

In addition to the activities centered in the school, many of Jarman's ninth graders participated in church-related organizations, Scouting, and in the Teen-Age Club.

In order to compare the characteristics of leaders with those of non-leaders, data were gathered for each variable from the following sources:

1. Age, chronological: Each ninth grader's birth date was taken from his cumulative folder and his chronological age in months was computed.

2. Ascendency or dominance: The Gordon Personal Profile was administered to the ninth grade students in order to gather data relating to various characteristics of their personalities.¹

The Fifth Mental Measurements Yearbook's reviews of this instrument were generally favorable.² Benno G. Fricke felt that adequate validity had not been demonstrated for the Profile;³ however, John A. Radcliffe termed it a carefully constructed test with encouraging reliabilities and

¹Leonard V. Gordon, Gordon Personal Profile Manual (Yonkers-on-Hudson, N. Y.: World Book Company, 1953).

²Oscar V. Buros (ed.), The Fifth Mental Measurements Yearbook (Highland Park, N. J.: The Gryphon Press, 1959), pp. 126-30.

³Ibid., p. 127.

validity data above average,¹ and Laurance F. Shaffer reported that the research evidence supporting the questionnaire was impressive.²

Of the five scores obtained by the Gordon Personal Profile, one score was related to ascendancy:

Those individuals who adopt an active role in group situations, who are self-assured and assertive in relationships with others, and who tend to make independent decisions, make high scores on this scale. Those who play a passive role in the group, who would rather observe than participate, who generally lack self-confidence, who prefer to have others take the lead, and who tend to be overly dependent on others for advice, normally make low scores on this scale.³

3. Emotional status: The emotional stability score from the Gordon Personal Profile and the subject's emotional adjustment score on the Bell Adjustment Inventory⁴ provided two sources of data reflecting the emotional status of the students in this study.

Reviewing the Bell Adjustment Inventory in The Fourth Mental Measurements Yearbook, Nelson G. Hanawalt wrote:

The validity apparently is as good as any of the paper and pencil adjustment inventories and better established than most of them. The subjects furnish valuable data concerning adjustment in four areas. It has proved to be a valuable instrument in research, in

¹Ibid., p. 129.

²Ibid.

³Gordon, op. cit., p. 5.

⁴Hugh M. Bell, Manual for the Adjustment Inventory: Student Form (Palo Alto, Calif.: Consulting Psychologists Press, 1934).

schools, and in clinical work. Apparently its popularity over the years is well justified.¹

Theodore R. Sarbin's review termed the Inventory's reliability as satisfactory.²

Regarding the emotional stability score on his instrument, Gordon wrote:

High scores on this scale characterize individuals who are well-balanced, emotionally stable, and relatively free from anxiety and nervous tension. Low scores are associated with excessive anxiety, tension, hypersensitivity, and nervousness. Large negative scores may indicate the traditional 'neurotic.'³

On the Bell Adjustment Inventory, individuals with high scores in the area of emotional adjustment tended to be unstable emotionally. Persons with low scores tended to be emotionally stable.⁴

4. Health: Data relative to a subject's health adjustment were taken from his score on the health adjustment area of the Bell Adjustment Inventory. While these data were not objective indices of an individual's health status, they gave insight into the self-concept of the leader and the non-leader regarding this variable. High scores indicated unsatisfactory health adjustment; low

¹Oscar K. Buros (ed.), The Fourth Mental Measurements Yearbook (Highland Park, N. J.: The Gryphon Press, 1953), p. 72.

²Ibid.

³Gordon, op. cit., p. 5.

⁴Bell, op. cit., p. 1.

scores indicated satisfactory adjustment.¹

5. Height and weight: Each ninth grader was weighed and measured.

6. Home, adjustment to: Data were gathered from the scores on the home adjustment area of the Bell Adjustment Inventory. Individuals scoring high tended to be unsatisfactorily adjusted to their home surroundings; low scores indicated satisfactory home adjustment.²

7. Intelligence: The California Short Form Test of Mental Maturity³ had been administered to the subjects when they were in the seventh grade. The IQ scores from this test, recorded in the students' cumulative folders, provided data relative to the variable of intelligence.

8. Language, ability and achievement: Three measures provided information regarding the variables related to facility in the use of communication skills: (1) scores on achievement in mechanics of English, (2) scores on achievement in reading comprehension, and (3) scores on achievement in reading vocabulary. These data were taken from scores on

¹Ibid.

²Ibid.

³Elizabeth T. Sullivan, Willis W. Clark, and Ernest W. Tiegs, Manual for California Short-Form Test of Mental Maturity, Junior High, S-Form (Los Angeles, Calif.: California Test Bureau, 1957).

the California Achievement Test¹ administered to the subjects in November, 1958, and recorded in the students' cumulative folders.

9. Participation, both as a leader and a follower: Students were asked to list all the in-school and out-of-school activities in which they were currently participating: home room, class, school, athletic, social, Scouting, and church-related activities were considered appropriate indices of a student's level of participation.

10. Personal adjustment, self-concept of: The T-Total Score taken from the Gordon Personal Profile provided information relative to an individual's concept of himself:

Such scores probably represent, for at least a good many respondents, both the normal tendency of individuals to overrate themselves on self-description tests of personality and their actual evaluation. Conversely, any individuals who, for one reason or another, tend to present themselves in a less favorable or more critical light either than their actual self-esteem or than their true status would warrant will have unduly low Total Scores.²

11. Responsibility, sense of: One of the traits isolated for measurement by Gordon was responsibility:

Those individuals who take responsibilities seriously, who are able to stick to any job and get it done, who are persevering and determined, score high on this scale. Individuals who are unable to stick

¹Ernest W. Tiegs and Willis W. Clark, Manual for California Achievement Tests, Complete Battery, Junior High Level, Forms W, X, Y, Z (Los Angeles, Calif.: California Test Bureau, 1957).

²Gordon, op. cit., p. 6.

with tasks that do not interest them, and in the extreme, who tend to be flighty or irresponsible, usually make low scores on this scale.¹

12. School marks: The grade-point average for each student was computed from his grades recorded in his cumulative folder.

13. Sex: The subjects were classified as male or female on the basis of information contained in their cumulative folders.

14. Sociability and social adaptability: The sociability score on the Gordon Personal Profile and the subject's social adjustment score on the Bell Adjustment Inventory provided two sources of data reflecting the social status of the students in this study.

Regarding the sociability score, Gordon stated:

High S scores are made by individuals who like to be with and work with people, who are gregarious and sociable. Low scores reflect a lack of gregariousness, restriction in social contacts, and in the extreme, an avoidance of social relationships.²

On the Bell Adjustment Inventory individuals scoring high tended to be submissive and retiring in their social contacts; individuals with low scores were aggressive in social contacts.³

¹Ibid., p. 5.

²Ibid., p. 6.

³Bell, loc. cit.

15. Socio-economic status: From the data available in the students' cumulative folders, the level of educational attainment of the breadwinner of each subject's family was selected as an index of socio-economic status. While these data would not give a complete picture of a subject's status relative to this variable, it was reasoned that the social and economic level of one's family was more often than not closely linked to the education of the parent who was the family's chief means of support.

A subject's socio-economic status was the fifteenth and last variable which the study considered. Of the 251 students in the ninth grade of the Jarman Junior High School, complete data on the 15 categories of variables from the 20 sources of data cited above were available for 239 students. These students served as the subjects in the study's population.

Method of Research and Treatment of Data

The population of 239 students was divided into groups of Teacher-Selected Leaders, Peer-Selected Leaders, Teacher-Selected Non-Leaders, and Peer-Selected Non-Leaders by using a sociometric "five-man-to-man" rating device.¹

The reliability of the "five-man-to-man" rating device was determined by computing split-half correlations,

¹Partridge, Leadership among Adolescent Boys, pp. 44-45.

using Kendall's rank correlation coefficient, tau.¹

Using the same statistic, the correlation of agreements between teachers and students regarding identification of student leaders in the home rooms was determined for each of the twelve home rooms.

Having established categories of leaders and non-leaders, and having determined the degree of agreement between teachers and students regarding these categories, the next step was to compare the leaders' and non-leaders' characteristics, using the twenty sources of data relating to the fifteen traits chosen from the literature.

The first series of comparisons sought to determine the differences between the teachers' and the students' views of the characteristics necessary for leaders to have:

- (1) Characteristics of Teacher-Selected Leaders were compared with the characteristics of Teacher-Selected Non-Leaders.
- (2) Characteristics of Peer-Selected Leaders were compared with the characteristics of Peer-Selected Non-Leaders.
- (3) Characteristics of Teacher-Selected Leaders were compared with the characteristics of Peer-Selected Leaders.

Because of the nature of the data, it was necessary to use two methods in drawing comparisons between the characteristics of the groups that had been established. The

¹Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, Inc., 1956), pp. 213-23.

critical ratio was used with the data dealing with age, ascendancy, emotional stability, emotional adjustment, health adjustment, height, weight, home adjustment, intelligence, mechanics of English, reading comprehension, reading vocabulary, personal adjustment, responsibility, school marks, sociability, and social adjustment.¹ The data dealing with participation, sex, and socio-economic status were compared between the groups by using chi-square.²

A second series of comparisons were made in order to show the differences between the characteristics of leaders and non-leaders, as selected by both the teachers and the students. The rankings given by the teachers on the "five-man-to-man" rating scale were averaged with those given by the peers, and the subjects were divided into quartiles on the basis of this combined rank.³

The characteristics of the students in the fourth quartile (leader group) were compared with the characteristics of the students in the first quartile (non-leader group). As in the first series of comparisons, the critical ratio and chi-square were used.

¹J. P. Guilford, Fundamental Statistics in Psychology and Education (New York: McGraw-Hill Book Company, Inc., 1956), pp. 183-86.

²Ibid., pp. 228-39.

³Henry E. Garrett, Statistics in Psychology and Education (New York: Longmans, Green and Co., 1941), pp. 190-91.

Organization of the Report of the Study

The study divided itself into five parts:

Chapter I presented the study's origin and purpose. The problem was stated; operational definitions were posited; and delimitations were set. Variables were identified by reviewing the related literature, and the source and nature of the data and their treatment were presented.

Chapter II will deal with the identification of student leaders by their peers and by the home-room teachers, and the degree of agreement relative to this identification will be determined.

Chapter III will present comparisons between the characteristics of the peer-selected and teacher-selected leaders and non-leaders.

Chapter IV will deal with the comparisons of characteristics of the students divided into quartiles on the basis of their average rank, which combines the rank given by the teacher with the rank given by the peers.

The findings will be summarized, conclusions will be drawn, and recommendations will be presented in Chapter V.

CHAPTER II

IDENTIFYING STUDENT LEADERS

In order to answer the questions posed in the "Statement of the Problem" in Chapter I, it was first necessary to identify the student leaders in the population chosen for this investigation. The "five-man-to-man" rating scheme devised by Partridge in his study, Leadership among Adolescent Boys, was considered for this purpose.¹

The "five-man-to-man" rating device for a home room was prepared by writing the name of each home-room member individually on five different slips of paper. These slips were mixed thoroughly and five names were then picked at random and listed together in a group on the rating sheet. If one name appeared twice in a group of five, it was placed back in the group and another was chosen. As many groups of five names each were chosen at random as there were individuals in the room; e.g., if there were 25 students in a home room, the rating sheet was composed of 125 names divided

¹E. DeAlton Partridge, Leadership among Adolescent Boys (New York: Bureau of Publications, Teachers College, Columbia University, 1934), pp. 44-45.

into 25 groups of five names each.

It should be noted that each subject appeared five times in five random settings somewhere on his group's rating sheet. He appeared with subjects of different ability from himself with respect to almost any trait chosen.

After a group's rating sheet had been prepared, each member of the group was given a copy of the instrument and instructed to check the name of the best leader in each group of five. Consequently, each time a person who filled out the rating sheet made a choice in a group of five, he weighed the choice in relation to the other four names. Each subject had the possibility of receiving five choices from each person making a rating.¹

"Leader" was not defined in the instructions to the students and to the home-room teacher, other than to be qualified as "best leader in the group of five." Since it was desired to compare the home-room teacher's concept with the concepts of the home-room students regarding the identity and characteristics of leaders, the instrument was in effect asking, "What does 'leader' mean to you?" Had "leader" been defined in the question, it obviously would have limited the significance of the answer.

After the students in a home room had checked the rating sheets, and the number of choices for each student

¹See Appendix A.

had been tallied, it was possible to rank the students from "most chosen" for leader to "least chosen." Since it would have been extremely difficult for a subject simply to rank 30 names quickly and effectively in regard to a variable, the ranking which could be obtained after tallying the responses on the "five-man-to-man" was one of the chief values of the instrument. These rankings would permit the division of students into "leader" and "non-leader" categories.

One weakness of the "five-man-to-man" rating device developed when the home-room teacher used the instrument for rating the students. Since the teacher had only as many choices as there were students in the group, a number of tied rankings resulted, and there was a failure to discriminate in the lower area of rankings given by the teacher.

In spite of this weakness, which was inherent in the instrument, three factors overruled the discarding of the "five-man-to-man" for use in this investigation. First, it seemed essential for the home-room teacher and the students to use the same device since the rankings given by the teacher were to be compared with the rankings given by the students. Second, the instrument discriminated well in the area of the higher rankings where the leaders would be designated; this was a more essential requirement than in the lower rankings, whose occupants were to be grouped together as "non-leaders." And, third, the computation of

the statistic chosen for the purpose of correlating the ranks given by the teachers with the ranks designated by the students provided a correction factor for tied rankings.¹

Before finally adapting this instrument to the purpose of the study of home-room leaders, consideration was given to determining the "five-man-to-man's" reliability. The real tests of any rating scheme are the reliability coefficients.² Recent years have seen an increasing utilization of various forms of peer-evaluation techniques. Hollander found that peer-evaluation measures have a high degree of reliability.³ Zeleny determined the reliability of the "five-man-to-man" instrument by calculating correlations between the results of successive administrations to two groups. He found an r of .972 ($P.E._r = .007$) and an r of .988 ($P.E._r = .003$).⁴

A further assessment of the "five-man-to-man" rating instrument's reliability can be found in the work of Partridge

¹Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, Inc., 1956), pp. 217-19.

²Percival M. Symonds, Diagnosing Personality and Conduct (New York: The Century Co., 1932), pp. 3-98.

³E. P. Hollander, "The Reliability of Peer Nominations under Various Conditions of Administration," Journal of Applied Psychology, XLI (April, 1957), pp. 85-90.

⁴Leslie D. Zeleny, "Objective Selection of Group Leaders," Sociology and Social Research, XXIV (March, 1940), p. 333.

who correlated the ratings boys gave each other with the ratings adult leaders gave the boys. In one group of 58 boys the correlation between the ratings was .946; in another group of 32 boys the coefficient between adult ratings and boy ratings was .96.¹

Partridge qualified these remarkably high correlations by considering the possibility that the mere fact that all raters were choosing from the same arrangement of names might have tended to introduce a constant discrimination against certain boys: e.g., those who might have appeared with an outstanding group several times. To check the possibility of this tendency, two random arrangements of the names of 57 boys were made in order to prepare two rating sheets for the group. Half the boys filled out one set and half the other. A tabulation of these selections showed a correlation of .87.²

An approach similar to Partridge's method of finding the reliability by "split halves" was used in the present study when the following null hypothesis was posited: "The rankings given by the students on the 'first half' of a home room's rating sheets are not associated with the rankings on the 'second half.'"

¹Partridge, op. cit., p. 46.

²Ibid., p. 47.

Two home rooms were randomly chosen and rating lists were prepared in order to determine the "five-man-to-man's" reliability in identifying the leaders in this study's population. These rating lists were designed to be split into halves; five names were drawn five times for each individual, and the slips were then reshuffled and five names were drawn five times for each individual a second time. By doubling the procedure, rating sheets twice as long as the regular instruments were prepared for use.¹

The rankings given the students by their peers on the "first half" of the rating sheet were correlated with the rankings given on the "second half." In order to determine this correlation, Kendall's rank correlation coefficient, tau, was computed:²

$$\text{tau} = \frac{S}{\sqrt{\frac{1}{2}N(N-1)T_x} \sqrt{\frac{1}{2}N(N-1)-T_y}}$$

where N = the number of individuals ranked,

S = the observed sum of the +1 and -1 scores for all pairs,

$T_x = \frac{1}{2}\sum t(t-1)$, t being the number of tied observations in each group of ties on the X variable (the rankings on the "first half" of the rating sheet),

$T_y = \frac{1}{2}\sum t(t-1)$, t being the number of tied observations in each group of ties on the Y variable (the rankings on the "second half" of the rating sheet).

¹See Appendix B.

²Siegel, op. cit., pp. 213-23.

For the first randomly selected home room (Home Room #2), which was composed of and ranked by 24 students, a tau equaling .68 was calculated between the rankings on each half of the rating sheet. A tau of .80 measured the correlation between the halves of the rating sheet of the second randomly selected home room (Home Room #6), composed of and ranked by 18 students.

When N is greater than 10, one may compute the value of $\underline{z}$ associated with tau in order to test the significance of the correlation:¹

$$\underline{z} = \frac{\text{tau}}{\sqrt{\frac{2(2N+S)}{9N(N-1)}}$$

A $\underline{z}$ score of 1.60 or more is significant at the .05 level of confidence: i.e., the null hypothesis can be rejected since it has only five chances in 100 of occurring. A $\underline{z}$ score of 2.20 or more is highly significant at the .01 level of confidence: i.e., the null hypothesis, having only one chance in 100 of occurring, can be rejected with more certainty.

In Home Room #2, the tau of .68 gave a $\underline{z}$ of 4.66 and in Home Room #6, the tau of .80 gave a $\underline{z}$ of 4.63. By referring to a "Table of Probabilities Associated with Values as Extreme as Observed Values of $\underline{z}$ in the Normal

¹Ibid., p. 221.

