THE RELATIONSHIPS BETWEEN SCHOOL LEADERSHIP, INTELLIGENCE AND SCHOLARSHIP

by

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CHAPTER I

INTRODUCTION

General Background

Leaders have always been necessary in our civilization. At the present time, with the world situation as it is, it is even more important that leaders be developed--men and women with wisdom, courage, and ability. Any attempt to discover which combinations of qualities or attributes are usually found in leaders would be worthwhile if it led to the next step of discovering and developing these qualities in children.

The importance of the subject of leadership is evidenced by the wealth of literature on the subject written in the past fifty years. Writers have attacked it from every angle, using varied methods and approaches, and different age groups for investigation. However, because leadership is a complex psychological problem, involving many sociological aspects, even these writers admit that we still know little about the subject. Further study is valuable insofar as it confirms previous work and uncovers new facts.

In an article entitled "Famine in Leadership" written in 1947, and deploring the fact that leaders in ideas and

principles are scarce, Behnke[1] wrote:

> On the leadership of the world rests the greatest responsibility in history; for never before have men's problems been so interlocked on a world scale. Because of these interrelations, one small crack in the new union of the nations might well cause that chaos that we all so poignantly dread. The leaders of today and the immediate tomorrow hold the seed of the future peace or of unbelievably destructive future wars in their hands. Millions of lives are involved--young lives with great latent gifts for the arts, science, politics, religion--and in any future war, mature lives in the prime of their service to man, since no one anywhere will escape. . . . With all this at stake, man's concern about his leaders can hardly be too great.

This statement sounds as if it were written in 1951. Behnke claims that our emphasis upon the learning of facts has caused a famine in leadership. "Millions of us listen to 'quiz' programs and worship at the shrine of memory learning."[2] He comes to the conclusion that "segregation of the intellectually elite" would be the solution to the problem. They should be taught to think, analyze, and synthesize. Segregation sounds like a good idea, but President Conant of Harvard warns against it, as it tends to make an undesirable social situation. Certainly it is opposed to the democratic ideal of students learning human relationships by participating in natural situations at school.

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[1] J.A. Behnke, "Famine in Leadership," School and Society, LXV (May 31, 1947), p. 397.

[2] Ibid.

Bennett[1] agrees with the idea of the need for leaders but places the responsibility for training them on the high school. He says:

> What the world needs today more than anything else is leaders, men and women of ability, of broad vision and set courage, of power and ability to direct the thoughts and energies of others. This training of students for leadership should be particularly the work of the high schools and of institutions of higher learning. . . . The high school should organize its various extra-curricular activities so as to give each student an opportunity to discover and develop his particular abilities; to train him so that he may appear before the public in an unembarrassed and effective manner; to help him establish a relation between his school work and the affairs of life, and to develop in him qualities of leadership.

Wilds, and McKown also believe that the schools offer opportunity for self-development. According to Wilds,[2]

> The best way for the schools to develop leadership is to furnish opportunity. . . . In every school, with its many interests and increasing number of activities, there are ever-widening opportunities for demonstrating and developing the qualities needed for leadership.

In a somewhat similar vein McKown[3] states:

> Everyone is interested in something . . . the function of the teacher is to find out student interests, to encourage the good ones, to develop them, and to increase their range by bringing the student into contact with new situations. Extra-curricular activities offer many opportunities for the student to try himself out, and to develop his powers by employing them in real situations.

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[1] H.O. Bennett, "Developing Leadership in the High School," Education, XLIII (October, 1922), 107-15.

[2] Elmer Harrison Wilds, Extra-Curricular Activities. P. 28. New York: The Century Company, 1926.

[3] Harry C. McKown, Extra-Curricular Activities, p. 28. New York: The Macmillan Company, 1927.

We come to the conclusion then that extra-curricular activities constitute a valuable training ground for the development of leadership, and that it is to the leaders in these activities that we must look for leadership in the later activities of life.

Because of the wide-spread and felt need for leaders and the attempts to develop them through participation in extra-curricular or co-curricular activities, studies of the qualities associated with leadership have become of considerable interest to educators.

The present writer has always had an interest in extra-curricular activities. As a high school English teacher, through the directing of plays, and sponsorship of school papers, clubs and classes, she had an opportunity to observe the boys and girls who participated. A review of the literature on leadership proved to be very informative. An exhaustive search for other theses written at the University of Arizona, using the method and materials planned by the writer, revealed none. The one most nearly approaching it was by McComb,[1] using Phoenix Union High School boys. Since Tucson Senior High School graduates were used for this study, it was hoped that the findings might be useful to counselors and administrators of that school.

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[1] Jesse E. McComb, "Extra-Curricular Activities and Scholarship." Unpublished Master's thesis, University of Arizona, 1927.

Definition of Terms

Leadership: For the purpose of this study leadership is operationally defined as active participation in extra-curricular activities.

Extra-Curricular Activities: Activities which may be participated in during or after school hours, membership in which is on a voluntary basis, and for which no school credit is given. Other names, such as co-curricular activities, are sometimes used. A complete list of the specific activities used in this study will be found in the appendix.

Purpose of Study

This study attempts to determine certain relationships between leadership, intelligence, and scholarship for a particular group of high school seniors. More specifically, the particular hypotheses to be investigated are:

1. That no significant relationship exists between intelligence and leadership for the population studied.
2. That no significant relationship exists between scholarship and leadership for the population studied.

CHAPTER II

SURVEY OF RELATED STUDIES

Overview

Apparently, up until about 1910, not much was written concerning either extra-curricular activities or leadership; but in the 1920's there was a tremendous upsurge of interest in both. Many writers attempted to justify extra-curricular activities on the basis of their value to the student, while others criticized them from the point of view of time wasted on the part of both student and teacher.

Of considerable aid to the writer of this study was a very complete survey by Stogdill[1] of the literature on the subject of leadership. Here, not only is there an extensive bibliography, but also, studies have been arranged in groups according to the characteristics of leaders, and the results made available in very brief form. This is extremely helpful in summarizing. The survey is recommended to all who wish information on this subject.