Distribution,"¹ probabilities of less than .0003 for each z were found. These highly significant values enabled the rejection of the null hypothesis, and it was concluded that rankings given by the students on the "first halves" of Home Room #2's and #6's rating sheets were significantly associated with the rankings on the "second halves."

In addition to determining reliability, numerous studies of the validity of sociometric techniques have established the predictive value of peer-ratings against various performance criteria.²

Having ascertained the fitness of the "five-man-to-man" rating scale for determining the agreement between home-room teachers and their students regarding the identification of student leaders, the following null hypothesis was formulated: "The home-room teacher's ranking of students as leaders is not associated with the rankings given by the students in the home room."

Rating sheets were prepared for each of the twelve home rooms which contained the ninth graders serving as subjects in this study. It will be recalled that seven home rooms in the Jarman Junior High School were composed exclusively of ninth grade boys and girls. For the purposes of this study, these home rooms were designated as Home Room

¹Siegel, op. cit., p. 247.

²Hollander, op. cit., p. 85.

#'s 1 through 7. Home Room #8 contained only ninth grade girls, and Home Room #9 contained only ninth grade boys. Home Room #10 had seventh, eighth, and ninth grade boys; and Home Room #11 and Home Room #12 were composed of seventh, eighth, and ninth grade boys and girls.

With the exception that names of only ninth graders were used, the same procedure was followed in preparing rating sheets for the three home rooms which were heterogeneous in regard to grade classification: i.e., Home Rooms 10, 11, and 12. Although only ninth graders were rated relative to leadership in the heterogeneous home rooms, all the home-room members, regardless of grade classification, served as raters.

Each student evaluated the ninth graders as leaders in his home room, and each of the twelve home-room teachers rated the ninth graders in the home rooms. In all, there were 251 ninth graders rated by 296 students.

After the choices had been tabulated, the rankings given by the home-room teacher in each of the twelve home rooms were correlated with the ranks given to the home-room students by their peers by again computing Kendall's rank correlation coefficient, tau. The results of these correlations, together with their corresponding z's, are shown in Table 1.

TABLE 1

CORRELATIONS OF TEACHERS' RANKINGS WITH PEER RANKINGS
OF LEADERS IN 12 HOME ROOMS

Home Room	N	S*	tau	<u>z</u>
1	25	141	.58	4.06**
2	24	124	.57	3.91**
3	36	252	.53	4.55**
4	23	131	.67	4.48**
5	29	189	.59	4.50**
6	18	37	.33	1.92***
7	27	174	.60	4.39**
8	22	96	.55	3.58**
9	15	36	.46	2.39**
10	21	76	.52	3.30**
11	6	4****		
12	11	21	.49	2.10***

*The observed sum of the +1 and -1 scores for all pairs.

**Significant at the .01 level.

***Significant at the .05 level.

****Not significant. When N is 10 or less, the "Table of Probabilities Associated with Values as Large as Observed Values of S in the Kendall Rank Correlation Coefficient" is used to determine the probability associated with the occurrence of any value as extreme as an observed S; Siegel, op. cit., pp. 220-21, 285.

The results of these correlations supported the rejection of the null hypothesis of no association between the rankings of student leaders given by the home-room teacher and the rankings given by the peers in every home room except #11. The rank correlations in nine of the home rooms showed a highly significant relationship between the choices of the teachers and the peers.

In Home Room #6 and Home Room #12 the correlations, while not highly significant, were below the .05 level of confidence, again showing a significant agreement between the teachers' and peers' choices of student leaders.

In the "Statement of the Problem" in Chapter I it was asked: "To what extent do home-room teachers and junior high-school students agree regarding the identification of student leaders in home rooms?" One can now answer with a confident degree of certainty that, within the limits of the population chosen for this study, the home-room teachers and students generally agreed as to the identity and relative rank of student leaders in home rooms predominantly composed of ninth graders. Two conclusions can be inferred from this agreement: (1) In the population studied, the home-room teachers were aware of the leadership structure operating within their home rooms. (2) The discriminations and choices of the students were of a high calibre since they tended to agree with what were probably the more mature and objective judgments of the teachers.

Home Room #11, in which there was no agreement between the teacher and the students regarding the ranking of the ninth graders as leaders, was composed of six ninth graders and 31 seventh and eighth graders. It might be surmised that the home room which is heterogeneously grouped on the basis of class standing may not offer the same opportunities for experiences in leadership as do home rooms composed of students in the same class. Because of the size of the sample, however, only a highly tentative conclusion can be drawn from the findings in Home Room #11.

While heterogeneous grade-level classification may be a factor in causing disagreement between the teacher and the students regarding identification of leaders, the grouping of home-room students on the basis of sex is not. The results of the correlations in the home rooms composed of students of the same sex did not markedly differ from the results in a home room composed of the opposite sex or from a home room with both boys and girls. The teacher and students generally agreed as to who the leaders were, regardless of the sex of the students involved.

In addition to using the "five-man-to-man" rating scale for ranking the students for the purpose of comparing the ranks given by the teachers with the ranks given by the peers, the ranks became the basis for classifying the subjects into categories: Teacher-Selected Leaders, Teacher-Selected Non-Leaders, Peer-Selected Leaders, and Peer-

Selected Non-Leaders.

In Home Room #1, for example, eleven students received votes as leaders from the home-room teacher and occupied ranks one through eleven. These eleven subjects were classified Teacher-Selected Leaders, and the students occupying ranks twelve through 25 became Teacher-Selected Non-Leaders.

In this manner, home room by home room, the subjects were divided into leaders and non-leaders on the basis of their teachers' rankings. In all, there were 99 students in the twelve home rooms who received votes as leaders by their home-room teachers. The remaining 152 students, less the subjects for which complete data were not available, formed a group of 140 non-leaders, as ranked by their home-room teachers.

The ranks which the Teacher-Selected Leaders and Teacher-Selected Non-Leaders occupied served as criteria for dividing the rankings given by the students into categories of Peer-Selected Leaders and Peer-Selected Non-Leaders. Again citing Home Room #1 as an example, the first eleven students, as ranked by their peers, were classified Peer-Selected Leaders, and the remaining students, ranking from 12 through 25, were termed Peer-Selected Non-Leaders. Thus the dichotomy set by the teachers' ranks of leaders and non-leaders was matched by dividing the home rooms' peer rankings into 99 Peer-Selected Leaders and 140 Peer-

Selected Non-Leaders.

By way of summary, in this chapter the "five-man-to man" rating device was described, its reliability was established, and it was adapted to the purposes of this study. By employing the rating device, it was found that the home-room teachers and students generally agreed as to the identity and ranking of the student leaders in home rooms predominantly composed of ninth graders. In nine home rooms the correlations between the rankings by teachers and students were highly significant at the .01 level. In two home rooms the correlations were significant at the .05 level, and in one home room the correlation was insignificant.

The subjects in this study were divided into groups of Teacher-Selected Leaders, Teacher-Selected Non-Leaders, Peer-Selected Leaders, and Peer-Selected Non-Leaders on the basis of the rankings of the choices of "best leaders" as given by the teachers and the students on the "five-man-to man" rating device. Comparisons of the selected characteristics of the students in these groups will be the concern of Chapter III.

CHAPTER III

COMPARISONS BETWEEN THE CHARACTERISTICS OF
TEACHER-SELECTED AND PEER-SELECTED
LEADERS AND NON-LEADERS

In Chapter II it was determined that home-room teachers and students generally agreed as to the identification and ranking of home-room leaders. There were, however, some students who were ranked as leaders by the teachers, yet ranked as non-leaders by their peers. Conversely, some students ranked as leaders according to their peers, but in the estimation of their teachers were non-leaders. This chapter seeks to determine if this difference can be attributed to differences between the characteristics of the groups identified by the teachers and identified by the students.

As explained in Chapter II, the population was divided into groups of leaders and non-leaders on the basis of the rankings given by the teachers and by the students in order that the fifteen characteristics isolated as variables in the review of the literature could be compared between the groups. The data used for these comparisons were

taken from the 20 sources described in Chapter I.¹

Although the high correlation of agreement between the teachers' and students' identification and ranking of the ninth grade home-room leaders indicated that few differences existed between the groups of leaders, three series of comparisons were made in an attempt to answer the question: "What significant differences can be found when selected characteristics of teacher-identified student leaders are compared with similar characteristics of peer-identified leaders?"

The first group of comparisons dealt with the Teacher-Selected Leaders and Teacher-Selected Non-Leaders. Secondly, the characteristics of the Peer-Selected Leaders and Peer-Selected Non-Leaders were compared. The third group of comparisons dealt with the Teacher-Selected Leaders and Peer-Selected Leaders. By using this "three-dimensional" approach, it was planned to ascertain if any characteristic was more important than another in influencing the choices made by the teachers and the students.

1. Age, chronological:

In order to compare the chronological ages of the subjects in the groups which the rankings had identified, the ranges of the chronological ages, in months, were determined for the Teacher-Selected Leaders and Teacher-Selected

¹See pp. 32-38.

Non-Leaders, respectively. The mean scores were then determined for each group, and this computation was followed successively by computations of the standard deviations, the standard errors of the means, the difference between the means, and the standard error of the difference between the means of the ages of the teacher-designated leaders and non-leaders. In order to establish the reliability of the difference between the means in each set of data, the critical ratio technique was applied.

The formulae employed in calculating the critical ratio were:¹

$$S.D. = \frac{1}{N} \sqrt{N X^2 - (\Sigma X)^2}$$

$$S.E.M = \frac{S.D.}{\sqrt{N-1}}$$

$$S.E.D_M = \sqrt{S.D.^2_{M_1} + S.D.^2_{M_2}}$$

$$C.R. = \frac{M_1 - M_2}{S.E.D_M}$$

When the critical ratio is 1.96 or more, the difference between the means is significant at the .05 level: i.e., there are five possibilities in 100 that the difference occurred simply by chance. When the critical ratio is 2.58

¹J. P. Guilford, Fundamental Statistics in Psychology and Education (New York: McGraw-Hill Book Company, Inc., 1956), pp. 94, 163, 183, and 185.

or more, the difference between the means is highly significant at the .01 level: i.e., there is one possibility in 100 that the difference is a chance difference, rather than a real difference. Consequently, a null hypothesis of no difference between the mean scores of a variable by the groups tested can be rejected, and the conclusion that the difference is significant can be supported by the size of the critical ratio.

After the age of the Teacher-Selected Leaders and Teacher-Selected Non-Leaders had been compared, the same statistical procedure was employed in comparing the age of the Peer-Selected Leaders and Peer-Selected Non-Leaders.

The third area of comparison dealt with the Teacher-Selected Leaders and Peer-Selected Leaders. It will be recalled that there were 99 subjects who had been classified as leaders by the home-room teachers, and a like number of subjects classified as Peer-Selected Leaders. There were 67 mutual choices: i.e., 67 subjects designated as leaders by both the teachers and the peers. Subtracting the mutual choices from the groups left 32 Teacher-Selected Leaders to be compared with 32 Peer-Selected Leaders by computing the statistics which gave a critical ratio.

In Table 2 the comparisons of the leader and non-leader groups with respect to chronological age are presented. The range of the ages, in months, for the 99 Teacher-Selected Leaders was 207-169, and for the 140

TABLE 2

COMPARISONS OF THE CHRONOLOGICAL AGE OF SUBJECTS IN LEADER
AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS
OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher Selected	Peer Selected
	Leaders	Non- Leaders	Leaders	Non- Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	207-169	199-156	207-169	199-156	193-169	192-170
M	178.90	178.25	178.71	178.39	178.81	178.22
S.D.	8.36	7.03	6.54	8.29	10.61	5.33
S.E. _M	.844	.596	.661	.703	1.904	.975
D _M	.65		.32			.59
S.E. _{D_M}	1.033		.965		2.131	
C.R.	.63		.33		.28	

Teacher-Selected Non-Leaders the range was 199-156. The mean age for this leader group was 178.90, and 178.25 for the non-leaders. The differential of .65 was in favor of the leader group. The standard deviations were found to be 8.36 and 7.03, respectively, for the leader and non-leader groups. The standard errors of the means were .844 and .596, and the standard error of the difference between the means was 1.033. The critical ratio was .63, indicating no significant difference between the ages of the Teacher-Selected Leaders and Teacher-Selected Non-Leaders.

In like manner, means of 178.71 and 178.39 were computed for the Peer-Selected Leaders and Peer-Selected Non-Leaders. The critical ratio of .33 indicated that the difference between these means was not significant.

The last two columns of Table 2 presented the statistics which were computed in order to establish a critical ratio for the purpose of comparing the Teacher-Selected Leaders with the Peer-Selected Leaders after the mutual choices had been subtracted from the leader groups. The critical ratio of .28 was not significant.

From these three comparisons between the six groups the rankings established, it can be concluded that the age of the subjects was not a factor in determining whether a student was to be a leader or a non-leader. The age of the subjects influenced neither the teachers' nor the students' choices.

2. Ascendency or Dominance:

Ascendency was measured by the Gordon Personal Profile. Table 3 indicates the degree of ascendency possessed by the subjects in the leader and non-leader groups.

The range of ascendency scores was 15 to -11 for the Teacher-Selected Leaders and 15 to -14 for the Teacher Selected Non-Leaders. The mean score was 3.81 for the leaders and 0.90 for the non-leaders. The difference between the means was 2.91 in favor of the leaders. The

TABLE 3

COMPARISONS OF ASCENDENCY SCORES MADE ON THE GORDON
PERSONAL PROFILE BY SUBJECTS IN LEADER AND NON-
LEADER GROUPS DESIGNATED BY THE RANKINGS
 OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher Selected	Peer Selected
	Leaders	Non- Leaders	Leaders	Non- Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	15 to -11	15 to -14	15 to -14	15 to -14	14 to -11	10 to -14
M	3.81	0.90	3.25	1.29	3.13	1.41
S.D.	5.93	5.23	5.97	5.31	6.30	6.30
S.E.M	.599	.444	.603	.450	1.131	1.131
D _M	2.91		1.96		1.72	
S.E.D _M	.746		.752		1.599	
C.R.	3.90*		2.61*		1.08	

*Significant at the .01 level.

standard deviations were found to be 5.93 for the leaders and 5.23 for the non-leaders. Since the critical ratio of 3.90 indicated that the difference between the means was statistically significant, the conclusion that the Teacher-Selected Leaders had a greater degree of ascendancy than those in the non-leader group can be accepted with a high degree of certainty.

According to Gordon's interpretation,¹ the ascendent or dominant subjects adopted a more active role in group situations, were more self-assured and assertive in relationships with others, and tended to be more independent than the subjects with lower scores: in this instance the Teacher-Selected Non-Leaders.

Similar results were found when the ascendancy scores of Peer-Selected Leaders were compared with those of Peer-Selected Non-Leaders. The difference between the means was 1.96 in favor of the leader group. The critical ratio of 2.61 indicated that this difference was statistically significant.

When the ascendancy scores of Teacher-Selected Leaders were compared with Peer-Selected Leaders, the difference between the means, which favored the Teacher-Selected Leaders, was not significant. The critical ratio was 1.08.

Home-room teachers and students in the population of this study agreed regarding the characteristic of ascendancy or dominance. It appears that the leader, chosen either by his home-room teacher or by his peers, will possess a greater degree of this characteristic than his followers.

¹Leonard V. Gordon, Gordon Personal Profile Manual (Yonkers-on-Hudson, N. Y.: World Book Company, 1953), p. 5.

3. Emotional Status:

Tables 4 and 5 show the results of the comparisons of the measures of the subjects' emotional status. The scores made on the emotional stability scale of the Gordon Personal Profile by each group of leaders and non-leaders are compared in Table 4, and the emotional adjustment scores as measured by the Bell Adjustment Inventory are compared in Table 5.

TABLE 4

COMPARISONS OF EMOTIONAL STABILITY SCORES MADE ON THE GORDON PERSONAL PROFILE BY SUBJECTS IN LEADER AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	18 to -11	17 to -11	16 to -11	18 to -11	18 to -6	12 to -9
M	3.41	5.04	4.97	4.64	2.97	4.69
S.D.	7.45	5.38	5.61	5.58	6.01	5.45
S.E. _M	.753	.456	.567	.473	1.078	.978
DM	1.63		.33		1.72	
S.E. _{DM}	.880		.738		1.456	
C.R.	1.85		.45		1.18	

TABLE 5

COMPARISONS OF EMOTIONAL ADJUSTMENT SCORES MADE ON THE
BELL ADJUSTMENT INVENTORY BY SUBJECTS IN LEADER AND
 NON-LEADER GROUPS DESIGNATED BY THE RANKINGS
 OF TEACHERS AND PEERS, RESPECTIVELY*

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	31-0	29-0	31-0	26-0	29-1	29-0
M	11.63	10.18	10.32	10.91	13.03	9.00
S.D.	7.39	6.41	7.32	6.38	7.20	6.98
S.E. _M	.746	.544	.739	.541	1.292	1.253
D _M	1.45			.59		4.03
S.E. _{D_M}	.923			.916		1.80
C.R.	1.57			.64		2.24**

*Unlike the Gordon Personal Profile, the low scores on the Bell Adjustment Inventory indicate better adjustment.

**Significant at the .05 level.

The results in Table 4 showed the Teacher-Selected Non-Leaders tending to be more emotionally stable than the Teacher-Selected Leaders. The critical ratio of 1.85, however, failed to reach the .05 level of confidence; consequently the difference could not be labeled a significant one.

On the other hand, the difference of .33 between the mean scores of emotional stability of the Peer-Selected Leaders and Peer-Selected Non-Leaders favored the leader group. The critical ratio of .45 indicated that the difference was again not a significant one.

The last comparison of the results of the emotional stability scale of the Gordon Personal Profile showed the Peer-Selected Leaders with a mean score of 4.69 as compared to the mean score of 2.97 for the Teacher-Selected Leaders. The difference of 1.72 could not be termed significant, for the critical ratio was 1.18.

From the results of the emotional stability scores on the Gordon Personal Profile, it appeared that students tended to choose more emotionally stable leaders from among their home-room peers than were chosen by the teachers. Since the critical ratios in Table 4 showed that these differences could not be termed as significant, this conclusion could not be supported with a high degree of certainty at this point.

Table 5 presented more evidence which tended to corroborate the tentative conclusions drawn from the data in Table 4. As in the case of emotional stability measured by the Gordon Personal Profile, the Teacher-Selected Non-Leaders tended to make better emotional adjustment scores on the Bell Adjustment Inventory than did the Teacher-Selected Leaders. Furthermore, the pattern set by the

Gordon Personal Profile was repeated when the emotional adjustment scores on the Bell Adjustment Inventory were compared between the Peer-Selected Leaders and Peer-Selected Non-Leaders, with the leader group scoring higher emotional adjustments. However, the critical ratio of 1.57, testing the difference between the means of the Teacher-Selected Leaders and Teacher-Selected Non-Leaders, and the critical ratio of .64, testing the difference between the means of the groups designated by the peers, were still far from significant.

The findings could be crystallized with a higher degree of confidence when the emotional adjustment of the Teacher-Selected Leaders was compared with the Peer-Selected Leaders by using the scores from the Bell Adjustment Inventory. The range of the scores of the Teacher-Selected Leaders was 29-1; the mean was 13.03, and the standard deviation was 7.20. For the Peer-Selected Leaders, the range of the scores was 29-0; the mean was 9.00, and the standard deviation was 6.98. The difference between the means was 4.03, favoring the adjustment of the Peer-Selected Leaders. The critical ratio of 2.24 indicated that the difference was significant.

Since Peer-Selected Leaders were emotionally better adjusted than Teacher-Selected Leaders, a provocative question was raised: "Did the emotional stability of a student result in his being chosen as a leader, or was the subject's

emotional stability a result of his designation as a leader by his peers?" Although the data in this study did not answer this question, it could be surmised that peers had more opportunities than teachers to judge a student's emotional status in more varied and less inhibiting situations. A student may have appeared more emotionally stable to the teacher than he actually was because of the controlled situation presented by the classroom.

The peers were more sensitive to the emotional stability of the students than were teachers, for the leaders chosen by the peers were more emotionally stable than the leaders chosen by the teachers. This pattern was repeated when the health adjustment of students was compared between the groups of leaders and non-leaders.

4. Health:

The comparisons of the scores made on health adjustment as measured by the Bell Adjustment Inventory are shown in Table 6.

The scores made by the Teacher-Selected Leaders ranged from 21-0; the mean score was 7.26, and the standard deviation was 4.68. The scores made by the Teacher-Selected Non-Leaders ranged from 20-0; the mean score was 6.64, and the standard deviation was 4.19. The difference between the means was .62, indicating the possibility that the Teacher-Selected Non-Leaders were better adjusted in the area of

TABLE 6

COMPARISONS OF HEALTH ADJUSTMENT SCORES MADE ON THE BELL ADJUSTMENT INVENTORY BY SUBJECTS IN LEADER AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY*

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	21-0	20-0	21-0	20-0	18-1	13-0
M	7.26	6.64	6.19	7.31	8.09	4.78
S.D.	4.68	4.19	4.45	4.32	4.42	3.33
S.E.M	.473	.355	.449	.366	.793	.597
D _M	.62		1.12		3.31	
S.E.D _M	.591		.579		.993	
C.R.	1.05		1.93		3.33**	

*The low scores indicate better adjustment.

**Significant at the .01 level.

health than the Teacher-Selected Leaders. The critical ratio of 1.05 indicated that the difference was not significant.

The health adjustment scores made by the Peer-Selected Leaders were compared with the scores made by the Peer-Selected Non-Leaders, and, as in the comparisons of the emotional adjustment of the subjects, the students' selections tended to reverse those of the teachers in regard

to this variable. The Peer-Selected Leaders scored higher health adjustments than Peer-Selected Non-Leaders. The critical ratio of 1.93 almost reached the .05 level of confidence.

A significant difference appeared when the Teacher-Selected Leaders were compared with the Peer-Selected Leaders. The health adjustment scores of the Teacher-Selected Leaders ranged from 18-1, and for the Peer-Selected Leaders from 13-0. The mean scores of the Teacher-Selected Leaders and Peer-Selected Leaders were 8.09 and 4.78, respectively. The difference of 3.31 favored the health adjustment of the Peer-Selected Leaders. The critical ratio of 3.33 indicated that the difference was significant.

The students' choices of leaders had better health adjustment scores than the students chosen by the home-room teachers, indicating that active, vigorous, and healthy characteristics probably influenced the choices by the students more than the choices by the home-room teachers.

5. Height and Weight:

In order to ascertain the role the height and weight of the subjects might have played in influencing the choices by the home-room teachers and the students, each group to be compared was divided on the basis of sex. The first two series of comparisons dealt with the height and weight, respectively, of the girls in the six groups. A third series

of comparisons was made between the six groups by comparing the heights of the boys. Finally, the weights of the boys were compared. The results of these comparisons are shown in Tables 7, 8, 9, and 10.

TABLE 7

COMPARISONS OF THE HEIGHT OF FEMALE SUBJECTS IN LEADER AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	53	69	56	66	17	20
R	69-55	69.25-56	68.25-55	69.25-56	69-59	68-60.5
M	64.33	63.82	63.40	63.73	63.71	64.04
S.D.	2.64	2.19	8.45	2.36	2.50	1.83
S.E. _M	.366	.265	1.138	.292	.625	.419
D _M		.51		.33		.33
S.E. _{D_M}		.452		1.466		.752
C.R.		1.13		.02		.44

The critical ratios showed that none of the differences between the means was significant. It can be concluded that height and weight of the subjects were not factors in determining whether a student was to be a leader or a non-leader in the opinion of either the teachers or the

TABLE 8

COMPARISONS OF THE WEIGHT OF FEMALE SUBJECTS IN LEADER
AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS
OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	53	69	56	66	17	20
R	186-79	173-88	173-92	186-79	186-79	173-92
M	122.92	119.42	121.91	120.12	118.88	116.65
S.D.	19.44	18.50	17.76	19.94	23.40	18.01
S.E.M	2.696	2.242	2.393	2.473	5.850	4.130
D _M	3.50		1.79		2.23	
S.E.D _M	3.506		3.441		7.160	
C.R.	.998		.52		.31	

peers, separately. In Chapter IV, however, when the choices of teachers and peers will be combined, it will be found that height and weight will differentiate between the leader and non-leader.

TABLE 9

COMPARISONS OF THE HEIGHT OF MALE SUBJECTS IN LEADER
AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS
OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher- Selected	Peer- Selected
	Leaders	Non- Leaders	Leaders	Non- Leaders	Leaders	Leaders
N	46	71	43	74	15	12
R	73.25-60	74-59	73.25-59	74-59	73-61	72-59
M	67.34	66.80	66.98	67.03	67.53	66.29
S.D.	3.18	3.40	3.29	3.35	3.45	3.76
S.E.M	.474	.406	.507	.392	.922	1.132
DM	.54		.05			1.24
S.E.DM	.624		.641			1.460
C.R.	.87		.08			.85

TABLE 10

COMPARISONS OF THE WEIGHT OF MALE SUBJECTS IN LEADER
AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS
OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	46	71	43	74	15	12
R	244-89	199-81	200-89	244-81	244-96	165-84
M	139.41	132.76	133	136.80	146.20	124.92
S.D.	28.84	23.65	22.24	27.83	39.17	22.30
S.E.M	4.298	2.825	3.432	3.258	10.473	6.716
D _M	6.65		3.80		21.28	
S.E.D _M	5.143		4.732		12.441	
C.R.	1.29		.80		1.71	

6. Home Adjustment:

As shown by the comparisons in Table 11, the Teacher-Selected Leaders made better home adjustment scores on the Bell Adjustment Inventory than the Teacher-Selected Non-Leaders. However, the critical ratio of 1.28 showed that the mean difference of 1.14 was not a significant one.

When Peer-Selected Leaders were compared with Peer-Selected Non-Leaders, a critical ratio of 3.61 was computed, showing a highly significant difference between the means in favor of the home adjustment of the leader group.

TABLE 11

COMPARISONS OF HOME ADJUSTMENT SCORES MADE ON THE BELL ADJUSTMENT INVENTORY BY SUBJECTS IN LEADER AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY*

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	29-0	26-0	26-0	29-0	29-0	25-1
M	8.97	10.11	7.74	10.83	11.63	7.81
S.D.	6.75	6.80	6.12	6.97	7.47	6.41
S.E. _M	.682	.577	.618	.591	1.341	1.150
D _M	1.14		3.09		3.82	
S.E. _{D_M}	.893		.855		1.766	
C.R.	1.28		3.61**		2.16***	

*The low scores indicate better adjustment.

**Significant at the .01 level.

***Significant at the .05 level.

In comparing the Teacher-Selected Leaders with the Peer-Selected Leaders, the range of the home adjustment scores for the teacher-designated group was 29-0. The mean range of home adjustment scores for the Peer-Selected Leaders was 25-1. The mean score was 7.81, and the standard deviation was 6.41. The difference between the means was 3.82,

indicating that the Peer-Selected Leaders were better adjusted to their home situations than were the Teacher-Selected Leaders. A critical ratio of 2.16 was computed, which indicated that the difference was significant.

The students' choices of leaders had better home adjustment scores than the students chosen by the home-room teacher. It might be inferred that students who were well-adjusted at home were freer to focus their attention on making their relationships with their peers in the home room more secure. Since the teachers chose students who were less well-adjusted to their homes, these students probably sought the teacher's attention and approbation more than did the students who came from well-adjusted home situations.

7. Intelligence:

The results of the subjects' scores on the California Test of Mental Maturity are compared in Table 12.

Since no significant differences appeared between the means of the groups of leaders and non-leaders, it was concluded that the IQ of the students was not a factor in determining whether a subject was to be a leader or a non-leader. The IQ of the subjects seemed to influence neither the teachers' nor the students' choices.

TABLE 12

COMPARISONS OF IQ SCORES MADE ON THE CALIFORNIA TEST OF MENTAL MATURITY BY SUBJECTS IN LEADER AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	137-64	132-72	137-64	129-72	129-86	132-82
M	103.79	103.07	103.56	103.24	102.66	101.93
S.D.	13.26	11.87	12.72	11.69	11.33	12.19
S.E. _M	1.339	1.006	1.285	.991	2.034	2.188
D _M		.72		.32		.73
S.E. _{D_M}		1.675		1.623		1.987
C.R.		.43		.19		.24

8. Language, ability and achievement:

Several studies have indicated that leaders were more facile than non-leaders in the general area of communication skills. In order to determine the importance of this variable among junior high-school ninth grade home-room leaders, the scores made on the California Achievement Test's sections dealing with mechanics of English, reading comprehension, and reading vocabulary were compared between the groups. The results of these nine comparisons are shown

in Tables 13, 14, and 15.

TABLE 13

COMPARISONS OF MECHANICS OF ENGLISH SCORES MADE ON THE
CALIFORNIA ACHIEVEMENT TEST BY SUBJECTS IN LEADER
 AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS
 OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	99-23	98-10	99-23	97-10	97-52	98-36
M	75.53	72.29	75.60	72.24	74.38	74.59
S.D.	15	14.84	15.42	14.52	11.90	13.47
S.E. _M	1.515	1.258	1.558	1.231	2.136	2.418
D _M	3.24		3.44		.21	
S.E. _{D_M}	1.969		1.986		3.226	
C.R.	1.66		1.73		.07	

The only significant difference was found when the reading comprehension scores of the Teacher-Selected Leaders were compared with the scores of the Teacher-Selected Non-Leaders in Table 14. The scores of the leader group ranged from 83-15. The mean score was 54.68, and the standard deviation was 14.76. The scores of the Teacher-Selected Non-Leaders ranged from 78-6. The mean score was 50.47, and the standard deviation was 14.66. The difference between

TABLE 14

COMPARISONS OF READING COMPREHENSION SCORES MADE ON THE
CALIFORNIA ACHIEVEMENT TEST BY SUBJECTS IN LEADER
 AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS
 OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	83-15	78-6	83-21	74-6	72-25	78-22
M	54.68	50.47	54.16	50.84	51.88	50.28
S.D.	14.76	14.66	15.73	12.99	13.14	15.93
S.E.M	1.491	.124	1.589	1.101	2.359	2.859
D _M	4.21		3.32		1.60	
S.E.D _M	1.496		1.933		3.707	
C.R.	2.81*		1.72		.43	

*Significant at the .01 level.

the means was 4.21 in favor of the Teacher-Selected Leaders. The critical ratio of 2.81 indicated that Teacher-Selected Leaders were better readers than Teacher-Selected Non-Leaders.

Students were less influenced by reading ability than the home-room teachers. The difference between the reading comprehension mean scores for the Peer-Selected Leaders and Peer-Selected Non-Leaders was 3.32. Although this difference favored the Peer-Selected Leaders, the

critical ratio of 1.72 indicated that the difference was not a significant one.

TABLE 15

COMPARISONS OF READING VOCABULARY SCORES MADE ON THE
CALIFORNIA ACHIEVEMENT TEST BY SUBJECTS IN LEADER
AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS
OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	59-9	59-5	59-9	57-5	54-12	59-14
M	40.26	38.80	39.98	39	38.97	38.09
S.D.	11.86	11.71	11.72	11.84	11.68	11.11
S.E. _M	1.198	.993	1.184	1.004	2.096	1.994
D _M		1.46		.98		.88
S.E. _{D_M}		1.556		1.552		2.893
C.R.		.94		.63		.30

9. Participation:

In order to compare the subjects in regard to their participation in various activities, the ninth graders were asked to list all the activities--school, church, and community--in which they were currently engaged.

From these data was calculated a mean score. The average number of activities in which a student participated

was 2.72.

The subjects were then labeled "Participants" if they were participating in three or more activities. If a student was participating in less than three activities, he was labeled a "Non-Participant."

In the group of Teacher-Selected Leaders there were 61 Participants and 38 Non-Participants. In the Teacher-Selected Non-Leader Group there were 60 Participants and 80 Non-Participants. By inspection it appeared that Leaders were Participants, and Non-Leaders were Non-Participants (Table 16).

By using the chi-square formula:¹

$$\chi^2 = \frac{N(ad-bc)^2}{(a+b)(a+c)(b+d)(c+d)}$$

chi-square was computed in order to determine if the linking of Leader with Participant and Non-Leader with Non-Participant occurred simply by chance or if it indicated a significant correlation. The null hypothesis posited for testing was that there was no correlation between a subject's leader classification and his participation classification.

A chi-square of 8.1 supported the rejection of the null hypothesis, and it was concluded that the classifications of Leader and Participant were correlated when the teacher chose the leaders.

¹Guilford, op. cit., p. 236.

TABLE 16

COMPARISONS OF PARTICIPATION CLASSIFICATIONS OF SUBJECTS
IN LEADER AND NON-LEADER GROUPS DESIGNATED BY THE
RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
Partici- pants	61	60	62	59	17	18
Non- Partici- pants	38	80	37	81	15	14
Chi- square	8.1*		9.7*		.63	

*Significant at the .01 level (df = 1).

Similar results were obtained when the Peer-Selected Leaders were compared with the Peer-Selected Non-Leaders. There were 62 Participants and 37 Non-Participants in the leader group. In the Peer-Selected Non-Leader group there were 59 Participants and 81 Non-Participants. The chi-square of 9.7 indicated that the correlation between Leader and Participant was a highly significant one, not an agreement due only to chance.

When Teacher-Selected Leaders were compared with Peer-Selected Leaders, no significant correlation was found in regard to the variable of participation. In the Teacher-Selected Leader group there were 17 Participants and 15 Non-

Participants. Among the Peer-Selected Leaders there were 18 Participants and 14 Non-Participants. The chi-square of .63 indicated that there was no correlation between the classifications of Peer-Selected Leader or Teacher-Selected Leader and classifications of Participant or Non-Participant.

10. Personal Adjustment:

The T-Total Score from the Gordon Personal Profile was used to measure a subject's self-concept relating to his personal adjustment. The results were compared between the six groups of leaders and non-leaders by using critical ratios to test the differences between the means of the groups. The results are shown in Table 17.

Teacher-Selected Leaders tended to have higher personal adjustment scores than Teacher-Selected Non-Leaders; however, since the critical ratio of 1.92 did not quite reach the .05 level of significance, it could not be concluded with a degree of certainty that the difference between the groups existed from reasons other than chance.

Peer-Selected Leaders had higher personal adjustment scores than Peer-Selected Non-Leaders. The mean score of the leader group was 16.36, and for the non-leader group a mean of 10.86 was calculated. The difference between the means was 5.50 and indicated that the Peer-Selected Leaders were better personally adjusted than Peer-Selected Non-

TABLE 17

COMPARISONS OF T-TOTAL SCORES MADE ON THE GORDON PERSONAL PROFILE BY SUBJECTS IN LEADER AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	36 to -32	36 to -34	36 to -34	36 to -30	34 to -30	36 to -34
M	16.28	10.91	16.36	10.86	12.13	12.38
S.D.	24.05	16.36	16.22	15.95	16.58	18.21
S.E. _M	2.429	1.387	1.638	1.352	2.976	3.269
D _M	5.37		5.50			.25
S.E. _{D_M}	2.797		2.124		4.420	
C.R.	1.92		2.59*			.06

*Significant at the .01 level.

Leaders. The critical ratio of 2.59 enabled the accepting of this conclusion with a high degree of certainty. According to Gordon's interpretation of the T-Total Score,¹ it can be concluded that Peer-Selected Leaders evaluated themselves and their personal characteristics more highly than the non-leaders evaluated themselves.

¹Gordon, op. cit., p. 6.

No significant difference was found when the T-Total Scores of the Teacher-Selected Leaders were compared with the scores of the Peer-Selected Leaders.