As an example of the type of brief summaries to be found, there are fifteen studies which agree on the following conclusions:

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[1] Ralph M. Stogdill, "Personal Factors Associated with Leadership: A Survey of the Literature," Journal of Psychology, XXV-XXVI (January, 1948), 35-71.

a. The average person who occupies a position of leadership exceeds the average of his group in (1) intelligence, (2) scholarship, (3) responsibility, (4) activity and social participation, and (5) socio-economic status.

b. The characteristics required of a leader are determined by the situation.

Similar summaries are given for the other groups of studies.

As for the characteristics of leaders which are pertinent to this investigation, there were twenty-three studies which concluded that leaders are brighter than non-leaders. However, the leader is not too much more intelligent than the average of the group led. If he is too far removed from the average of his group, his interests are different and there is no common ground between him and the led.

Concerning scholarship, twenty-two studies reported that leaders make better grades than non-leaders.

Fifteen studies showed leaders to come from higher socio-economic backgrounds. Nineteen writers found that patterns of leadership traits differ with the situation. Six studies mentioned the discovery that leaders lack modesty. Responsibility, self-assurance, and fluency of speech (including authoritative tone of voice and inflection) were other traits studied, among many. Stogdill's bibliography lists studies dating from 1904 to 1947.

Obviously, among the various investigations there were many differences in subjects and methodology. Some studied high school students, others college students, still others the pre-school child. Different point systems and other methods for determining leaders were employed. In spite of these variations, a remarkable similarity in results was obtained, as will be seen in the summary at the end of this chapter.

Pertinent Studies

Two writers were interested in the possible effect on scholarship of active participation in extra-curricular activities. McComb,[1] in working with boys of Phoenix Union High School, discovered that participants in extra-curricular activities have higher scholarship than non-participants, and that leaders in degree of participation are also leaders in scholastic standing.

Swanson,[2] in his study, came to the conclusion that there was little evidence that participation in extra-curricular activities affects scholarship. He states that:

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[1] Jesse E. McComb, "Extra-Curricular Activities and Scholarship." Unpublished Master's thesis, University of Arizona, 1927.

[2] A.M. Swanson, "The Effect on High School Scholarship of Pupil Participation in Extra-Curricular Activities," School Review, XXXII (October, 1924), 626.

> On the whole, the evidence points to the thesis that high-school pupils of somewhat more than average intelligence participate in extra-curricular activities, probably as a means of expressing their intelligence beyond the demands of the curriculum, and that such participation does not significantly affect their scholastic standing.

Two studies dealing principally with the factor of intelligence and its relation to leadership were those of Bennett and Jones, and McCuen. At the Rochester Shop School, Bennett and Jones[1] asked the teachers, the principal, and the athletic coach to select five leaders each, and also five failures or non-leaders. Otis intelligence tests were given. It was found that the leaders had high intelligence. No boy shown to have inferior intelligence was rated as a leader, and no boy rated as a leader was in the inferior group in intelligence. It was concluded that intelligence underlies ability in leadership and that low intelligence effectually bars a person from leadership.

In a master's thesis, written at Stanford University in 1929, McCuen[2] warns that the inference must not be made that all leaders have a high degree of intelligence. His conclusions are:

1. There is a tendency for college groups to choose someone with intelligence slightly above the average for the group.

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[1]H.S. Bennett and B.R. Jones, "Leadership in Relation to Intelligence," School Review, XXXI (February, 1923),125-28.

[2]T.L. McCuen, "Leadership and Intelligence," Education, L (October, 1929), 89-95.

2. College groups select their leaders from a wide range of intelligence.

3. Men seem to depend on intellectual traits more than women.

4. Leaders seem to be selected for other traits and intelligence is merely a concomitant. He says that many students of leadership think that any person above normal intelligence should be capable of leadership.

5. Athletic leaders are chosen for their ability in sports.

He concludes: "The crowd seems to desire to be led by the average person. Evidently in a democratic society the leader must not be too far detached from the group."[1]

By far the greatest number of writers attempted to solve in some way the problem of what combinations of qualities are most often found in leaders. Of great interest are the findings of Middleton.[2] He defined as leaders only those men and women at DePauw University who at the time were presidents of some organization. Each was rated on the North Carolina Scale for Fundamental Traits by four or more students who knew him well. For women leaders, the six traits having the highest mean rankings in order of magnitude were: Character, intelligence, accuracy, persistence, artistic taste, ambition. The six traits having the lowest means were: Radicalness, modesty, emotionality,

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[1] Ibid., p. 95.

[2] W.C. Middleton, "Personality Qualities Predominant in Campus Leaders," Journal of Social Psychology, XIII (February, 1941), 199-201.

decisiveness, ascendancy, extroversion. For male leaders, the six traits having the highest mean rankings were: Character, intelligence, sociability, persistence, expressiveness, judgment. The six lowest were: Radicalness, extroversion, modesty, emotionality, adaptability, social sensibility. For the total group of leaders, the six highest traits were: Character, intelligence, persistence, accuracy, sociability, and judgment. The six lowest were: Radicalness, modesty, emotionality, extroversion, decisiveness, and adaptability. Middleton[1] comments:

> The writer was somewhat surprised to find that such 'traits' as adaptability, decisiveness, ascendancy, extroversion, tact and poise, and social sensibility were given such low ratings. Certainly we have been led to believe (even been taught by psychologists) that extroverts tend to be leaders, and that in both school and society leadership depends (to what degree is not known) upon a certain amount of poise, decisiveness and adaptability.

An earlier and also revealing investigation was that of Flemming[2] at the Horace Mann School for Girls. Leaders from grades nine, ten, and eleven were chosen by means of a point system, and a check list of traits was given to the teachers. Besides being rated on the personality traits, each girl was rated by the students on the general trait of pleasantness. The correlation coefficient between leadership

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[1] Ibid., p. 201.

[2] Edwin G. Flemming, "A Factor Analysis of the Personality of High School Leaders," Journal of Applied Psychology, XLX (1935), 596-605.

and personality was .50, and between leadership and pleasantness .33. "Leadership, like personality itself, is apparently made up of a number of diverse elements, no one of which is of paramount importance in relation to the others."[1] There were four traits which were positively and significantly associated with leadership with correlations between .40 and .47. These were liveliness, wide interests, intelligence, and being a good sport. Some factors, like modesty, had negative correlations. The traits were then grouped in clusters, as, (the four leading ones) the entertaining, the brilliant, the cultured-talented and the just. One trait was picked from each of the eight clusters and the average correlated with leadership .57. The conclusion was that the possession of these eight traits is no guarantee of election but few persons without them would be elected.

Wetzel,[2] Reals,[3] and Brown[4] all found that leaders tend to choose the college preparatory curriculum and that they possess higher scholarship and intelligence than non-leaders.

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[1] Ibid., p. 600.

[2] W.A. Wetzel, "Characteristics of Pupil Leaders," School Review, XL (September, 1932), 532-34.

[3] Willis H. Reals, "Leadership in the High School," School Review, XLVI (September, 1938), 523-31.

[4] Marion Brown, "Leadership Among High School Pupils," Teachers College Record, XXXV (January, 1934), 324-26.

In addition other traits such as health, and outside influences such as socio-economic standing and education of parents, were studied.

In 1926 Caldwell and Wellman[1] summarized their findings on the characteristics of school leaders thus:

1. Characteristics of leaders varied with the type of activity.
2. Scholarship was high for all leaders.
3. The chronological ages were close to the average of the class or less.
4. Girl leaders were extroverts. Athletic leaders were balanced between extroversion and introversion. Magazine staff were introverts.
5. Girls were average in height. Magazine staff were shortest. Class presidents and athletic captains were tallest.

Reynolds[2] used as his bases for designation as leaders: offices held, awards, special recognition, officiating or participating in general assemblies, play participation, radio broadcasting, student assistantships, captains of teams, publications, committee services. Ten faculty members assisted in making a rating scale. The results he obtained were:

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[1] O.W. Caldwell and B. Wellman, "Characteristics of School Leaders," Journal of Educational Research, XIV (June, 1926), 1-15.

[2] Floyd Johnson Reynolds, "Factors of Leadership Among Seniors of Central High School, Tulsa, Okla.," Journal of Educational Research, XXXVII (January, 1944), 356-61.

1. High school leaders excel non-leaders in scholarship and intelligence.

2. Leaders rate higher on personality traits.

3. When the upper quartile of leaders are compared with the general group of leaders, the select leaders are significantly higher in scholarship, intelligence, and personality traits.

4. Teachers are able to detect with a fair degree of accuracy personality traits of leaders.

5. Height is not a significant factor of leadership.

Probably the most extensive and most interesting of these studies is the one by Bellingrath[1] in 1930. The traits he studied were: sex, age, height, weight, intelligence, school marks, school habits, socio-economic background, and introversion or extroversion.

By means of a study of the high school annuals he selected senior leaders and rated them according to a point system. Those students having the highest number of points were designated as Group A. An equal number of students with a score of zero were chosen as Group B. His results are summarized here:

Sex

1. A larger number of boys than girls are elected. The average girl leader and the average boy leader hold about the same number of points.

Age

2. As a whole there is no age difference. Boys are older, girls younger than non-leaders.

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[1]George C. Bellingrath, "Qualities Associated with Leadership in the Extra-Curricular Activities of the High School," Teachers College Contributions to Education, No. 399, Teachers College, Columbia.

Height and Weight
3. Boys are not larger than non-leaders, but there is a tendency in that direction. Girl leaders are both taller and heavier than non-leaders.

Intelligence
4. No difference

Scholarship
5. Leaders in extra-curricular activities receive higher marks than non-leaders.

School Habits
6. Leaders highly rated by teachers.

Socio-Economic Background
7. Leaders have higher home background.

Introversion-Extroversion
8. Groups A. and B. are not definitely one or the other according to the scale used. Questions studied in special groups showed some difference.

Bellingrath's general conclusions were:

1. In the case of boys, there is no apparent relation between their height, weight, school marks, or school habits, and elected leadership.

2. In the case of boys, a slight positive relation between their age and social and economic status and elected leadership.

3. In the case of girls, a slight negative relation between age and elected leadership.

4. In the case of girls, there is a marked positive relation between height, weight, school marks, school habits, and social and economic status and elected leadership.

It should be of interest to students and educators alike, whether or not leadership evidenced in high school persists into the later life of the individual. Courtenay[1]

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[1]M.E. Courtenay, "Persistence of Leadership," School Review, XLVI (February, 1938), 97-107.

found that leadership in early years does have a tendency to persist and that non-leaders tend to gain a little through the years.

Shannon,[1] in a study of the post-school careers of high school students, found that:

1. Graduates who were leaders in pupil activity made a better showing than scholars or random group.
2. Scholars seem to be least successful in post-school life.
3. It seems that whatever it is that is necessary for success in the high school is not the factor that is requisite for success in life.
4. Whatever is required to excel in the extra-curriculum life of the high school seems to be the same thing that contributes most to success later.
5. The findings of this investigation do not constitute an indictment of life. They constitute an indictment of the high school. They suggest the need for curricular adjustment.

Perhaps the most significant of all findings regarding the subject of leadership is, that by its very nature it is variable; that is, that people who are chosen leaders in one situation are probably followers in another. To put it another way, the situation determines its own qualification for a leader. Page,[2] who conducted his study among cadets at West Point, came to the conclusion that

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[1] J.R. Shannon, "The Post-School Careers of High-School Leaders and High-School Scholars," School Review, XXXVII (November, 1929), 656-665.

[2] David P. Page, "Measurement and Prediction of Leadership," American Journal of Sociology, XLI (July, 1935), 31-43.