11. Responsibility, sense of:

The characteristic of a sense of responsibility, as measured by the Gordon Personal Profile, was compared between the groups of leaders and non-leaders. The results of these comparisons are shown in Table 18.

TABLE 18

COMPARISONS OF RESPONSIBILITY SCORES MADE ON THE GORDON PERSONAL PROFILE BY SUBJECTS IN LEADER AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	17 to -11	17 to -10	17 to -11	14 to -10	14 to -9	17 to -7
M	3.29	2.84	3.87	2.43	1.31	3.09
S.D.	5.94	5.21	5.63	4.98	5.78	5.20
S.E. _M	.600	.442	.569	.422	1.037	.933
D _M		.45		1.44		1.78
S.E. _{D_M}		.745		.709		1.395
C.R.		.60		2.03*		1.28

*Significant at the .05 level.

No significant difference was found between the responsibility scores of the Teacher-Selected Leaders and Teacher-Selected Non-Leaders.

The Peer-Selected Leaders scored significantly higher in the area of responsibility than the Peer-Selected Non-Leaders. The critical ratio was 2.03 and indicated that the difference between the means had not occurred simply from chance.

According to Gordon's definition of this score on his instrument,¹ Peer-Selected Leaders took responsibilities more seriously, and were more persevering and determined than were Peer-Selected Non-Leaders.

No significant difference was found between the responsibility scores of Teacher-Selected Leaders and Peer-Selected Leaders.

12. School Marks:

Leaders, whether chosen by the teachers or by the students, made significantly higher grades than non-leaders. The results of these comparisons are shown in Table 19.

When the grades of Teacher-Selected Leaders were compared with the grades of Peer-Selected Leaders, no significant difference was indicated by the critical ratio of .66.

¹Ibid., p. 5.

TABLE 19

COMPARISONS OF GRADE-POINT AVERAGES OF SUBJECTS IN
LEADER AND NON-LEADER GROUPS DESIGNATED BY THE
RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher- Selected	Peer- Selected
	Leaders	Non- Leaders	Leaders	Non- Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	4.00- 0.50	4.00- 0.00	4.00- 1.00	4.00- 0.00	4.00- 0.50	4.00- 1.25
M	2.71	2.26	2.75	2.24	2.28	2.41
S.D.	.87	.86	.84	.86	.80	.76
S.E. _M	.088	.073	.085	.073	.144	.136
D _M		.45		.51		.13
S.E. _{D_M}		.114		.112		.198
C.R.		3.95*		4.55*		.66

*Significant at the .01 level.

13. Sex:

In the population of 239 subjects there were 117 males and 122 females. Chi-square was used to determine if the variable of sex correlated with a subject's classification as a leader or a non-leader. That there was no relationship between sex and leader classification was the null hypothesis tested by the chi-squares (Table 20).

TABLE 20

COMPARISONS OF SEX CLASSIFICATIONS OF SUBJECTS IN
LEADER AND NON-LEADER GROUPS DESIGNATED BY THE
RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY

Class.	Teacher-Selected		Peer-Selected		Teacher- Selected	Peer- Selected
	Leaders	Non- Leaders	Leaders	Non- Leaders	Leaders	Leaders
Males	46	71	43	74	15	12
Females	53	69	56	66	17	20
Chi- square	.42		2.06		.58	

(df = 1)

In the Teacher-Selected Leader group there were 46 males and 53 females, and in the Teacher-Selected Non-Leader group there were 71 males and 69 females. A chi-square of .42 was computed, indicating no correlation between sex and the teachers' choices of leaders and non-leaders.

A chi-square of 2.06 showed no significant correlation between sex and the peers' choices. There were 43 males and 56 females who were classified as Peer-Selected Leaders, and 74 male and 66 female Peer-Selected Non-Leaders.

When Teacher-Selected Leaders were compared with Peer-Selected Leaders, a similar lack of correlation was indicated by a chi-square of .58. The 32 Teacher-Selected Leaders divided into 15 males and 17 females. There were 12 males and 20 females in the Peer-Selected Leader group.

The sex of the subjects was not a factor in determining whether a subject was to be a leader or a non-leader. The sex of the subjects influenced neither the teachers' nor the students' choices.

14. Sociability:

The sociability scores on the Gordon Personal Profile and the social adjustment scores on the Bell Adjustment Inventory provided two sources of data which were compared respectively between the groups of leaders and non-leaders. The results of these comparisons are shown in Tables 21 and 22.

Teacher-Selected Leaders scored higher in sociability than Teacher-Selected Non-Leaders. The critical ratio of 3.07 indicated that the mean difference of 2.60 between these groups was a highly significant difference. Teacher-Selected Leaders, according to Gordon's description of sociability,¹ preferred to be with and work with people more than did the non-leaders. Teacher-Selected Leaders were more gregarious and sociable than Teacher-Selected Non-Leaders.

A similar difference, although not so highly significant as in the case of the teachers' selections, was found between the sociability scores of Peer-Selected Leaders compared with Peer-Selected Non-Leaders. The

¹Ibid., p. 6.

TABLE 21

COMPARISONS OF SOCIABILITY SCORES MADE ON THE GORDON PERSONAL PROFILE BY SUBJECTS IN LEADER AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	17 to -12	17 to -16	17 to -14	17 to -16	15 to -9	14 to -14
M	4.75	2.15	4.23	2.54	4.78	3.19
S.D.	6.28	6.62	6.48	6.63	6.16	6.55
S.E.M	.634	.561	.655	.562	1.105	1.175
DM	2.60		1.69		1.59	
S.E.DM	.847		.863		1.613	
C.R.	3.07**		1.96*		.99	

*Significant at the .05 level.

**Significant at the .01 level.

critical ratio of 1.96 was significant at the .05 level of confidence.

When Teacher-Selected Leaders were compared with Peer-Selected Leaders, no significant difference was found between their sociability scores on the Gordon Personal Profile.

TABLE 22

COMPARISONS OF SOCIAL ADJUSTMENT SCORES MADE ON THE BELL ADJUSTMENT INVENTORY BY SUBJECTS IN LEADER AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY*

	Teacher-Selected		Peer-Selected		Teacher-Selected	Peer-Selected
	Leaders	Non-Leaders	Leaders	Non-Leaders	Leaders	Leaders
N	99	140	99	140	32	32
R	29-0	30-1	30-0	30-0	24-0	30-1
M	12.34	13.50	12.34	13.39	12.19	12.19
S.D.	7.24	7.02	7.39	6.93	6.33	6.66
S.E. _M	.731	.595	.746	.588	1.136	1.195
D _M	1.16		1.05		0.00	
S.E. _{D_M}	.942		.949		1.649	
C.R.	1.23		1.11		0.00	

*The low scores indicate better adjustment.

No significant differences between the social adjustment of leaders and non-leaders appeared when the groups' social adjustment scores on the Bell Adjustment Inventory were compared in Table 22.

15. Socio-Economic Status:

The level of educational attainment of the breadwinner in each subject's family was taken as an index of the subject's socio-economic status. Of the 238 breadwinners,

59 had attended college, 116 had attended only high school, and 64 had attended only grammar school (grades one through eight).

The null hypothesis that there was no correlation between the education of a subject's parent and the subject's classification as a leader or a non-leader was tested by computing chi-squares.¹ The results of these calculations are shown in Table 23.

TABLE 23

COMPARISONS OF LEVELS OF EDUCATIONAL ATTAINMENT OF FAMILY-BREADWINNERS OF SUBJECTS IN LEADER AND NON-LEADER GROUPS DESIGNATED BY THE RANKINGS OF TEACHERS AND PEERS, RESPECTIVELY

Education of Parent	Teacher-Selected		Peer-Selected		Teacher- Selected	Peer- Selected
	Leaders	Non- Leaders	Leaders	Non- Leaders	Leaders	Leaders
College	37	22	32	27	8	3
High School	42	74	43	73	17	18
Grammar School	20	44	24	40	7	11
Chi- square	15.04*		5.31		3.25	

*Significant at the .01 level (df = 2).

¹Guilford, op. cit., pp. 238-39.

A chi-square of 15.04 showed that a significantly high degree of correlation existed between the teachers' classifications of leaders and non-leaders and the level of educational attainment of the students' parents. The teachers tended to choose student leaders whose parents had a higher level of educational attainment than the parents of the Teacher-Selected Non-Leaders.

No significant correlation was found between the education of the parents and the categories of Peer-Selected Leaders and Peer-Selected Non-Leaders. The chi-square computed for the peer-selections was 5.31.

A further lack of correlation between the education of the parents and the categories of Teacher-Selected Leaders and Peer-Selected Leaders was indicated by a chi-square of 3.25 calculated from the data in the final two columns of Table 23.

The null hypothesis of no correlation between the education of a subject's parent and the subject's classification as a leader or a non-leader could be rejected only in the case of selections by teachers. Teachers were more likely to choose leaders whose parents had a higher level of educational attainment than the parents of Teacher-Selected Non-Leaders.

The comparisons of the subjects' socio-economic status, as indicated by the level of educational attainment of their parents, concluded the investigation of differences

between teacher-choices and peer-choices of leaders and non-leaders.

Summarizing the results of the comparisons made in this chapter, certain definite agreements can be found between the choices of teachers and students relating to the 15 categories of characteristics employed in this study. Regarding the characteristics of age, height and weight, IQ, and sex, no significant differences appeared between the subjects chosen by teachers or students. Both teachers and students agreed in their choices of leaders who were more ascendent, who participated in more activities, whose grades were higher, and who were more sociable than subjects classed as non-leaders.

Regarding the seven characteristics which remain, significant differences indicated definite disagreements between the choices of teachers and students. The home-room teachers chose leaders who were significantly better readers or whose parents were better educated. The students, not the teachers, chose leaders who were emotionally better adjusted, and who had better adjustment scores in the areas of health and the home. Leaders chosen by the students evaluated their personal characteristics more highly than non-leaders evaluated themselves, and the leaders chosen by the students had higher responsibility scores.

A second type of summary can be built from the findings of this chapter. In the instances where the

differences between the characteristics of the subjects designated as leaders and non-leaders were significant, it might be inferred that these characteristics were considered important attributes by those who ranked the subjects as leaders or non-leaders. One can summarize the findings with these inferences:

Since the following characteristics discriminated between the teachers' choices of leaders and non-leaders, teachers may have been influenced by these characteristics when choosing student leaders:

1. Ascendency
2. Reading comprehension skills
3. Participation in many activities
4. High grades
5. Sociability
6. High socio-economic status

Since these characteristics discriminated between the students' choices of leaders and non-leaders, students may have been influenced by these characteristics when choosing leaders:

1. Ascendency
2. Home adjustment
3. Participation in many activities
4. Personal adjustment
5. Responsibility

6. High grades

7. Sociability

When the selections of leaders were compared directly, the students' choices of leaders were influenced more than the choices of the teachers by these characteristics:

1. Emotional adjustment

2. Health adjustment

3. Home adjustment

From these summaries, dealing first with the chapter's findings and secondly with inferences drawn from the findings, it can be seen in both instances that the differences between the teacher-choices and student-choices of leaders were confined to seven areas: Teachers were more influenced than students by the characteristics associated with language ability and achievement and by a subject's socio-economic status. Students were more influenced than teachers by a subject's emotional adjustment, health adjustment, home adjustment, personal adjustment or self-concept, and by a subject's demonstration of a sense of responsibility.

Further insights regarding the characteristics of home-room leaders will be gained in Chapter IV, which seeks to find trait differences between leader and non-leader groups established by combining the ranks given by the home-room teachers and the home-room students.

CHAPTER IV

COMPARISONS BETWEEN THE CHARACTERISTICS
OF LEADERS AND NON-LEADERS

Having found differences and agreements between home-room teachers and their students regarding the identification and characteristics of student leaders, Chapter IV seeks to answer the question: "What significant differences can be found when selected characteristics of teacher-identified and peer-identified leaders are compared with like characteristics of non-leaders?"

In order to establish groups of leaders and non-leaders, the rankings which had been assigned to the subjects by their home-room teachers on the "five-man-to-man" rating device were averaged with those given by the students. For example, if a student had been given a rank of three by his home-room teacher and had ranked fifth in the estimation of his peers, he was assigned an average or combined rank of four. This procedure gave the home-room teacher's assigned ranking as much weight as the combined rankings given by the peers. It will be recalled that the rankings had been derived from the teacher's and peers'

choices of leaders indicated on the "five-man-to-man" rating device. After the average or combined ranks had been computed, the subjects in each home room were then divided into quartiles on the basis of their combined rank.

The students in the fourth quartile were taken from each of the twelve home rooms and grouped together into a leader group composed of 59 subjects. In like manner, the students in each home-room's first quartile of combined ranks formed a non-leader group of 60 subjects. Unlike the subjects in quartiles two and three, the students in quartiles four and one were clearly and definitely leaders or non-leaders in the estimation of both their home-room teacher and their peers. The agreement between the teacher's and the peers' rankings was the factor which placed a subject in either of the extreme quartiles.

The leaders were then compared with the non-leaders in regard to the fifteen characteristics which had been isolated for use as variables. The same statistical procedures were employed for making these comparisons as had been used in Chapter III.

1. Age, chronological:

The chronological ages of the leaders were compared with the chronological ages of the non-leaders. The results of this comparison are shown in Table 24.

TABLE 24

COMPARISON OF THE CHRONOLOGICAL AGES OF LEADERS AND
NON-LEADERS DESIGNATED BY THE COMBINED RANKINGS
OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	207-169	199-159
M	178.69	179.77
S.D.	9.71	7.74
S.E. _M	1.274	1.008
D _M		1.08
S.E. _{D_M}		1.625
C.R.		.66

The mean chronological age of the leaders was 1.08 less than the non-leaders' mean age of 179.77. The critical ratio of .66 indicated that the difference in the chronological ages of junior high-school leaders and non-leaders was not significant.

2. Ascendency or Dominance:

As measured by the Gordon Personal Profile, the trait of ascendency or dominance of leaders was significantly greater than that of non-leaders (Table 25). The result of this comparison showed a mean score of 3.68 for leaders and 0.73 for non-leaders. A highly significant difference

TABLE 25

COMPARISON OF ASCENDENCY SCORES MADE ON THE GORDON PERSONAL PROFILE BY LEADERS AND NON-LEADERS
DESIGNATED BY THE COMBINED RANKINGS
OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	15 to -11	15 to -14
M	3.68	0.73
S.D.	5.59	4.79
S.E.M	.734	.624
D_M		2.95
S.E. D_M		.963
C.R.		3.06*

*Significant at the .01 level.

was indicated by the critical ratio of 3.06.

This difference showed that leaders adopted a more active role in group situations, were more self-assured and assertive in relationships with others, and tended to be more independent than the non-leaders.

3. Emotional Status

Tables 26 and 27 present the results of the comparison of the emotional status of the leaders and non-leaders. The scores made on the emotional stability scale of the Gordon Personal Profile by the leaders and non-leaders are

TABLE 26

COMPARISON OF EMOTIONAL STABILITY SCORES MADE ON
THE GORDON PERSONAL PROFILE BY LEADERS AND
NON-LEADERS DESIGNATED BY THE COMBINED
RANKINGS OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	18 to -11	13 to -5
M	5.39	4.90
S.D.	5.27	4.90
S.E.M	.692	.638
D_M		.49
$S.E.D_M$		.941
C.R.		.52

compared in Table 26, and the emotional adjustment scores as measured by the Bell Adjustment Inventory are compared in Table 27.

Significant differences were not indicated by the critical ratios of .52 and .77. Leaders and non-leaders did not differ in emotional stability and emotional adjustment, as measured by the instruments used in this study.

TABLE 27

COMPARISON OF EMOTIONAL ADJUSTMENT SCORES MADE ON
THE BELL ADJUSTMENT INVENTORY BY LEADERS AND
NON-LEADERS DESIGNATED BY THE COMBINED
RANKINGS OF TEACHERS AND PEERS*

	Leaders	Non-Leaders
N	59	60
R	31 - 0	26 - 0
M	10.90	9.95
S.D.	7.47	5.78
S.E. _M	.980	.753
D _M		.95
S.E. _{D_M}		1.236
C.R.		.77

*On the Bell Adjustment Inventory the low scores indicate better adjustment.

4. Health:

The comparison of the scores made on health adjustment as measured by the Bell Adjustment Inventory is shown in Table 28.

The difference between the mean health adjustment scores of the leaders and non-leaders was not significant.

TABLE 28

COMPARISON OF HEALTH ADJUSTMENT SCORES MADE ON THE
BELL ADJUSTMENT INVENTORY BY LEADERS AND NON-
 LEADERS DESIGNATED BY THE COMBINED
 RANKINGS OF TEACHERS AND PEERS*

	Leaders	Non-Leaders
N	59	60
R	21 - 0	20 - 0
M	7.10	6.98
S.D.	4.72	4.43
S.E.M	.619	.577
D _M		.12
S.E.D _M		.846
C.R.		.14

*On the Bell Adjustment Inventory the low scores indicate better adjustment.

5. Height and Weight:

As in Chapter III, the groups of leaders and non-leaders were divided on the basis of sex for the comparisons of height and weight.

Table 29 presents the results of the comparison of the height of the female leaders with the height of the girls in the non-leader group.

The range of measurements of height for the female leaders was 68.25 to 59.50. The mean height was 64.97, and

TABLE 29

COMPARISON OF THE HEIGHT OF FEMALE LEADERS AND
NON-LEADERS DESIGNATED BY THE COMBINED
RANKINGS OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	29	27
R	68.25-59.5	68.5-56
M	64.97	63.30
S.D.	2.12	2.25
S.E.M	.401	.441
D _M		1.67
S.E.D _M		.596
C.R.		2.80*

*Significant at the .01 level.

the standard deviation was 2.12. For the female non-leaders, the range was 68.50 to 56.00. The mean height was 63.30, and the standard deviation was 2.25. The difference between the means was 1.67 in favor of the taller leaders. The critical ratio of 2.80 showed that the female leaders were significantly taller than the female non-leaders.