". . . leadership is a function of a definite situation, that we cannot talk about leadership traits in general but only as they appear in particular situations."[1]

Roberts and Draper[2] in arguing the benefits of extra-curricular activities gives:

(1) developing potential qualities of real citizenship

(2) producing an appreciation of leadership and the dignity of followship--that the leader in one line of activity may graciously serve in the ranks in another

As a concluding thought Stogdill[3] brings up an interesting point:

> A most pertinent observation . . . is made by Ackerson who reports that "the correlations for 'leaders' and 'followers' are not of opposite sign and similar magnitude as would be expected of traits supposed to be antithetical." These may not be the opposite poles of a single underlying trait. "It may be that the true antithesis of 'leader' is not 'follower', but 'indifference', i.e., the incapacity or unwillingness either to lead or to follow. Thus it may be that some individuals who under one situation are leaders may under other conditions take the role of follower, while the true 'opposite' is represented by the child who neither leads nor follows."

Summary

Summarizing these studies on leadership, the majority of the writers found that:

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[1] Ibid., p. 41.

[2] A.E. Roberts and E.M. Draper, Extra-Class and Intramural Activities in High Schools, p. 22. New York: D.C. Heath and Company, 1928.

[3] Stogdill, op. cit., p. 66.

1. Leaders are more intelligent but not too much more intelligent than the average of the group led. Whether this intelligence is a prerequisite to leadership or a concomitant to other traits is not known.
2. Leaders get higher marks than non-leaders, probably because of their superior intelligence, and participation in extra-curricular activities apparently does not affect their scholarship.
3. The traits of leadership differ according to the situation, and a leader in one set of conditions might be a follower in another.
4. Leaders are not necessarily older or younger than non-leaders, nor is height important.
5. Leaders possess good health and bodily energy, and lack modesty.
6. Leaders come from higher socio-economic backgrounds and are socially better adjusted than non-leaders.
7. Leadership tends to persist in later years.

This summary of findings on the qualities associated with leadership acts as a stimulus to the writer. It will be interesting to observe whether the results of this investigation compare favorably with those found by others. Items 1 and 2 are of particular interest and significance for this study. Items 3 and 7 offer possibilities for further investigation.

CHAPTER III

METHOD OF PROCEDURE

Introduction

This chapter describes the groups of students chosen for investigation, the measuring devices used, and presents the statistical techniques by which the results were obtained.

Characteristics of Group Chosen

Since this study includes the variable of leadership, it was desired to select students who exhibited at least to some degree the characteristic of leadership. The students chosen for investigation were members of the 1950 graduating class of Tucson Senior High School, Tucson, Arizona. There were 677 members of this class. From this large group a leader group of 173 seniors was selected on the basis of their participation in extra-curricular activities. For the purpose of this study, a leader is arbitrarily defined as one who participates, during his stay at Tucson High School, in at least eight activities, each activity being counted separately for each year of participation; thus, "National Honor Society 3, 4," would be counted as two activities. The 173 leaders were chosen by examining the senior index of the 1950 "Tucsonian",[1]

[1] The Tucsonian, Tucson, Arizona, 1950. Pp. 236-247.

the high school annual, where each senior has listed the extra-curricular activities participated in during his senior high school career. There were 72 boys and 101 girls in the group and their ages ranged from sixteen to twenty-one. Table 1 shows the distribution and percentage of their ages. It will be seen that 85 per cent of the group were either seventeen or eighteen years old.

TABLE 1

AGES OF 173 LEADERS

Age	Number	Per cent
16	1	.5
17	38	22.0
18	108	63.0
19	23	13.0
20	2	1.0
21	1	.5
Total	173	100.0

In addition to age and sex, the following information about each student was obtained from the registrar: L-score, Q-score, and T-score (total) of the American Council on Education Psychological Examination, cumulative scholastic average for four years (grades 9 through 12), and rank in class.

Another group of 132 non-leaders was also chosen from

the same senior class by examination of the annual. These students had participated in no extra-curricular activities. This group would have been larger except that it was very difficult to get data on them, so many having dropped out of school. As far as possible the same information was obtained for the group of non-leaders as for the leaders. There were 60 boys and 72 girls in this group and their ages ranged from sixteen to twenty-three. Table 2 shows the distribution of ages and the fact that approximately 81 per cent of this group were either eighteen or nineteen years old.

TABLE 2

AGES OF 132 NON-LEADERS

Age	Number	Per cent
16	1	.7
17	10	7.6
18	64	49.0
19	42	32.0
20	10	7.6
21	4	2.4
22	0	0.0
23	1	.7
Total	132	100.0

Measuring Devices Used

This section describes the several measuring instruments used in the study.

The Leadership Rating Scale

It was deemed necessary to construct an instrument to measure the extent of participation in extra-curricular activities, for several reasons. First, no existing scale seemed applicable to the present situation. An examination of other point systems, such as those used by McComb,[1] Bellingrath,[2] Flemming,[3] Richardson and Hanawalt,[4] and others, led to the conclusion that it would not be feasible to use any of them, since the activities are different at different schools, and, moreover, similar activities have different values at different schools. Second, it was desired to weight the various activities according to the importance attached to them by the students at Tucson High School. Third,

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[1] Jesse E. McComb, "Extra-Curricular Activities and Scholarship." Unpublished Master's thesis, University of Arizona, 1927.

[2] George C. Bellingrath, "Qualities Associated with Leadership in the Extra-Curricular Activities of the High School," Teachers College Contributions to Education, No. 399. Teachers College, Columbia.

[3] Edwin G. Flemming, "A Factor Analysis of the Personality of High School Leaders," Journal of Applied Psychology, XIX (1935), 596-605.

[4] H.M. Richardson and N.G. Hanawalt, "Leadership as Related to the Bernreuter Personality Measures: I. College Leadership in Extra-Curricular Activities," Journal of Social Psychology, XVII (1943), 237-249.

Tucson High School maintains no point system reflecting participation in extra-curricular activities. And fourth, since leadership was defined as participation in extra-curricular activities, a numerical index was necessary so that the interrelationships between scholarship, intelligence, and leadership could be studied. Accordingly the writer undertook to develop such a scale. Details of the construction of this scale follow.

To build a value scale for extra-curricular activities which would apply particularly to Tucson High School and which would be representative of the relative importance attached to each activity at that school, a list of extra-curricular activities was made using the high school annual as a source book. This list included musical, social, athletic, journalistic, scholastic, and honorary organizations, as well as positions of honor, such as class presidents, flag bearer, Boys State governor. A complete list will be found in Appendix A. The list was then submitted to one hundred Tucson High School summer students who had attended that school for at least a year. Of these one hundred students forty-two were seniors, forty-six were juniors, and twelve were sophomores. The group was fairly well divided as to sex, forty-eight being boys and fifty-two girls. Their ages ranged from fourteen to twenty-six years, most of the group being either sixteen or seventeen years old. This group of students was asked their opinion of the

various activities, and asked to rate them as "3", if important or outstanding, "2", if of average importance, and "1", if of minor importance. It was decided to use the three-point scale because, if a scale with more divisions were used, say, one to ten, it would be very difficult for students to make the fine discriminations necessary. Three was chosen for top value to increase the numerical size of leadership scores. After the students had rated the activities, the replies were tallied and averaged for each activity, office, or position of honor. This gave a definite numerical value for each activity. A copy of the rating scale may be found in Appendix A.

To offer some evidence as to the validity of the scale thus made, eleven Tucson High School teachers were asked to rate the same activities. These included teachers of English, Mathematics, Bookkeeping, driver training, counselors and the principal. While there are some small differences (see Appendix B. for teachers' ratings), in general the two scales compare very favorably. In computing leadership scores the students' rating scale was used exclusively.

In the use of the leadership rating scale, the assumption was made that leadership consists of both active participation (that is, number of activities participated in) and election to office. Therefore, when scores were computed, an additive method was used, each activity being

given the value assigned to it on the rating scale for each year of participation; but if the student was an officer, the higher value was assigned for that year. This last raised some difficulty, for it will be noted that in four instances (National Honor Society, Thespians, Girls' T Club, and Girls' Sports Leaders), on the students' rating scale, membership in the organization rates slightly higher than being a minor officer. In these cases, which were very few, a student who was an officer was given the higher or membership rating, since obviously he had to be a member before becoming an officer. However, his score should have been higher, if he had been given additional credit for his office.

Each of the 173 students who met the requirements for leader and on whom data could be found was given a leadership score by the above method. A sample card will show how this was done.

Name of student

Class Council	3	2.44
Dance Committee	3	2.34
Football	2	2.83
Intramural Sports	3	2.28
Junior Red Cross	3	2.09
Junior Red Cross	4	2.09
House of Representatives	4	2.38
Bachelors Club	3	1.79
	Total	18.23

The numbers following the activity represent the year of participation and the numbers at the right of the card,

the rating given that activity on the students' rating scale. The total, 18.23, is this student's leadership score, as it will be referred to hereafter. Scores for the 173 leaders ranged from 71.33 to 11.57.

As further evidence of validity, leadership scores were computed for seniors participating in five , six, or seven activities, to ascertain if any student omitted at first had a score of 11.57 or higher. No additional leaders were found in this way. Also a perusal of a section of the annual called "Who's Who",[1] containing pictures and brief write-ups of twenty-eight prominent seniors and two outstanding juniors, showed that all twenty-eight were high on the list of selected leaders.

The Measure of Scholastic Aptitude

American Council on Education Psychological Examination scores were available for each student. This widely known test was accepted as an adequate measure of mental ability. There are four parts of this test, the scores of two of which may be combined into what is called an L-score, indicative of linguistic ability, and the other two a Q-score, indicative of quantitative ability. According to the manual[2] of instructions:

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[1] The Tucsonian, Tucson, Arizona, 1950. Pp. 186-191.

[2] American Council on Education, Manual for American Council on Education Psychological Examination. New York: Educational Testing Service, Cooperative Test Division, 1948.

> It has been found that, in general, linguistic tests give a higher correlation with scholarship than do quantitative tests. This higher correlation is probably, in part, due to the fact that most of the high school courses depend more upon linguistic abilities than upon the abilities involved in quantitative thinking. For the scientific and technical curricula the quantitative tests may be more significant . . . The scores are roughly indicative of the level of mental alertness of the student, but they should not be taken so seriously as to exclude other evidences of intelligence and talent in individual cases. . . . In those schools where sectioning of classes in accordance with ability or preparation is customary, these test forms may serve as part of the evidence upon which the sectioning is based.

The L-scores, Q-scores, and T-scores (total scores) were all obtained from the registrar's office for each of the 173 leaders and the 132 non-leaders.

The Index of Academic Achievement

Cumulative grade point averages for each student's four years of high school were obtained. The names of students in attendance for less than one year were discarded. It is realized that grade averages are quite subjective in nature, but they were the only measure available of the achievement of students in school subjects, and, therefore, the only available measure of scholarship.

Statistical Techniques Used

Correlation

As a means of showing relationship, correlations were computed, using the Pearson product-moment method, between leadership scores and L-scores, leadership scores and Q-scores, leadership scores and T-scores, and between leadership scores and scholastic averages.

The formula[1] used is:

$$r = \frac{\frac{\Sigma x'' y''}{N} - c_x c_y}{\sigma_x \sigma_y}$$

where Σ means summation, x' and y' are deviations from the assumed means of the two distributions, c_x and c_y the correction in interval units, N is the number of cases, and σ_x and σ_y are the standard deviations.

Difference Between the Means

To determine whether or not there are significant differences between groups, first the means of each group are found, then the deviations from the means are squared, and the standard deviation is computed from the following formula:[2]

$$SD = \sqrt{\frac{\Sigma(X_1 - M_1)^2 + \Sigma(X_2 - M_2)^2}{(N_1 - 1)(N_2 - 1)}}$$

where Σ means summation, X_1 stands for a score in Group 1, and N is the number of cases. Then the standard error of

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[1] Henry E. Garrett, Statistics in Psychology and Education, p. 287. New York: Longmans, Green and Company, Inc., 1948.