Table 30 shows that female leaders tended to be heavier than female non-leaders. The critical ratio of 1.60, however, failed to attribute this difference to anything other than chance.

TABLE 30

COMPARISON OF THE WEIGHT OF FEMALE LEADERS AND
NON-LEADERS DESIGNATED BY THE COMBINED
RANKINGS OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	29	27
R	165-98	157-88
M	126.51	118.63
S.D.	17.37	18.68
S.E.M	3.283	3.662
D_M		7.89
$S.E.D_M$		4.918
C.R.		1.60

The height of the male leaders is compared with the height of the male non-leaders in Table 31.

As in the case of the females, the male leaders were taller than the non-leaders. Unlike the difference in the female height, however, the difference between the means in the case of the males was not a significant difference.

Table 32 presents data showing that male leaders are significantly heavier than male non-leaders.

The mean weight of the male leaders was 146.10, and the mean weight of the male non-leaders was 131.18.

TABLE 31

COMPARISON OF THE HEIGHT OF MALE LEADERS AND
NON-LEADERS DESIGNATED BY THE COMBINED
RANKINGS OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	30	33
R	73.25-60	72.25-59
M	68.10	66.69
S.D.	3.26	3.43
S.E. _M	.605	.606
D _M		1.41
S.E. _{D_M}		.856
C.R.		1.64

The difference between the means was 14.92. Since the critical ratio was 2.07, this difference could be classified as significant.

The results of these comparisons between leaders and non-leaders in regard to the variables of height and weight indicated that junior high-school students and home-room teachers tended to choose leaders who were more physically mature than non-leaders.

TABLE 32

COMPARISON OF THE WEIGHT OF MALE LEADERS AND
NON-LEADERS DESIGNATED BY THE COMBINED
RANKINGS OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	30	33
R	244-89	190-81
M	146.10	131.18
S.D.	30.96	24.71
S.E.M	5.743	4.365
D _M		14.92
S.E.D _M		7.214
C.R.		2.07*

*Significant at the .05 level.

6. Home Adjustment:

As shown by the comparison in Table 33, the leaders made better home adjustment scores on the Bell Adjustment Inventory than the non-leaders.

Since the critical ratio of 3.41 indicated that the difference between the means was highly significant, the junior high-school leader was better adjusted to his home situation than was the non-leader.

TABLE 33

COMPARISON OF HOME ADJUSTMENT SCORES MADE ON THE
BELL ADJUSTMENT INVENTORY BY LEADERS AND
 NON-LEADERS DESIGNATED BY THE COMBINED
 RANKINGS OF TEACHERS AND PEERS*

	Leaders	Non-Leaders
N	59	60
R	26-0	26-0
M	8.14	10.67
S.D.	3.27	4.64
S.E.M	.429	.604
D_M		2.53
S.E. D_M		.741
C.R.		3.41**

*Low scores indicate better adjustment.

**Significant at the .01 level.

7. Intelligence:

The results of the subjects' scores on the California Test of Mental Maturity are compared in Table 34.

No significant difference appeared between the IQ mean scores of the groups of leaders and non-leaders. It appeared that a subject's IQ was not a factor in determining whether the subject was to be classified a leader or a non-leader.

TABLE 34

COMPARISON OF IQ SCORES MADE ON THE CALIFORNIA TEST
OF MENTAL MATURITY BY LEADERS AND NON-LEADERS
 DESIGNATED BY THE COMBINED RANKINGS
 OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	137-64	125-75
M	103.98	102.48
S.D.	13.53	11.44
S.E.M	1.775	1.489
D _M		1.50
S.E.D _M		2.317
C.R.		.65

8. Language, ability and achievement:

In order to determine the difference between leaders and non-leaders in regard to the variable of language ability and achievement, the scores made on the California Achievement Test's sections dealing with mechanics of English, reading comprehension, and reading vocabulary were compared, respectively. The results of these comparisons are shown in Tables 35, 36, and 37.

TABLE 35

COMPARISON OF MECHANICS OF ENGLISH SCORES MADE ON
 THE CALIFORNIA ACHIEVEMENT TEST BY LEADERS
 AND NON-LEADERS DESIGNATED
 BY TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	95-25	95-45
M	74.49	71.60
S.D.	14.66	14.28
S.E.M	1.923	1.859
D _M		2.89
S.E.D _M		2.675
C.R.		1.08

No significant differences were noted between the leaders and non-leaders in regard to their scores in mechanics of English, reading comprehension, and reading vocabulary.

TABLE 36

COMPARISON OF READING COMPREHENSION SCORES MADE ON
 THE CALIFORNIA ACHIEVEMENT TEST BY LEADERS
 AND NON-LEADERS DESIGNATED
 BY TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	83-21	74-20
M	54.85	50.43
S.D.	14.64	14.33
S.E.M	1.921	1.865
D _M		4.42
S.E.D _M		2.677
C.R.		1.65

TABLE 37

COMPARISON OF READING VOCABULARY SCORES MADE ON
THE CALIFORNIA ACHIEVEMENT TEST BY LEADERS
AND NON-LEADERS DESIGNATED
BY TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	57-9	57-13
M	40	38.87
S.D.	11.71	11.65
S.E. _M	1.536	1.516
D _M		1.13
S.E. _{D_M}		2.158
C.R.		.52

9. Participation:

It will be recalled that the mean number of activities in which the ninth graders in Jarman Junior High School participated was 2.72. Subjects who participated in three or more activities had been labeled Participants; those participating in less than three activities were Non-Participants.

The 59 students in the leader group divided into 39 Participants and 20 Non-Participants. There were 17 Participants and 43 Non-Participants among the non-leaders.

By inspection it appeared that leaders were Participants and non-leaders were Non-Participants.

As in Chapter III, chi-square was computed in order to determine if the linking of Leader with Participant and Non-Leader with Non-Participant occurred simply by chance or if it indicated a significant correlation. The null hypothesis posited for testing was that there was no correlation between a subject's leader classification and his participation classification.

TABLE 38
COMPARISON OF PARTICIPATION CLASSIFICATIONS OF LEADERS
AND NON-LEADERS DESIGNATED BY THE COMBINED
RANKINGS OF TEACHERS AND PEERS

Classification	Leaders	Non-Leaders
Participants	39	17
Non-Participants	20	43
Chi-Square	8.6*	

*Significant at the .01 level (df = 1).

A chi-square of 8.6 rejected the null hypothesis, and it could definitely be concluded that the classifications of Leader and Participant were significantly correlated.

The ninth grade home-room students who were designated as leaders by the home-room teachers and students

participated in more school, community, and church activities than did non-leaders.

10. Personal Adjustment:

The T-Total Score from the Gordon Personal Profile was used to measure a subject's self-concept relating to his personal adjustment. The results were compared between the leaders and non-leaders by computing a critical ratio to test the difference between the means of the groups. The data used for this comparison are shown in Table 39.

TABLE 39

COMPARISON OF T-TOTAL SCORES MADE ON THE GORDON PERSONAL PROFILE BY LEADERS AND NON-LEADERS
DESIGNATED BY THE COMBINED RANKINGS
OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	36 to -32	36 to -26
M	17.69	9.73
S.D.	14.55	15.53
S.E. _M	1.909	2.022
D _M		7.96
S.E. _{D_M}		2.781
C.R.		2.86*

*Significant at the .01 level.

The range of T-Total Scores of the leader group was 36 to -32. The mean score was 17.69, and the standard deviation was 14.55. The non-leaders' scores ranged from 36 to -26. The mean score was 9.73, and the standard deviation was 15.53. The difference between the means was 7.96, favoring the personal adjustment of the leaders. The critical ratio of 2.86 indicated that the difference was highly significant.

Leaders evaluated themselves and rated themselves more highly than non-leaders rated themselves. They were not so prone toward self-depreciation as were non-leaders.

11. Responsibility, sense of:

A sense of responsibility, as measured by the Gordon Personal Profile, was compared between the groups of leaders and non-leaders. The result of this comparison is shown in Table 40.

Although the leader group scored higher in responsibility than the non-leader group, the critical ratio of 1.84 fell short of the .05 level of confidence. Since the higher responsibility scores for the leader group could have occurred from chance, the hypothesis that there was no difference between the sense of responsibility of the leader and the non-leader could not be rejected on the basis of this evidence.

TABLE 40

COMPARISON OF RESPONSIBILITY SCORES MADE ON THE GORDON
PERSONAL PROFILE BY LEADERS AND NON-LEADERS
 DESIGNATED BY THE COMBINED RANKINGS
 OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	17 to -11	11 to -10
M	4.14	2.30
S.D.	5.98	4.73
S.E. _M	.785	.616
D _M		1.84
S.E. _{D_M}		.998
C.R.		1.84

12: School Marks:

In Chapter III it was found that leaders, whether chosen by the teachers or by the students, made higher grades than non-leaders. As expected, this significant difference appeared again when the leader group of 59 students, representing the fourth quartile of each home-room's combined ranks, was compared with the non-leader group composed of the lowest quartile from each home room. The results of this comparison are shown in Table 41.

TABLE 41

COMPARISON OF THE GRADE-POINT AVERAGE OF LEADERS
AND NON-LEADERS DESIGNATED BY THE COMBINED
RANKINGS OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	4.00-1.00	3.75-0.00
M	2.74	2.16
S.D.	.90	.85
S.E. _M	.118	.110
D _M		.58
S.E. _{D_M}		.161
C.R.		3.60*

*Significant at the .01 level.

The critical ratio of 3.60 indicated a highly significant difference between the higher grades of the leaders and the non-leaders' lower grades.

13. Sex:

This chapter's series of comparisons has involved 119 students. There were 59 subjects in the leader group and 60 non-leaders. In this population of 119 subjects there were 63 males and 56 females.

As in Chapter III, chi-square was used to determine if the variable of sex correlated with a subject's

classification as a leader or a non-leader.

The null hypothesis tested by the chi-square was that there was no relationship between sex and leader classification.

TABLE 42

COMPARISON OF SEX CLASSIFICATIONS OF SUBJECTS IN
LEADER AND NON-LEADER GROUPS DESIGNATED BY THE
COMBINED RANKINGS OF TEACHERS AND PEERS

Classification	Leaders	Non-Leaders
Males	30	33
Females	29	27
Chi-Square		.10

(df = 1)

In the leader group there were 30 males and 29 females, and there were 33 male and 27 female non-leaders. A chi-square of .10 was computed, indicating no correlation between sex and a subject's classification as a leader or a non-leader. The junior high-school home-room leader was as likely to be a girl as a boy.

14. Sociability:

The sociability scores on the Gordon Personal Profile and the social adjustment scores on the Bell Adjustment Inventory provided two sources of data which were compared respectively between the groups of leaders and non-leaders.

The results of these comparisons are shown in Tables 43 and 44.

TABLE 43

COMPARISON OF SOCIABILITY SCORES MADE ON THE GORDON PERSONAL PROFILE BY LEADERS AND NON-LEADERS
DESIGNATED BY THE COMBINED RANKINGS
OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	16 to -12	17 to -16
M	4.44	1.80
S.D.	6.35	6.87
S.E.M	.833	.895
D_M		2.64
S.E. D_M		1.223
C.R.		2.16*

*Significant at the .05 level.

Leaders scored higher in sociability than non-leaders, and the critical ratio of 2.16 indicated that the mean difference of 2.64 between the groups was a significant difference. Leaders were more gregarious and sociable than non-leaders. They preferred to be with and work with people more than did the non-leaders.

TABLE 44

COMPARISON OF SOCIAL ADJUSTMENT SCORES MADE ON THE
BELL ADJUSTMENT INVENTORY BY LEADERS AND
 NON-LEADERS DESIGNATED BY THE COMBINED
 RANKINGS OF TEACHERS AND PEERS

	Leaders	Non-Leaders
N	59	60
R	29-0	28-1
M	12.90	13.38
S.D.	7.71	6.88
S.E.M	1.012	.896
D_M		.48
S.E. D_M		1.352
C.R.		.36

While the Gordon Personal Profile measured leaders as more sociable than non-leaders, there was no significant difference between the two groups' social adjustment scores on the Bell Adjustment Inventory. Perhaps the non-leader was content with his role in the home room since his social adjustment did not appear to have been influenced by whether he was a leader or not.

15. Socio-Economic Status:

As in Chapter III, the level of educational attainment of the breadwinner in each subject's family was taken

as an index of the subject's socio-economic status. Of the 119 breadwinners, 34 had attended college, 55 had attended only high school, and 30 had attended only grammar school (grades one through eight).

The null hypothesis that there was no correlation between the education of a subject's parent and the subject's classification as a leader or a non-leader was tested by computing chi-square. The contingency table used for this calculation is shown in Table 45.

TABLE 45

COMPARISONS OF LEVELS OF EDUCATIONAL ATTAINMENT
OF FAMILY-BREADWINNERS OF LEADERS AND NON-
LEADERS DESIGNATED BY THE COMBINED
RANKINGS OF TEACHERS AND PEERS

Education of Parent	Leaders	Non-Leaders
College	22	12
High School	26	29
Grammar School	11	19
Chi-Square	5.11	

(df = 2)

No significant correlation was found between the education of the parents and the categories of leaders and non-leaders. The chi-square computed from the data in Table 45 was 5.11.

The comparison of the subjects' socio-economic status, as indicated by the level of educational attainment of their parents, concluded the investigation of differences in the 15 characteristics compared between leaders and non-leaders designated by the combined rankings of the teachers and the peers.

When rankings given by the teachers and the peers were combined in order to establish groups of leaders and non-leaders, no differences between the groups were found in regard to the characteristics of age, emotional stability and adjustment, health adjustment, IQ, language ability and achievement, responsibility, sex, social adjustment, and socio-economic status as indicated by the level of educational attainment of the family's breadwinner.

From the significant differences between leaders and non-leaders, the following findings, relating to the population studied, could be supported:

1. Junior high-school leaders were more ascendent or dominant than non-leaders.

2. As indicated by taller girls and heavier boys in the leader group, junior high-school leaders were physically more mature than non-leaders.

3. The leaders were better adjusted to their home environment than non-leaders.

4. Leaders participated in more activities than non-leaders.

5. The leaders had a higher self-regard relative to their personal characteristics than non-leaders had of themselves.

6. Leaders made better grades in school than non-leaders.

7. Leaders were more sociable and gregarious.

These findings, coupled with the findings of the preceding chapters, will be summarized in Chapter V.

CHAPTER V

SUMMARY AND CONCLUSIONS

This study proceeded from the premise that one of the important purposes of secondary schools is to provide training in the skills of citizenship. A skill which is a prerequisite to the effective functioning of a citizen is the skill of selecting leaders.

The study concerned itself primarily with three questions:

1. To what extent do home-room teachers and junior high-school students agree regarding the identification of student leaders in home rooms?
2. What significant differences can be found when selected characteristics of teacher-identified student leaders are compared with similar characteristics of peer-identified leaders?
3. What significant differences can be found when selected characteristics of teacher-identified and peer-identified leaders are compared with like characteristics of non-leaders?

In order to answer the questions posed in the statement of the problem, the "five-man-to-man" rating device was employed to identify student leaders in home rooms. In twelve home rooms in Jarman Junior High School, Midwest City, Oklahoma, 251 ninth graders were rated by their home-room teachers and by 296 classmates.

The results obtained by employing the "five-man-to-man" rating device were used for determining the extent of agreement between home-room teachers and students in identifying student leaders. By ranking the subjects on the basis of their ratings, the choices of leaders by the home-room teachers were compared with the choices made by the students. Kendall's rank correlation coefficient, tau, was used for this purpose.

The results of the "five-man-to-man" rating device were also used to divide the population into leader and non-leader categories. By ranking the subjects on the basis of the ratings given by their home-room teachers, the students were divided into groups of Teacher-Selected Leaders and Teacher-Selected Non-Leaders, and the ratings given by the students were used to divide the population into Peer-Selected Leaders and Peer-Selected Non-Leaders. A third leader and non-leader grouping of the subjects was made by combining the rankings given by the teachers and the students.

Fifteen characteristics associated with leaders and non-leaders were selected from a review of the related literature to serve as variables for comparing the students in the various categories identified by the "five-man-to-man" rating device. In all, 20 sources of data provided measures of the 15 characteristics. Complete data were available for 239 of the 251 ninth graders who served as the subjects in this study.

Differences regarding the 15 characteristics were sought by calculating statistical comparisons between the students in the leader and non-leader classifications defined for the purposes of this investigation. Depending on the nature of the data, critical ratios or chi-squares were employed in making these calculations.

Findings

Although the salient points established by the data have been summarized at the end of each chapter, the more significant facts should be reviewed in the light of the study as a whole in order that conclusions and recommendations may be more meaningful.

1. By using Kendall's rank correlation coefficient, tau, highly significant "split half" correlations were calculated for the rankings given by the students on the "five-man-to-man" rating device in two randomly selected home rooms. The null hypothesis that the rankings given

by the students on the "first half" of a home-room's rating sheets were not associated with the rankings on the "second half" was rejected, and the reliability of the rating device was established.

2. When students were ranked as leaders by their home-room teachers and by their classmates on the "five-man-to-man" rating device, significant rank correlation coefficients were computed between the rankings by the teachers and the rankings by the students in 11 of the 12 home rooms to which the subjects were assigned. The taus were highly significant at the .01 level of confidence in nine home rooms composed primarily of ninth graders; in two home rooms the taus were significant at the .05 level; and in one home room, heterogeneously grouped on the basis of grade classification, an insignificant correlation was found. The null hypothesis of no association between the rankings of student leaders given by the home-room teacher and the rankings given by the peers was rejected in the home rooms composed primarily of ninth graders.

3. When selected characteristics were compared between the choices of teachers and the students, no significant differences were found between the junior high-school leaders and non-leaders in regard to the characteristics of age, IQ, or sex. (These differences, and the ones which follow, were tested by employing critical ratios or chi-squares, depending on the nature of the data.)