[2] Ibid., p. 206.

the difference is obtained by this formula:

$$SE_D = SD\sqrt{\frac{N_1 + N_2}{N_1 N_2}}$$

Tests of Reliability

The significance of the correlations was tested by reference to Table 49 in Garrett.[2] The significance of differences between means was determined by using Garrett's formula:[3]

$$CR = \frac{D}{\sigma_D}$$

It is generally accepted that a critical ratio of 3.0 or more indicates a very high level of confidence.

Summary

This chapter has outlined the approach used to study the relationships between leadership, intelligence, and scholarship. It has presented and described the group studied. It has also described the measuring devices used and discussed the statistical techniques by which the results were obtained. The findings will be discussed in Chapter IV.

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[1] Ibid., p. 206.

[2] Ibid., p. 299.

[3] Ibid., p. 205.

CHAPTER IV

EXTENT TO WHICH HYPOTHESES ARE SUPPORTED

Introduction

The method having been explained in Chapter III, Chapter IV will show the results of the correlations, the comparisons made by finding the difference between means, and will give an interpretation of findings.

Correlations

In order to show relationships, if any, between the variables being investigated, correlations were found between leadership scores and L-scores, leadership scores and Q-scores, leadership scores and T-scores, and leadership scores and scholastic averages. The reader will recall that L-scores and Q-scores are the part scores yielded by the American Council on Education Psychological Examination. T-scores are the sums of L-scores and Q-scores. Table 3 presents the correlations and their level of significance. All r's are positive and significant, though not very large. The differences between r's are not significant. In fact, r's are numerically the same for the correlations between leadership scores and T-scores and between leadership scores and scholastic averages. The significance of the obtained r's

was tested by reference to Table 49 in Garrett.[1]

TABLE 3

INTERCORRELATIONS BETWEEN LEADERSHIP, INTELLIGENCE, AND SCHOLARSHIP (N = 173)

Measures correlated	r	Level of Significance
Leadership scores and A.C.E. L-scores	.21	beyond .01
Leadership scores and A.C.E. Q-scores	.23	beyond .01
Leadership scores and A.C.E. T-scores	.25	beyond .01
Leadership scores and scholastic averages	.25	beyond .01

Thus, we may be confident that r's as large as those obtained would occur less than once in a hundred trials if there were no true relationship between the variables. In other words, we may be very confident that the true relationships are not zero.

Comparison of Two Groups of Leaders

The problem may be approached in another way. If the total group of 173 leaders were divided into those making

[1]Henry E. Garrett, Statistics in Psychology and Education, p. 299. New York: Longmans, Green and Company, Inc., 1947.

high leadership scores and those making low leadership scores, perhaps some significant differences in scholastic aptitude and academic achievement might be noted. Therefore from the group of 173 leaders, the thirty students having the highest leadership scores and the thirty students having the lowest leadership scores were selected for comparison. By finding the difference between means, these two groups of students were compared as to L-scores, Q-scores, and T-scores. This shows whether or not there are differences in intelligence between those with highest leadership scores and those with lower leadership scores. Table 4 shows these comparisons.

TABLE 4

COMPARISON OF THE SCHOLASTIC APTITUDE OF STUDENTS HAVING HIGH LEADERSHIP SCORES WITH THAT OF THOSE HAVING LOWER LEADERSHIP SCORES BY DIFFERENCE BETWEEN MEANS (N = 30)

Basis of Comparison	Mean of Group 1	Mean of Group 2	D	$\frac{D}{\sigma_D}$
L-scores	74.83	64.65	10.18	3.26
Q-scores	29.65	24.50	5.15	3.08
T-scores	104.50	89.80	14.70	3.00

The differences between means are given in column D, and the critical ratio, or the difference divided by the standard error of the difference, is given in the last column. In every case the mean of Group 1 (high leadership scores) exceeds the mean of Group 2 (low leadership scores), and the critical ratio in each case shows that this difference is significant. In other words, students with the highest leadership ratings score significantly higher in scholastic aptitude than do those with lower leadership ratings.

Next these same two groups of thirty students each were compared as to scholarship by the difference between means. Table 5 gives the results.

TABLE 5

COMPARISON OF SCHOLARSHIP OF STUDENTS HAVING HIGH AND LOW LEADERSHIP SCORES BY THE DIFFERENCE BETWEEN MEANS (N = 30)

Basis of Comparison	Mean of Group 1	Mean of Group 2	D	$\frac{D}{\sigma_D}$
Grade Averages	1.77	2.28	.51	3.6

It will be noted that in scholarship also the mean of Group 1 exceeds the mean of Group 2, and the difference of .51 is significant. Thus we can say that even when the group of leaders is sub-divided into those making high leadership scores and those making low leadership scores, significant differences in scholarship are noted in favor of the students receiving the highest leadership ratings.

Comparison of Leaders with Non-Leaders

Another approach to this problem is a comparison of leaders with non-leaders. The 132 students previously selected who had no participation in extra-curricular activities were compared with an equal number of students making the highest leadership scores. The same process, finding the difference between means, was used. Table 6 shows the results of comparisons on the basis of L-scores, Q-scores, and T-scores.

TABLE 6

COMPARISON OF THE SCHOLASTIC APTITUDE OF LEADERS WITH THAT OF NON-LEADERS BY FINDING THE DIFFERENCE BETWEEN MEANS (N = 30)

Basis of Comparison	Mean of Group 1	Mean of Group 2	D	$\frac{D}{\sigma_D}$
L-scores	69.76	53.97	15.79	8.05
Q-scores	25.75	21.08	4.67	5.02
T-scores	95.15	74.68	20.47	8.06

It can be seen that the means of Group 1 (leaders) are higher than the means of Group 2 (non-leaders), and that the critical ratios are much higher than those in Table 4. These results are to be expected since leaders are compared with those having no leadership. The high critical ratios indicate greater differences than when sub-groups of the

173 leaders are compared.