4. Unlike the students, home-room teachers chose leaders who were significantly better readers or whose parents were better educated than Teacher-Selected Non-Leaders. These differences were significant at the .01 level.

5. Students differed from their teachers by choosing leaders who were better adjusted to their home situations, who had better personal adjustment, or who had a more developed sense of responsibility than Peer-Selected Non-Leaders. The differences in the adjustment scores were significant at the .01 level. The difference in the responsibility scores was significant at the .05 level.

6. Leaders chosen by students had better emotional adjustment, health adjustment, and home adjustment scores than leaders selected by the home-room teachers. Except for the difference in the health adjustment scores, which was significant at the .01 level, these differences were significant at the .05 level.

7. The junior high-school leader, chosen by the home-room teachers and the students, was more ascendent or dominant than the non-leader. He was physically more mature and better adjusted to his home environment. The leader participated in more than the average number of school, community, and church activities. He rated his personal characteristics more highly than the non-leader rated himself. The leader's grades were higher, and he was more sociable than the non-leader. All of these differences were

significant at the .01 level except for the differences relating to male weight and to sociability, which were significant at the .05 level.

8. In characterizing home-room leaders on the junior high-school level, the ascendancy, sociability, and t-total score scales of the Gordon Personal Profile and the home adjustment area of the Bell Adjustment Inventory were the most discriminating of the standardized sources of data used in this study. The grade-point average and the subject's level of participation in cocurricular and community activities were also reliable sources which differentiated between leaders and non-leaders.

Conclusions

Based on the findings of this study, the following conclusions were drawn:

1. The "five-man-to-man" rating device was a reliable and efficient sociometric instrument for identifying student leaders in home rooms.

2. Teachers in this study were aware of and sensitive to the leadership structure operating within their home rooms.

3. The discriminations and choices by the students were of a high caliber since they tended to agree with what were probably the more mature and objective judgments of the teachers.

4. Since one home room, heterogeneously grouped on the basis of grade classification, showed an insignificant correlation between the choices of leaders by the teacher and by the peers, one may conclude that the type of grouping in a home room may have influenced the leadership structure which operated in this setting.

5. Unlike the findings of studies of the traits of leaders on other levels, the characteristics of age, IQ, or sex did not differentiate between junior high-school leaders and non-leaders. Apparently neither the home-room teachers nor the students were influenced by these characteristics when choices of leaders and non-leaders were made.

6. When choosing leaders, the home-room teachers were influenced more by a subject's reading ability and socio-economic status than were the students.

7. Students were influenced more by a subject's home adjustment, personal adjustment, and sense of responsibility than were the teachers when leaders were chosen.

8. Since the Peer-Selected Leader was better adjusted than the Teacher-Selected Leader, peers may have had more opportunities than teachers to be influenced by a student's adjustment status in more varied and less inhibiting situations.

9. Participation in more than an average number of activities which provided opportunities for practicing the skills of leadership and followership did not adversely

affect a student's scholastic standing.

10. For identifying potential home-room leaders on the junior high-school level, the most discriminating sources of data differentiating leaders from non-leaders are: the ascendancy, sociability, and t-total score scales of the Gordon Personal Profile; the home adjustment area of the Bell Adjustment Inventory; the subject's grade-point average; and the subject's level of participation in activities.

11. As judged by the personal characteristics isolated for study, the home-room leaders designated by the teachers and the students were better qualified for positions of leadership than were the non-leaders.

Recommendations

Based on the conclusions of this study, the following suggestions are offered for making the junior high-school's citizenship training program more effective:

1. The home-room teacher should utilize sociometric devices such as the "five-man-to-man" rating scale in order to evaluate the home-room's citizenship program.

2. Until further studies indicate otherwise, a home room should be homogeneously grouped on the basis of grade classification.

3. It was observed that a substantial proportion of the non-leaders ranked high in characteristics and traits studied. These individuals should become a challenge to the

school's citizenship training program.

4. Instruments such as the Gordon Personal Profile and the Bell Adjustment Inventory should be used for the purpose of identifying potential leaders in the home room.

Some questions which have not been satisfactorily answered by this study provide avenues for further research:

1. The lack of correlation between the rankings by the teacher and by the students in one of the home rooms that was heterogeneously grouped on the basis of grade classification indicates the need for further study of the question: "What impact do types of grouping have on student leadership as it operates within the home room?"

2. A longitudinal study, contrasting the students' leadership choices in high school with the caliber of choices on the junior high-school level, would provide further insights for answering the question: "How effective is the secondary school's citizenship training program?"

3. It was determined that leaders are better adjusted than non-leaders; however, the question remains: "Is the better adjustment of a subject a cause or an effect of his being designated a leader?"

4. Implications necessary to the evaluation of school and community programs might be drawn from research which seeks to answer the question: "To what extent are students who are identified as potential leaders not

occupying leadership roles?"

In the delimitations set for this study it was realized that although certain qualities and characteristics may be associated with leadership, it is not a simple trait and does not operate consistently. Leadership is largely a function of the situation. However, in specified situations or settings leadership may reside more in one person than in another. Once the secondary school is able to associate successful leadership with certain characteristics, it will be more successful in discovering leaders and potential leaders and in assisting them to plan their education and life work. By studying the characteristics of those who are leading, the secondary school may perhaps learn to evaluate the leader and the led in order to find ways of improving the skill which this study has termed "a prerequisite for productive participation in a free society."

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APPENDICES

APPENDIX A

"FIVE-MAN-TO-MAN" RATING DEVICE

Instructions to the Home-Room Teacher

Dear Fellow Teacher,

As part of a doctoral study at the University of Oklahoma, we wish to ascertain the leadership structure among your homeroom students. Will you please take a few minutes of your class period in order for you and your students to fill out the attached rating forms?

Thank you very much.

Read and explain to students:

Instructions for Ninth Grade Students:

1. Write your name on the back of the rating sheet.
(Both first and last names.)
2. List all the clubs and organizations, in school and out of school, to which you belong. (Pep Club, Scouts, Sunday School Class, Band, Choir, School Newspaper Staff, Student Council, Hi-Y, etc.)
3. Mark the rating sheet according to the following directions. All answers will be kept strictly confidential.

On the rating sheet are the names of ninth graders in this homeroom. You will notice that there are five names in each group. Go through this list and pick out the ninth grader in each group whom you would pick for a leader. Put a cross before the name as in the following sample.

J. Cook	V. Oakley
D. Earle	R. Timber
X D. Gregory	X R. Lyman
W. Larson	G. Myron
J. Harris	W. Carpenter

You will notice that D. Gregory is checked in the first group indicating that the person answering the question thought he was the best leader. In the second group R. Lyman is checked showing the person answering considered him the best leader in this group of five. Go through all of the groups on the rating sheet quickly, make sure you

mark some name in each group. Some of the names appear more than once and you may wish to vote for them more than once. If you are not sure--guess. Do not vote for yourself.

Instructions for Homeroom Students Who Are Not Ninth Graders:

1. Sign the rating sheet.
2. Omit #2 in the instructions above.
3. Follow the directions as outlined in #3, above.

Instructions for Homeroom Teachers:

1. Explain the instructions to your students.
2. Fill out one rating sheet, as outlined in #3 on the preceding page, marking the students who in your opinion are the best leaders in each group of five.
3. Sign your paper.
4. Each student and each teacher should independently complete one copy of the rating sheet.
5. Return your sheet and the students' marked rating sheets to the counselor's office.

Again--MANY THANKS

APPENDIX B

RATING SHEETS USED TO ESTABLISH RELIABILITY
OF "FIVE-MAN-TO-MAN" RATING DEVICERating Sheets Used in Randomly Selected Home Rooms

Home Room #2

There were 24 students in this home room; consequently after the twenty-fourth group of five names had been drawn, the slips were reshuffled and the procedure of selection was repeated. The "second half" began with the second page (p. 147).

Home Room #6

There were 18 students in this home room; consequently after the eighteenth group of five names had been drawn, the slips were reshuffled and the procedure of selection was repeated. The "second half" began with the second page (p. 149).

Home Room #2

1. L. Miller
2. P. Cole
3. L. Daniel
4. B. Tipps
5. J. Kritschmar

1. L. Daniel
2. P. McKinzie
3. M. Canfield
4. S. Goforth
5. P. Freeman

1. J. Kritschmar
2. P. Freeman
3. D. Leighton
4. L. Daniel
5. F. Bourland

1. P. Cole
2. U. Dexter
3. J. Owens
4. D. Leighton
5. M. Zangari

1. M. Glover
2. P. Freeman
3. M. Canfield
4. L. Miller
5. M. Zangari

1. S. Chapman
2. P. Freeman
3. D. Calhoun
4. D. Phillips
5. M. Canfield

1. L. Miller
2. M. Fisher
3. K. Smith
4. M. Canfield
5. P. Cole

1. D. Phillips
2. D. Leighton
3. M. Rosebeary
4. S. Goforth
5. B. Tipps

1. M. Fisher
2. P. McKinzie
3. B. Tipps
4. L. Daniel
5. S. Chapman

1. F. Bourland
2. J. Arstingstall
3. D. Phillips
4. S. Chapman
5. M. Glover

1. L. Miller
2. L. Daniel
3. P. McKinzie
4. S. Goforth
5. D. Phillips

1. M. Rosebeary
2. D. Leighton
3. P. McKinzie
4. M. Fisher
5. L. Miller

1. M. Zangari
2. J. Owens
3. P. Cole
4. P. McKinzie
5. J. King

1. U. Dexter
2. J. King
3. R. Griffith
4. P. Cole
5. D. Calhoun

1. R. Griffith
2. U. Dexter
3. D. Calhoun
4. M. Canfield
5. J. Owens

1. M. Glover
2. J. King
3. K. Smith
4. S. Goforth
5. F. Bourland

1. J. Kritschmar
2. J. Arstingstall
3. J. King
4. M. Zangari
5. D. Phillips

1. R. Griffith
2. M. Zangari
3. M. Fisher
4. D. Calhoun
5. F. Bourland

1. J. Kritschmar
2. J. King
3. M. Rosebeary
4. S. Chapman
5. R. Griffith

1. J. Arstingstall
2. K. Smith
3. M. Rosebeary
4. U. Dexter
5. P. Freeman

1. B. Tipps
2. M. Glover
3. S. Chapman
4. M. Fisher
5. K. Smith

1. S. Goforth
2. J. Arstingstall
3. F. Bourland
4. J. Owens
5. B. Tipps

1. J. Owens
2. M. Glover
3. D. Calhoun
4. M. Rosebeary
5. U. Dexter

1. K. Smith
2. R. Griffith
3. D. Leighton
4. J. Arstingstall
5. J. Kritschmar

Home Room #2 (p. 2)

1. K. Smith
2. M. Fisher
3. P. Freeman
4. U. Dexter
5. L. Daniel

1. J. Kritschmar
2. M. Rosebeary
3. U. Dexter
4. D. Leighton
5. L. Miller

1. S. Goforth
2. M. Canfield
3. M. Glover
4. M. Zangari
5. D. Leighton

1. S. Chapman
2. J. Arstingstall
3. U. Dexter
4. J. King
5. P. McKinzie

1. B. Tipps
2. P. Cole
3. F. Bourland
4. D. Phillips
5. M. Zangari

1. P. Freeman
2. P. McKinzie
3. M. Canfield
4. J. Arstingstall
5. D. Calhoun

1. J. Arstingstall
2. K. Smith
3. J. Kritschmar
4. L. Miller
5. S. Chapman

1. M. Glover
2. R. Griffith
3. M. Zangari
4. S. Goforth
5. J. Owens

1. D. Phillips
2. D. Calhoun
3. M. Fisher
4. D. Leighton
5. S. Goforth

1. D. Calhoun
2. M. Fisher
3. M. Glover
4. P. Freeman
5. M. Rosebeary

1. J. Kritschmar
2. F. Bourland
3. R. Griffith
4. U. Dexter
5. S. Goforth

1. P. Cole
2. B. Tipps
3. L. Daniel
4. F. Bourland
5. D. Calhoun

1. J. King
2. S. Goforth
3. L. Daniel
4. R. Griffith
5. K. Smith

1. P. Freeman
2. B. Tipps
3. M. Canfield
4. M. Rosebeary
5. S. Chapman

1. J. Kritschmar
2. J. Owens
3. B. Tipps
4. P. McKinzie
5. D. Phillips

1. J. Arstingstall
2. M. Fisher
3. J. King
4. M. Zangari
5. L. Miller

1. P. Cole
2. D. Calhoun
3. J. Owens
4. L. Miller
5. U. Dexter

1. J. Owens
2. R. Griffith
3. P. Cole
4. L. Miller
5. P. McKinzie

1. M. Canfield
2. M. Rosebeary
3. J. Kritschmar
4. L. Daniel
5. M. Glover

1. F. Bourland
2. D. Phillips
3. D. Leighton
4. M. Glover
5. M. Rosebeary

1. M. Fisher
2. M. Canfield
3. S. Chapman
4. P. Freeman
5. K. Smith

1. L. Daniel
2. J. Arstingstall
3. R. Griffith
4. D. Phillips
5. P. Cole

1. S. Chapman
2. J. King
3. J. Owens
4. B. Tipps
5. K. Smith

1. F. Bourland
2. P. McKinzie
3. D. Leighton
4. J. King
5. M. Zangari

Home Room #6

1. D. Prince
2. L. Crabb
3. R. Thompson
4. C. Huddleston
5. P. LeFlore

1. S. Penrod
2. D. Morris
3. P. LeFlore
4. J. Lester
5. C. Huddleston

1. D. Morris
2. J. Lester
3. E. Hawkins
4. S. Cardoni
5. J. Sebert

1. R. Thompson
2. D. Prince
3. S. Mitchell
4. L. Crabb
5. J. Bailey

1. S. Cardoni
2. L. Siebert
3. S. Canon
4. S. Mitchell
5. R. Thompson

1. S. Mitchell
2. J. Sebert
3. J. Bailey
4. R. Thompson
5. C. Huddleston

1. J. Bailey
2. B. Aldridge
3. S. Canon
4. D. Prince
5. P. LeFlore

1. D. Prince
2. J. Sebert
3. S. Cardoni
4. S. Penrod
5. E. Hairell

1. J. Sebert
2. N. Imes
3. S. Mitchell
4. R. Thompson
5. D. Morris

1. J. Sebert
2. L. Siebert
3. S. Cardoni
4. N. Imes
5. J. Lester

2. C. Huddleston
2. L. Siebert
3. S. Penrod
4. R. Thompson
5. P. LeFlore

1. L. Crabb
2. J. Lester
3. S. Canon
4. C. Huddleston
5. B. Aldridge

1. D. Morris
2. E. Hairell
3. B. Aldridge
4. S. Canon
5. S. Cardoni

1. N. Imes
2. B. Aldridge
3. S. Penrod
4. D. Prince
5. E. Hairell

1. S. Cardoni
2. E. Hawkins
3. S. Canon
4. J. Bailey
5. D. Prince

1. N. Imes
2. D. Prince
3. L. Crabb
4. L. Siebert
5. S. Penrod

1. J. Lester
2. D. Prince
3. J. Sebert
4. L. Siebert
5. S. Canon

1. B. Aldridge
2. E. Hairell
3. J. Sebert
4. R. Thompson
5. D. Morris

Home Room #6 (p. 2)

1. D. Morris	1. J. Bailey	1. L. Crabb
2. J. Bailey	2. L. Crabb	2. S. Mitchell
3. J. Lester	3. P. LeFlore	3. E. Hawkins
4. B. Aldridge	4. C. Huddleston	4. C. Huddleston
5. E. Hawkins	5. L. Siebert	5. S. Penrod
1. R. Thompson	1. E. Hairell	1. E. Hawkins
2. S. Canon	2. C. Huddleston	2. E. Hairell
3. P. LeFlore	3. E. Hawkins	3. L. Siebert
4. S. Mitchell	4. J. Bailey	4. S. Cardoni
5. J. Lester	5. S. Penrod	5. S. Canon
1. L. Crabb	1. E. Hairell	1. J. Lester
2. N. Imes	2. N. Imes	2. E. Hawkins
3. L. Siebert	3. J. Lester	3. J. Sebert
4. J. Sebert	4. L. Siebert	4. S. Cardoni
5. B. Aldridge	5. D. Morris	5. E. Hairell
1. S. Canon	1. E. Hawkins	1. S. Cardoni
2. R. Thompson	2. D. Morris	2. S. Mitchell
3. S. Mitchell	3. P. LeFlore	3. S. Penrod
4. L. Siebert	4. J. Bailey	4. L. Crabb
5. N. Imes	5. L. Crabb	5. B. Aldridge
1. B. Aldridge	1. D. Prince	1. N. Imes
2. E. Hairell	2. S. Penrod	2. J. Bailey
3. J. Bailey	3. P. LeFlore	3. S. Mitchell
4. C. Huddleston	4. L. Crabb	4. D. Morris
5. D. Prince	5. J. Lester	5. S. Canon
1. S. Penrod	1. J. Sebert	1. R. Thompson
2. P. LeFlore	2. D. Morris	2. B. Aldridge
3. S. Mitchell	3. N. Imes	3. E. Hawkins
4. C. Huddleston	4. E. Hairell	4. N. Imes
5. S. Cardoni	5. E. Hawkins	5. P. LeFlore

APPENDIX C

CLASSIFICATIONS AND RAW SCORES OF THE SUBJECTS
IN THE STUDY'S POPULATION

- Column 1: Coded symbol assigned to each subject.
- Column 2: Classifications derived from ratings given by teachers and students on the "five-man-to-man" rating device:
- TL: Teacher-Selected Leader
 - TNL: Teacher-Selected Non-Leader
 - PL: Peer-Selected Leader
 - PNL: Peer-Selected Non-Leader
 - Q4: Fourth quartile of combined ranks (Leaders)
 - Q1: First quartile of combined ranks (Non-Leaders)
- Column 3: Chronological age in months.
- Column 4: Ascendency score* from the Gordon Personal Profile.
- Column 5: Emotional stability score* from the Gordon Personal Profile.
- Column 6: Emotional adjustment score** from the Bell Adjustment Inventory.
- Column 7: Height.
- Column 8: Weight.
- Column 9: Health adjustment score** from the Bell Adjustment Inventory.
- Column 10: Home adjustment score** from the Bell Adjustment Inventory.
- Column 11: IQ score from the California Short-Form Test of Mental Maturity, Junior High.
- Column 12: Mechanics of English score from the California Achievement Tests, Complete Battery, Junior High Level, Forms W, X, Y, Z.