These two groups of 132 students each were also compared on the basis of scholarship. Table 7 shows the results.

TABLE 7

COMPARISON OF SCHOLARSHIP OF LEADERS AND NON-LEADERS BY FINDING THE DIFFERENCE BETWEEN MEANS (N = 132)

Basis of Comparison	Mean of Leaders	Mean of Non-Leaders	D	$\frac{D}{\sigma_D}$
Grade Averages	2.13	2.89	.76	9.5

Here the difference between means is small, numerically, but the critical ratio is the highest found, indicating that there is a very real and significant difference in scholarship between leaders and non-leaders. The difference favors those with high leadership ratings. This difference in scholarship is indicated on permanent record cards, as will be stated later in this chapter.

Leadership of Boys and Girls

An investigation was made of whether there was any difference in leadership between boys and girls. The mean leadership scores of the 72 boys and the 101 girls were computed. Table 8 shows the comparison of leadership scores of boys and girls.

TABLE 8

COMPARISON OF LEADERSHIP SCORES OF BOYS AND GIRLS BY FINDING THE DIFFERENCE BETWEEN MEANS

Mean of Boys (N = 72)	Mean of Girls (N = 101)	σ Boys	σ Girls	D	$\frac{D}{\sigma_D}$
29.61	28.17	13.08	12.84	1.44	.72

By the difference between means formula it was found that the real difference of 1.44 divided by the σ_D of 2.0 yielded a critical ratio of .72, which is not significant. Therefore, no real difference in leadership between boys and girls was indicated.

Interpretation of Findings

Correlations

The correlation coefficients found indicate that there is a positive and significant relationship between intelligence and leadership, and between scholarship and leadership for the population used as a sample. Coefficients are small, ranging from .21 to .25. Since N is large, however, even these small coefficients are very significant.

Comparison of Students Having High Leadership and Those Having Low Leadership

By comparing two sub-groups of the total leader group (N = 173), which is only a little more than one-fourth of the total graduating class (N = 677), a stricter test was made of differences than is the case when the total group

of leaders was compared with the group which exhibited no leadership ar all. This is shown in the smaller ctitical ratios obtained where the finest discrimintaion was made. It is worth noting, however, that the CR's indicated significant differences in scholarship and intelligence even when the strictest test was applied. This is taken to indicate some validity for the leadership scale as well as being a means of attacking the hypotheses established.

Comparison of Leaders and Non-Leaders

When students having no participation in extra-curricular activities are compared with the leaders, it is expected that greater differences will appear. Table 6 shows not only the differences between the means, but also critical ratios that are two to three times as large as those in Table 4. This indicates that students who participate actively in extra-curricular activities really are different in intelligence and in scholarship from the students who do not participate.

Reasons for Non-Leadership

Comments made by counselors on permanent record cards gave an indication of some reasons why students do not participate in extra-curricular activities. One reason is illness. One girl lost so much time from school because of illness that it was very difficult for her even to pass her school subjects, without spending additional time and energy on extra-curricular activities. A second reason is that

many students had recently entered Tucson High School and had not had time to get acquainted and take part in the activities. A third reason which seems to be indicated is that students belonging to minority groups (Chinese, Negro, Mexican) are poorly adjusted socially and feel left out. It is true that there are some notable exceptions to this (one Negro boy stands high in the list of leaders), but on the whole many of the minority students are in the non-participant group. A fourth reason for non-participation is lack of interest. These students are poor scholars, they are always being called by the counselors for conferences, and they seem not to be interested in anything. This is probably the greatest reason for non-participation. Concentration on scholarship represents the fifth reason, although scholars make up a very small percentage of the non-participant group. These are the students who do nothing but study. They make very high grades but enter no activities. Last of all, and also, fortunately, in the minority, are juvenile delinquents. One very outstanding case in this particular group is a boy who did not graduate with his class because he was in trouble with the law. He had been suspended three times for non-attendance. If he and others of his gang had been busy at worthwhile activities, they might have had less time to roam the streets and get into trouble. All of these types represent problems which counselors

probably recognize and do what they can to help solve.

Summary

The tables and explanation in this chapter have demonstrated the results obtained by correlation and those obtained by comparing mean scores. The meaning of the results for this study has been pointed out. Chapter V will present the conclusions which seem justified from the findings just presented.

CHAPTER V

CONCLUSIONS

This investigation has attempted to determine the relationships existing between leadership, intelligence, and scholarship. It is to be remembered, however, that the study has been conducted using only a sample. If another sample were chosen, the results might be somewhat different. According to Holzinger:[1]

> All statistical quantities such as averages and measures of relationships are based upon samples. The results found from one sample will never quite agree with those found from another, nor with those from the whole population from which the samples were chosen.

The particular hypotheses upon which this study is based are stated in Chapter I as follows:

1. That no significant relationship exists between intelligence and leadership for the population studied.
2. That no significant relationship exists between scholarship and leadership for the population studied.

This is a way of stating the null hypothesis. The

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[1] Karl J. Holzinger, Statistical Methods for Students in Education, p. 231. Boston: Ginn and Company, 1928.

null hypothesis[1] asserts that no true difference exists between two samples of a population except by sampling errors. When differences are discovered which are large enough not to be attributed to sampling errors, we discard the null hypothesis.

In this investigation the following results were found:

1. For the population studied a definite, positive, and significant relationship between intelligence and leadership does exist.
2. For the population studied a definite, positive, and significant relationship between scholarship and leadership does exist.

Therefore, we can say that, using the conception of leadership as stated in this study, and for the population chosen, the null hypotheses have been disproved. To the extent to which Tucson high school students are representative of all high school students the findings may be generalized to this larger population. There seems to be no reason to believe they are greatly different.