Column 13: Reading comprehension score from the California Achievement Tests, Complete Battery, Junior High Level, Forms, W, X, Y, Z.

Column 14: Reading vocabulary score from the California Achievement Tests, Complete Battery, Junior High Level, Forms, W, X, Y, Z.

Column 15: Participation classification:

P: Participant (one who participates in more than the population's mean number of activities);

NP: Non-Participant (one who participates in the population's mean or less number of activities).

Column 16: T-Total score* from the Gordon Personal Profile.

Column 17: Responsibility score* from the Gordon Personal Profile.

Column 18: Grade-point average.

Column 19: Sex classification.

Column 20: Sociability score* from the Gordon Personal Profile.

Column 21: Social adjustment score** from the Bell Adjustment Inventory.

Column 22: Level of educational attainment of the breadwinner of the subject's family:

G: Grammar School (grades one through eight)
H: High School
C: College

*For purposes of computation the scores from this instrument were converted to comparable positive numbers.

**Unlike the Gordon Personal Profile, the low scores on the Bell Adjustment Inventory indicate better adjustment.

RAW SCORE DATA

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
HR#1																						
A1	TL/PL/Q4	181	2	-4	15	69.5	131	13	13	111	79	55	43	NP	-4	-6	3.25	M	4	23	H	
B1	TL/PL/Q4	175	-9	-6	31	65.5	102	21	14	95	81	63	50	P	-32	-5	3.50	F	-12	23	H	
C1	TL/PL/Q4	185	5	10	9	60.0	89	3	6	104	81	56	36	NP	36	12	4.00	M	9	7	H	
D1	TL/PL/Q4	170	5	-3	12	63.5	121	10	7	109	90	57	52	P	16	5	3.25	F	9	5	H	
E1	TL/PL/Q4	178	15	6	7	71.25	149	2	5	105	85	62	42	NP	36	5	2.75	M	10	5	H	
F1	TL/PL/Q4	169	-3	-6	18	63.0	115	9	16	109	93	58	50	P	-6	-6	3.75	F	9	13	C	
G1	TL/PL	172	5	10	3	65.5	132	2	2	112	69	79	39	P	22	5	2.75	M	2	3	G	
H1	TL/PL	176	2	-1	18	62.5	109	11	14	108	80	67	45	P	6	2	3.25	M	3	7	C	
I1	TL/PNL	180	14	-3	11	62.5	133	12	12	95	81	62	44	P	30	7	4.00	F	12	5	H	
J1	TL/PNL	178	8	2	15	63.25	96	5	11	108	87	64	49	NP	12	-4	2.75	F	6	7	H	
K1	TL/PNL	174	4	-4	16	61.0	99	7	14	119	77	72	53	P	8	-5	2.50	M	13	10	H	
L1	TNL/PL	177	-4	1	18	61.0	107	13	6	101	81	70	47	P	0	1	3.25	F	2	19	H	
M1	TNL/PL	174	6	11	3	59.5	84	3	2	118	83	65	40	NP	30	6	2.75	M	7	9	H	
N1	TNL/PL	178	9	4	5	68.5	127	6	4	90	89	70	31	NP	14	-5	3.25	M	6	10	C	
O1	TNL/PNL	177	-2	12	17	66.0	151	11	22	103	75	57	40	P	10	6	3.25	M	-6	23	H	
P1	TNL/PNL	156	-5	-11	16	60.5	100	10	7	127	88	68	47	P	-12	-4	3.00	F	8	13	H	
Q1	TNL/PNL	177	6	10	8	69.25	147	3	3	106	92	58	41	NP	28	12	3.00	F	0	10	C	
R1	TNL/PNL	174	8	9	5	63.5	110	5	5	105	92	58	41	NP	32	2	3.50	F	13	5	H	
S1	TNL/PNL/Q1	177	3	10	9	63.5	110	7	3	102	77	56	43	P	18	3	3.75	F	2	12	G	
T1	TNL/PNL/Q1	182	5	6	6	65.5	157	4	5	108	84	48	55	NP	16	6	3.25	F	-1	11	G	
U1	TNL/PNL/Q1	174	5	9	13	61.0	110	7	10	99	78	43	48	NP	32	5	3.00	F	13	12	H	
V1	TNL/PNL/Q1	186	-2	3	14	71.0	136	5	20	93	46	27	13	NP	0	4	2.50	M	-5	28	G	
W1	TNL/PNL/Q1	170	6	2	8	67.0	111	4	6	125	95	69	54	NP	30	8	2.50	M	14	9	H	
X1	TNL/PNL/Q1	171	-8	1	22	68.5	125	15	20	110	71	60	46	NP	-16	-6	1.75	M	-3	22	C	
HR#2																						
A2	TL/PL/Q4	171	7	0	18	66.5	121	6	7	103	73	58	39	P	22	6	3.33	F	9	11	G	
B2	TL/PL/Q4	175	-2	9	17	66.5	151	2	14	115	79	56	50	P	18	6	3.75	F	5	15	H	
C2	TL/PL/Q4	181	0	18	11	65.0	117	6	3	98	67	56	28	P	30	13	3.50	M	-1	15	C	
D2	TL/PL/Q4	178	-11	0	4	62.5	98	2	2	106	83	58	38	NP	-10	10	3.25	F	-9	15	H	
E2	TL/PL/Q4	171	9	4	4	65.0	121	6	7	95	74	60	45	P	24	-1	2.25	M	12	5	C	
F2	TL/PL	179	-2	9	7	64.0	128	1	2	108	91	47	53	P	18	6	3.25	F	5	9	C	
G2	TL/PL	179	15	4	21	64.0	107	8	3	104	88	58	44	P	32	1	3.00	F	12	13	C	
H2	TL/PL	182	0	13	8	55.0	118	14	3	93	81	58	43	NP	34	15	3.25	F	5	10	C	
I2	TL/PNL	181	10	4	6	68.0	132	4	16	98	80	45	38	P	26	6	2.00	M	6	12	C	
J2	TNL/PL	180	6	9	9	65.5	115	7	9	105	83	56	41	P	32	7	2.25	F	10	7	G	
K2	TNL/PNL	180	3	7	9	66.0	168	5	7	105	67	46	40	NP	12	-1	2.50	M	3	20	C	
L2	TNL/PNL	175	3	-10	23	65.5	123	12	14	112	76	73	49	P	-10	-5	2.50	F	2	8	H	
M2	TNL/PNL	176	-4	-3	6	64.0	103	9	8	112	62	56	47	P	-6	1	1.83	M	0	15	G	
N2	TNL/PNL	172	-5	9	13	61.0	90	4	5	110	90	51	47	P	-2	-2	2.75	F	-4	30	H	
O2	TNL/PNL/Q1	171	3	7	9	67.0	134	10	5	101	56	36	16	NP	20	4	2.50	M	6	10	C	
P2	TNL/PNL/Q1	175	1	12	5	64.0	115	4	6	105	91	57	41	NP	22	7	1.75	F	2	6	G	
Q2	TNL/PNL/Q1	175	2	10	7	65.0	134	8	6	107	86	64	47	NP	30	10	3.00	F	8	3	H	
R2	TNL/PNL/Q1	182	0	9	2	63.5	143	1	2	91	76	44	46	NP	22	7	2.75	M	6	4	H	

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
HR#3																						
A3	TL/PL/Q4	197	-2	0	13	73.0	177	8	14	86	36	22	14	NP	-4	1	2.80	M	-3	20		H
B3	TL/PL/Q4	174	6	12	6	68.0	154	5	8	113	74	57	42	NP	30	10	1.75	M	2	23		G
C3	TL/PL/Q4	182	0	13	23	62.25	108	17	21	103	74	44	43	P	34	15	2.50	F	5	29		C
D3	TL/PL/Q4	207	4	2	4	64.5	117	4	8	64	61	35	25	NP	19	9	2.25	M	4	11		G
E3	TL/PL/Q4	207	4	2	5	62.5	103	11	3	73	53	24	23	NP	19	9	2.00	M	4	4		G
F3	TL/PL/Q4	182	12	6	2	71.0	143	5	4	89	25	25	9	P	28	4	1.75	M	6	1		C
G3	TL/PL/Q4	185	3	6	25	66.0	138	9	9	112	67	47	39	NP	20	6	2.00	M	5	9		C
H3	TL/PL/Q4	181	6	4	8	68.25	149	6	7	90	69	46	42	NP	12	-4	2.00	F	6	9		H
I3	TL/PNL/Q4	180	-2	5	12	64.5	129	6	7	106	74	39	34	P	4	-1	1.75	F	2	18		H
J3	TL/PNL	191	-8	-6	26	66.0	118	15	9	103	86	49	43	NP	-28	-9	2.00	F	-5	23		H
K3	TL/PNL	172	-11	-6	22	64.0	115	10	23	99	72	53	36	P	-24	-3	3.00	F	-4	24		H
L3	TL/PNL	186	3	6	12	68.0	171	16	9	91	46	27	13	P	4	-2	2.00	M	-3	15		G
M3	TL/PNL	193	3	6	15	69.0	126	11	12	90	72	48	31	P	20	6	0.50	M	5	18		G
N3	TNL/PL	173	5	12	8	69.5	165	7	17	103	80	58	48	NP	30	5	2.00	M	8	13		G
O3	TNL/PL	192	-4	1	18	62.0	101	10	13	89	71	36	19	NP	-10	-3	2.00	F	-4	16		G
P3	TNL/PL	174	8	12	2	69.5	135	8	14	118	67	70	52	P	24	2	2.75	M	2	6		G
Q3	TNL/PL	181	-1	4	10	65.5	106	12	6	100	71	51	45	P	10	3	1.50	F	4	15		H
R3	TNL/PL	192	-4	1	11	63.0	113	6	2	82	82	25	62	NP	-10	-3	2.20	F	-4	6		G
S3	TNL/PNL	184	0	5	16	61.0	110	17	19	91	76	59	39	NP	0	-1	3.25	M	-4	20		H
T3	TNL/PNL	172	1	7	21	67.5	137	13	18	109	72	50	41	NP	14	7	2.75	F	-1	26		G
U3	TNL/PNL	172	3	5	17	63.0	127	5	8	99	68	37	29	P	4	-2	2.75	F	-2	17		G
V3	TNL/PNL	172	1	1	14	67.0	159	13	17	103	75	57	40	NP	2	3	3.00	M	-3	11		G
W3	TNL/PNL	176	1	7	2	63.5	160	4	1	99	60	51	44	P	14	7	1.75	F	-1	4		H
X3	TNL/PNL	171	-3	8	20	67.0	111	4	12	115	75	49	43	P	14	8	2.25	M	1	26		H
Y3	TNL/PNL	180	-7	5	15	63.5	134	6	9	95	69	59	50	NP	-10	-1	1.50	F	-7	24		H
Z3	TNL/PNL	175	3	5	7	62.5	100	5	13	105	78	38	39	NP	4	-2	1.75	F	-2	6		H
AA3	TNL/PNL/Q1	199	0	5	14	69.5	150	8	20	97	70	63	52	NP	0	-1	1.25	M	-4	18		C
BB3	TNL/PNL/Q1	191	-4	-3	4	71.0	135	4	8	84	60	44	25	NP	-24	-10	2.25	M	-7	15		H
CC3	TNL/PNL/Q1	183	-2	-5	15	63.0	101	11	13	105	91	57	41	NP	-18	-6	1.80	F	-5	16		G
DD3	TNL/PNL/Q1	176	3	5	4	63.25	111	2	4	101	76	49	23	NP	4	-2	2.25	F	-2	4		H
EE3	TNL/PNL/Q1	180	0	3	16	68.5	151	9	20	90	56	34	23	NP	4	1	1.75	F	0	15		H
FF3	TNL/PNL/Q1	190	-2	-5	15	66.0	119	12	6	90	62	33	30	NP	-18	-6	2.25	M	-5	19		C
GG3	TNL/PNL/Q1	176	0	3	16	65.0	125	17	19	96	59	36	30	NP	4	1	2.50	F	0	20		C
HH3	TNL/PNL/Q1	177	0	5	2	67.0	159	2	7	103	54	34	36	NP	0	-1	1.25	M	-4	9		H
HR#4																						
A4	TL/PL/Q4	179	6	2	19	59.5	100	7	23	103	87	55	36	P	18	2	3.20	F	8	15		C
B4	TL/PL/Q4	176	6	7	27	66.25	139	7	11	112	74	59	45	P	26	1	2.50	F	12	24		H
C4	TL/PL/Q4	178	8	7	10	66.0	141	5	5	96	63	42	22	P	34	5	2.00	F	14	16		G
D4	TL/PL/Q4	176	3	11	5	65.5	144	4	1	86	67	40	20	P	18	2	2.50	F	2	19		H
E4	TL/PL/Q4	179	3	16	6	67.5	133	2	5	105	76	47	38	NP	36	17	2.25	M	0	19		H
F4	TL/PL/Q4	178	13	6	0	73.25	200	1	1	111	83	75	53	NP	30	4	2.00	M	7	3		G
G4	TL/PL	178	-3	0	20	67.0	132	7	17	101	69	36	32	NP	-6	0	2.00	M	-3	15		C
H4	TL/PNL	180	-7	-6	29	61.5	86	15	8	97	80	55	44	P	-30	-8	2.75	F	-9	13		H
I4	TL/PNL	182	4	11	8	63.0	105	2	12	94	86	44	42	NP	30	9	2.00	M	6	14		H
J4	TNL/PL	176	-1	-2	10	60.5	110	10	11	97	72	46	27	P	-6	-2	1.75	F	-1	18		H
K4	TNL/PL	171	2	-2	9	63.0	114	3	4	92	74	34	42	P	4	-3	2.00	F	7	24		H
L4	TNL/PNL	180	5	5	11	61.0	120	15	17	110	81	60	49	P	32	8	2.25	F	14	9		H

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
M4	TNL/PNL	174	4	7	5	63.25	123	9	9	100	54	28	21	NP	12	6	2.00	M	-5	8	C
N4	TNL/PNL	172	1	13	0	66.0	142	5	10	99	69	55	43	NP	20	8	2.00	M	-1	7	G
O4	TNL/PNL	178	-3	5	8	66.0	123	3	18	103	68	54	42	P	12	6	2.25	M	4	7	G
P4	TNL/PNL	175	1	6	12	64.0	115	9	20	105	91	57	41	P	20	5	1.75	F	8	5	H
Q4	TNL/PNL	193	-6	4	10	74.0	139	11	8	99	73	44	43	NP	10	9	0.50	M	3	10	H
R4	TNL/PNL/Q1	181	5	8	5	67.0	115	5	25	106	74	53	50	NP	24	4	1.25	M	7	18	H
S4	TNL/PNL/Q1	198	5	8	10	62.0	110	7	1	96	78	43	42	P	30	6	2.00	F	11	16	G
T4	TNL/PNL/Q1	173	-3	-2	10	68.0	132	11	8	83	62	39	25	NP	-8	-3	0.00	M	0	10	G
U4	TNL/PNL/Q1	174	-3	2	12	59.0	104	9	20	108	83	66	32	NP	0	3	1.50	M	-2	5	G
V4	TNL/PNL/Q1	187	-2	5	9	72.25	159	7	13	100	53	44	33	P	-4	0	1.20	M	-7	14	H

HR#5

A5	TL/PL/Q4	171	10	-5	19	64.0	127	12	8	110	95	74	50	NP	18	-2	3.75	F	15	7	C
B5	TL/PL/Q4	178	1	7	18	68.25	127	15	4	100	87	61	37	P	22	5	4.00	F	9	24	G
C5	TL/PL/Q4	173	4	6	5	68.0	140	5	6	122	85	69	47	P	26	4	3.00	M	12	15	H
D5	TL/PL/Q4	178	6	10	8	66.0	130	10	8	110	89	71	45	P	18	8	4.00	F	-6	20	C
E5	TL/PL/Q4	181	5	1	24	67.5	131	6	17	108	94	72	54	P	26	12	4.00	F	8	13	C
F5	TL/PL/Q4	177	3	3	8	69.25	134	7	11	112	82	71	45	P	5	-7	3.50	M	6	6	C
G5	TL/PL/Q4	181	10	5	2	69.5	133	1	0	112	86	75	52	P	34	3	3.50	M	16	3	C
H5	TL/PL	174	11	3	2	68.0	143	2	6	111	93	65	52	P	20	0	3.75	F	6	9	G
I5	TL/PL	180	12	-2	9	62.5	112	7	4	101	81	53	45	P	26	0	3.50	F	16	1	C
J5	TL/PL	174	-2	7	18	63.5	115	15	4	116	95	69	53	P	16	9	4.00	F	2	24	C
K5	TL/PNL	179	11	-4	18	64.5	116	9	12	114	82	67	49	P	16	-5	3.00	F	14	3	C
L5	TL/PNL	173	4	3	7	67.0	144	6	2	111	80	65	48	NP	24	8	2.50	M	9	7	C
M5	TL/PNL	171	10	1	13	60.0	100	7	9	115	82	67	49	P	24	-2	3.50	F	15	3	H
N5	TNL/PL	175	6	-9	12	65.0	110	5	8	126	95	65	50	P	4	-7	3.25	F	14	6	H
O5	TNL/PL	181	-4	-6	29	66.0	116	7	22	106	88	66	48	P	2	5	3.75	F	7	8	H
P5	TNL/PL	183	10	5	5	62.0	92	1	5	113	83	72	52	P	32	4	3.75	F	13	5	H
Q5	TNL/PNL	180	9	7	6	65.0	107	5	3	116	90	62	34	P	32	2	3.50	F	14	4	H
R5	TNL/PNL	178	0	6	3	64.0	114	0	0	107	79	68	56	P	26	9	3.75	F	11	11	G
S5	TNL/PNL	183	4	17	1	72.5	156	1	3	103	72	61	40	P	32	10	2.75	M	1	7	H
T5	TNL/PNL	168	-2	-1	20	68.0	109	12	12	123	88	67	57	P	-16	-9	3.75	F	-4	27	H
U5	TNL/PNL	171	10	3	6	64.0	110	3	17	121	90	67	47	P	34	5	2.50	F	16	24	H
V5	TNL/PNL/Q1	174	0	11	8	65.0	98	4	5	123	88	67	57	P	22	7	3.75	F	4	19	C
W5	TNL/PNL/Q1	171	1	0	26	63.0	132	6	19	99	76	42	39	P	6	0	2.25	F	5	7	H
X5	TNL/PNL/Q1	177	-3	10	13	68.5	153	6	5	111	77	61	50	P	12	5	2.75	M	0	21	H
Y5	TNL/PNL/Q1	178	1	11	0	66.0	125	1	2	112	88	63	48	NP	14	7	3.50	M	-5	13	H
Z5	TNL/PNL/Q1	179	-1	9	4	64.0	110	1	0	115	82	67	49	P	12	2	3.50	F	2	8	C
AA5	TNL/PNL/Q1	180	4	0	22	70.5	140	20	22	113	86	35	45	P	2	2	3.60	M	-4	19	H
BB5	TNL/PNL/Q1	174	-2	6	8	65.5	155	17	21	115	86	71	52	NP	21	7	3.25	F	10	18	G
CC5	TNL/PNL/Q1	182	7	-4	15	63.5	144	12	5	109	91	71	51	NP	20	7	3.25	F	10	2	H

HR#6

A6	TL/PL/Q4	177	7	9	7	67.5	143	5	13	103	85	55	42	P	28	6	2.50	F	6	5	C
B6	TL/PL/Q4	171	0	9	3	67.0	160	4	1	119	79	55	43	P	8	4	3.00	M	-5	14	C
C6	TL/PL/Q4	178	7	11	15	64.5	127	11	19	93	73	57	42	P	25	5	2.75	F	2	7	C
D6	TL/PNL/Q4	186	9	6	20	63.0	103	14	20	100	66	51	46	P	22	2	2.50	F	5	16	H
E6	TL/PNL	172	7	-3	18	64.0	135	6	29	101	72	48	38	P	20	1	2.50	F	15	13	G

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
F6	TL/PNL	175	10	4	8	67.0	126	2	3	91	79	64	41	P	30	5	3.25	F	11	0	C
G6	TNL/PL	182	0	9	6	67.0	128	0	4	103	79	52	46	NP	22	7	2.00	M	6	10	H
H6	TNL/PL	171	5	9	2	64.0	146	2	10	119	82	38	37	P	32	5	2.50	F	13	1	G
I6	TNL/PL	183	-10	-2	21	65.0	98	6	7	92	87	67	41	P	-26	-5	3.00	F	-9	30	C
J6	TNL/PNL	177	-8	1	12	63.5	127	2	5	112	74	52	51	P	-16	-6	2.50	M	-3	18	C
K6	TNL/PNL	180	-12	-3	21	68.0	118	12	8	108	80	52	52	P	-26	-5	2.50	F	-6	20	H
L6	TNL/PNL	176	3	8	19	69.0	122	8	9	107	73	46	28	NP	16	1	2.00	M	4	27	H
M6	TNL/PNL/Q1	178	2	2	6	61.25	105	3	5	101	70	52	41	NP	22	9	2.40	F	9	6	H
N6	TNL/PNL/Q1	174	-1	8	6	65.5	117	2	2	113	70	56	49	NP	4	-3	1.75	M	0	15	H
O6	TNL/PNL/Q1	170	-3	9	9	65.0	133	8	21	116	88	74	53	NP	4	3	1.75	F	-5	8	H
P6	TNL/PNL/Q1	191	-8	1	19	69.5	190	10	26	103	68	54	42	NP	-16	-6	2.25	M	-3	18	G
Q6	TNL/PNL/Q1	181	3	5	10	60.25	88	6	9	105	91	57	41	NP	18	0	2.25	F	10	12	H
R6	TNL/PNL/Q1	182	9	6	4	66.0	134	10	11	101	68	54	42	P	22	1	2.50	M	6	13	G

HR#7

A7	TL/PL/Q4	186	13	6	7	63.0	138	6	2	112	86	61	44	P	30	4	4.00	M	7	7	H
B7	TL/PL/Q4	181	3	16	1	65.0	138	1	0	120	94	78	55	P	36	17	4.00	F	0	1	C
C7	TL/PL/Q4	174	6	12	9	64.25	158	5	8	137	86	72	54	P	32	11	4.00	M	3	8	C
D7	TL/PL/Q4	179	6	8	1	65.25	116	5	0	115	87	67	53	P	36	10	3.83	F	12	0	C
E7	TL/PL/Q4	174	9	11	4	69.0	113	0	1	132	93	76	56	P	32	9	4.00	M	3	6	C
F7	TL/PL/Q4	179	5	-4	21	64.0	112	21	2	117	91	83	56	P	6	4	4.00	F	1	17	H
G7	TL/PL/Q4	172	-5	3	6	61.5	110	3	6	120	95	65	50	P	8	6	4.00	F	4	4	H
H7	TL/PL	182	15	5	9	68.0	129	5	7	115	99	78	59	P	32	1	3.75	F	11	5	C
I7	TL/PL	181	9	7	10	64.0	103	8	3	119	93	82	57	P	24	3	4.00	F	5	12	H
J7	TL/PL	177	10	3	17	62.0	102	4	3	110	94	63	51	P	32	2	3.00	F	17	5	C
K7	TL/PNL	173	8	-2	6	60.5	115	6	3	129	93	63	49	P	14	-5	2.60	F	13	10	H
L7	TL/PNL	174	1	12	1	62.5	96	2	4	121	95	69	54	NP	26	14	3.50	M	-1	15	C
M7	TL/PNL	180	11	3	25	69.0	186	12	18	118	97	70	54	P	20	0	3.40	F	6	14	C
N7	TNL/PL	180	4	8	0	65.5	145	0	4	132	98	78	59	P	36	17	2.60	M	7	14	H
O7	TNL/PL	177	-13	0	10	68.0	173	2	7	116	95	69	53	P	-24	-2	4.00	F	-9	19	H
P7	TNL/PL	174	8	8	4	64.5	139	6	1	114	77	72	46	P	32	10	3.75	F	6	6	H
Q7	TNL/PNL	182	1	13	0	71.0	150	1	0	122	87	67	50	P	20	8	4.00	M	-2	9	C
R7	TNL/PNL	181	1	3	6	69.0	177	7	7	126	86	61	51	P	16	4	4.00	M	8	9	G
S7	TNL/PNL	176	7	8	4	65.0	142	5	4	127	81	69	57	P	32	6	2.75	M	11	6	H
T7	TNL/PNL	177	10	2	10	63.5	132	5	5	114	87	67	50	P	30	5	3.50	F	13	4	H
U7	TNL/PNL	177	1	14	4	67.0	122	3	2	122	85	57	47	NP	30	13	3.00	M	2	13	C
V7	TNL/PNL/Q1	180	4	6	17	63.5	107	5	8	115	89	64	51	P	22	5	2.75	F	7	19	C
W7	TNL/PNL/Q1	182	7	11	8	64.25	118	5	11	109	89	59	49	P	34	5	3.00	F	11	12	H
X7	TNL/PNL/Q1	181	5	12	1	69.0	140	3	1	113	88	74	53	P	32	7	2.00	M	8	3	C
Y7	TNL/PNL/Q1	178	-1	-3	13	62.5	109	10	12	114	83	72	54	P	4	-3	3.50	F	11	10	C
Z7	TNL/PNL/Q1	172	-2	11	8	69.0	163	2	5	120	78	70	41	P	12	6	2.25	M	-3	25	H
AA7	TNL/PNL/Q1	174	15	1	1	63.5	115	2	2	121	72	62	42	P	36	3	2.40	F	17	5	C

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
HR#8																					
A8	TL/PL/Q4	175	11	3	8	65.5	129	9	6	105	82	62	41	NP	20	0	3.00	F	6	10	H
B8	TL/PL/Q4	181	6	7	16	67.0	144	8	12	100	71	51	45	P	26	1	2.50	F	12	20	H
C8	TL/PL/Q4	172	-8	7	5	63.25	103	4	3	82	60	31	18	P	-2	3	2.80	F	-4	23	C
D8	TL/PL/Q4	178	4	-11	20	67.25	165	9	26	91	64	40	19	P	-10	-11	1.75	F	8	15	H
E8	TL/PL/Q4	173	-2	-4	13	64.0	146	7	9	91	63	42	22	NP	-6	-2	2.00	F	-6	3	H
F8	TL/PNL	172	-3	-4	19	63.25	136	18	18	91	62	33	24	P	-6	0	2.25	F	1	18	H
G8	TL/PNL	175	3	11	11	59.0	79	7	15	111	72	54	49	NP	18	2	1.80	F	2	9	G
H8	TL/PNL	187	1	-2	5	65.0	125	7	6	92	64	28	23	NP	2	1	2.00	F	4	3	H
I8	TNL/PL	170	-14	-3	20	62.25	125	3	15	92	60	24	23	P	-34	-3	2.00	F	-14	21	G
J8	TNL/PL	172	9	6	3	63.5	117	4	7	102	66	36	43	P	28	5	1.25	F	8	6	H
K8	TNL/PL	178	3	4	23	65.25	113	4	25	90	51	30	26	NP	12	3	1.40	F	2	8	H
L8	TNL/PNL	174	2	8	14	66.0	125	6	11	88	57	43	34	P	26	9	1.20	F	7	18	H
M8	TNL/PNL	173	9	6	14	64.0	139	10	6	88	57	50	30	P	28	5	2.25	F	8	10	G
N8	TNL/PNL	192	-3	0	18	64.25	162	9	25	96	77	51	45	NP	-14	-2	1.25	F	-9	24	G
O8	TNL/PNL	174	2	8	9	62.5	125	7	5	93	39	19	18	P	26	9	1.25	F	7	13	G
P8	TNL/PNL/Q1	192	2	-3	10	64.0	141	9	12	75	57	29	13	NP	5	-6	2.25	F	12	8	H
Q8	TNL/PNL/Q1	175	-5	1	15	63.0	93	11	13	105	81	59	45	NP	-12	-4	1.50	F	-4	27	H
R8	TNL/PNL/Q1	180	-1	-3	16	56.0	114	9	11	99	54	28	21	NP	4	-3	2.00	F	11	14	G
S8	TNL/PNL/Q1	186	9	5	5	64.0	123	7	7	77	45	22	14	NP	30	3	1.50	F	13	1	G
T8	TNL/PNL/Q11	199	1	3	16	60.0	94	10	12	92	46	23	32	P	12	3	0.00	F	5	26	H

HR#9																					
A9	TL/PL/Q4	179	0	8	8	69.5	141	5	3	123	71	72	57	P	4	6	1.00	M	-10	27	G
B9	TL/PL/Q4	186	-4	14	13	68.0	135	13	5	85	49	43	28	NP	24	12	1.75	M	2	22	G
C9	TL/PL/Q4	179	0	0	3	68.5	121	0	8	97	72	42	31	NP	-2	-4	2.25	M	2	16	G
D9	TL/PNL	173	-1	5	1	71.25	213	1	2	123	75	66	48	P	5	-3	2.50	M	4	10	H
E9	TL/PNL	192	0	18	9	69.5	134	3	9	100	73	52	38	NP	30	13	2.50	M	-1	20	H
F9	TNL/PL	177	-6	11	6	67.0	125	6	10	92	73	45	38	NP	8	10	1.75	M	-7	20	C
G9	TNL/PL	185	-3	10	9	72.0	150	2	6	89	60	44	33	P	12	5	1.75	M	0	18	G
H9	TNL/PNL	174	0	12	0	66.0	163	2	11	109	74	53	50	NP	20	11	1.25	M	-3	14	G
I9	TNL/PNL	159	5	2	17	68.5	117	14	21	104	74	43	37	NP	15	5	1.25	M	3	14	C
J9	TNL/PNL	173	-6	11	6	70.5	162	8	12	72	10	6	5	NP	8	10	1.00	M	-7	12	H
K9	TNL/PNL/Q1	178	6	13	3	65.0	149	0	21	112	88	68	51	P	28	8	2.25	M	1	4	G
L9	TNL/PNL/Q1	183	-6	2	12	69.5	190	5	8	105	52	34	23	NP	-12	-2	1.25	M	-6	6	H
M9	TNL/PNL/Q1	175	6	6	8	59.0	81	4	5	89	45	37	29	NP	14	2	2.25	M	0	19	G
N9	TNL/PNL/Q1	173	-6	2	6	69.0	141	3	17	112	57	50	39	NP	-12	-2	1.50	M	-6	24	G

HR#10																					
A10	TL/PL/Q4	191	-1	2	23	68.25	150	17	21	90	41	53	30	NP	-6	2	1.75	M	-9	29	H
B10	TL/PL/Q4	175	9	7	2	67.5	143	3	8	115	68	62	48	P	30	4	2.00	M	10	13	H
C10	TL/PNL/Q4	169	-4	14	13	72.25	159	8	0	91	72	48	31	NP	24	12	1.20	M	2	10	G
D10	TL/PNL/Q4	185	12	5	2	70.0	244	5	4	113	75	63	53	P	34	3	1.25	M	14	1	G
E10	TL/PNL	187	-1	5	8	73.0	162	11	11	99	64	37	33	NP	5	-3	1.40	M	4	9	C
F10	TL/PNL	192	-4	1	15	68.0	143	11	15	87	74	45	33	NP	0	4	1.00	M	-1	16	H
G10	TNL/PL	180	0	11	4	68.5	130	3	3	101	61	37	29	NP	24	9	2.75	M	4	16	H

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
H10	TNL/PL	185	6	6	3	65.5	111	0	21	86	36	22	14	NP	14	2	1.50	M	0	4	H
I10	TNL/PL	177	9	9	10	59.0	96	4	1	99	59	34	20	NP	26	5	1.80	M	3	14	G
J10	TNL/PL	179	2	9	0	64.0	103	2	1	105	76	47	38	NP	24	9	2.50	M	4	3	G
K10	TNL/PNL	182	-3	10	15	71.0	175	6	20	103	74	38	21	NP	12	5	2.00	M	0	18	H
L10	TNL/PNL	190	4	17	6	68.5	149	8	12	84	49	29	12	NP	32	10	1.60	M	1	12	G
M10	TNL/PNL	172	-1	-4	5	69.0	120	7	10	96	65	50	35	NP	-14	-7	2.50	M	-2	18	H
N10	TNL/PNL	179	7	-2	18	66.5	148	8	21	93	43	40	22	NP	1	-10	0.60	M	6	10	H
O10	TNL/PNL	171	-5	7	19	68.5	132	6	14	94	42	24	13	NP	-2	-1	1.00	M	-3	21	H
P10	TNL/PNL/Q1	178	-2	2	6	64.0	110	0	5	90	56	35	30	NP	2	0	2.25	M	2	10	H
Q10	TNL/PNL/Q1	176	5	13	11	61.5	97	11	4	107	69	51	40	NP	32	11	2.00	M	3	22	H
R10	TNL/PNL/Q1	159	-6	11	12	60.0	91	5	8	112	57	50	39	NP	8	10	1.50	M	-7	28	G
S10	TNL/PNL/Q1	193	-3	10	7	67.0	115	13	11	77	54	51	33	NP	12	5	0.20	M	0	12	C
HR#11																					
A11	TL/PL/Q4	176	1	6	2	67.5	121	2	4	92	23	24	20	NP	20	10	2.25	M	3	6	H
B11	TL/PNL	181	9	7	20	66.0	123	9	26	86	57	25	15	NP	24	3	1.50	F	5	15	C
C11	TNL/PL	173	3	4	10	65.5	110	7	1	103	88	36	43	P	12	3	2.00	F	2	16	H
D11	TNL/PNL	186	-3	2	12	61.0	110	14	14	79	53	24	25	NP	0	3	0.75	M	-2	20	G
E11	TNL/PNL/Q1	194	4	7	9	61.0	117	7	13	92	50	20	21	NP	12	6	1.00	M	-5	14	G
HR#12																					
A12	TL/PL/Q4	190	9	7	11	70.0	158	4	12	91	49	21	28	NP	30	4	1.80	M	10	16	H
B12	TL/PL/Q4	175	0	0	11	67.25	130	7	11	95	70	36	30	NP	-2	-4	1.00	M	2	23	G
C12	TL/PNL	182	1	6	20	65.5	146	9	27	100	53	44	33	NP	6	-2	1.25	M	1	23	H
D12	TL/PNL	184	-2	0	6	65.0	119	3	6	92	52	43	12	NP	-2	-2	2.20	M	2	16	G
E12	TNL/PL	178	7	8	4	65.25	102	2	2	101	76	44	36	NP	28	4	2.50	F	9	11	H
F12	TNL/PL	175	1	2	24	64.0	126	13	20	86	64	36	27	NP	14	5	1.50	F	6	21	G
G12	TNL/PNL	173	-14	4	17	69.0	124	14	21	100	73	52	38	NP	-26	0	2.50	M	-16	14	G
H12	TNL/PNL/Q1	180	1	11	0	69.0	130	2	11	90	72	48	31	NP	14	7	2.00	M	-5	14	H
I12	TNL/PNL/Q1	186	4	0	19	66.0	100	6	22	87	74	45	33	NP	2	2	1.00	M	-4	11	H