Summarizing the comparisons made between groups with varying leadership ratings, who were compared as to

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[1] Henry E. Garrett, Statistics in Psychology and Education, p. 232. New York: Longmans, Green and Company, Inc., 1947.

scholastic aptitude and scholarship, we may say that:

1. Students who participate most actively in extra-curricular activities are more intelligent than those participating somewhat less actively, although active participants are not a great deal more intelligent than the less active students. (Differences were not great, though significant.)
2. The most active participants do make better grades than those who are somewhat less active. Again the differences were not great, though significant.
3. Students who are most active in extra-curricular activities are considerably more intelligent and make much better grades than complete non-participants. The differences here were the greatest found in this study.

APPENDIX A

STUDENTS' RATINGS
OF EXTRA-CURRICULAR ACTIVITIES

The Tucsonian	2.83
Co-Editor	2.52
Man. Editor	2.34
Bus. Manager	2.11
Other Staff Member	1.87
Cactus Chronicle	2.68
Editor	2.65
Man. Editor	2.34
Bus. Manager	2.09
Other Staff Member	1.86
Quarterly	2.18
Editor	2.48
Man. Editor	2.16
Other Staff Member	1.76
National Honor Society	2.69
President	2.56
Other Officer	2.12
Member	2.13
Girls' Social Hour	2.15
President	2.30
Other Officer	1.84
Member	1.70
Boys' Social Hour	2.24
President	2.36
Other Officer	1.89
Member	1.80
Junior Red Cross	2.46
President	2.42
Council Member	2.03
Honor Service Society	2.23
Red Cross Chairman	2.09
Thespians	2.22
President	2.36
Other Officer	1.86
Member	1.95
Part in Play	2.09
Girls' T Club	2.15
President	2.23
Other Officer	1.83
Member	1.84
Terpsichoros	1.97
President	2.03
Other Officer	1.77
Member	1.71
Graphic Arts Club	2.12
President	2.25
Other Officer	1.81
Member	1.81
Boys State	2.73
Governor	2.67
Representative	2.55
Girls State	2.70
Governor	2.62
Representative	2.48
Student Body Pres.	2.89
Vice-Pres. Stu. Body	2.52
Sec. Student Body	2.60
Council-at-Large	2.36
House of Representatives	2.38
Senior Class Pres.	2.80
Senior Class Vice-Pres.	2.51
Senior Class Sec-Treas.	2.55
Junior Class Pres.	2.70
Junior Class Vice-Pres.	2.47
Junior Class Secretary	2.50
Sophomore Class Pres.	2.61
Sophomore Class Vice-Pres.	2.35
Sophomore Class Sec.	2.37

APPENDIX A (cont.)

Class Council	2.44
Assembly Committee	2.48
Rodeo Queen	2.28
Queen Attendants	1.93
National Art Honor Society	2.32
Dance Committee	2.34
Dance Leader	2.19
Song Dancer	2.08
Flag Bearer	2.28
Junior Guard	2.23
Mid-Yr. Grad Guard	2.14
Graduation Speaker	2.60
Peace Symposium Speaker	2.17
Band	2.37
Student Director	2.39
Member	2.14
Orchestra	2.26
Officer	2.14
Member	2.13
Swing Band	2.53
Vocal Quartette	2.02
Badger Balladeers	2.12
Allegretto	1.96
Allegro	1.94
Balladettes	1.98
Arion Club	1.70
Lyre's Club	1.77
National Instrumental Music Society	1.95
Letterman's Club	2.42
President	2.42
Other Officer	2.02
Member	1.99
Girls' Sports Leaders	2.23
President	2.24
Other Officer	1.89
Member	1.91
Football	2.82
Basketball	2.64
Baseball	2.47
Track	2.28
Boys' Tennis	2.09
Girls' Tennis	2.13
Golf	1.89
Intramural Sports	2.28
Wrestling	2.02
Bowling	1.94
Intramural Board	2.11
Basketball Manager	2.38
Baseball Manager	2.37
Football Manager	2.39
G.A.A.	2.29
President	2.40
Other Officer	1.97
Member	1.86
Pep Squad	2.39
Twirling Squad	2.20
Drum Major	2.24
Cheer Leaders	2.62
Song Leaders	2.21
Bi-Chem-Phy	2.05
Organ Club	1.79
Badger Camera Clickers	2.08
Gun Nuts Club	1.71
Afternoon French Club	1.68
"30" Club	2.04
Morning French Club	1.70
El Club Cervantes	1.81.
Rhythm Rollers	1.83
Star Gazers Club	1.62
Co-Ed Club	1.98
Music Appreciation	1.98
Hot Rod Club	1.97
Ski Club	1.93
Stamp Club	1.59
Radio Production Club	2.09
Allied Youth	1.92
Bridge Club	1.53
Rifle Club	1.78
Latin Forum	1.76
Ping Pong Club	1.67
Scribblers Club	1.70
Senior Office Com.	2.22

Future Business Leaders of America	2.31	Speech Club	1.91
T.H.S. Forum	2.04	Riding Club	1.92
Social Life Com.	2.00	Radio Club	2.00
Hostess Club	1.82	Needlework Club	2.00
Science Club	2.13	Hiking Club	2.00
Skating Club	1.96		
Golf Club	1.98	Officers for above clubs	
Bachelors Club	1.79	President	2.45
Chess Club	1.71	Vice-Pres.	2.03
Bowling Club	1.90	Secretary	2.04
		Treasurer	2.01

APPENDIX B

TEACHERS' RATINGS OF EXTRA-CURRICULAR ACTIVITIES

The Tucsonian	3.00
Co-Editor	2.82
Man. Editor	2.90
Bus. Manager	2.82
Other Staff Member	1.82
Cactus Chronicle	3.00
Editor	2.90
Man. Editor	2.90
Bus. Manager	3.00
Other Staff Member	2.00
Quarterly	2.73
Editor	2.64
Man. Editor	2.64
Other Staff Member	1.45
National Honor Society	2.54
President	2.50
Other Officer	2.10
Member	1.80
Girls' Social Hour	2.50
President	2.64
Other Officer	1.82
Member	1.45
Boys' Social Hour	2.50
President	2.64
Other Officer	1.82
Member	1.45
Junior Red Cross	2.36
President	2.45
Council Member	1.90
Honor Service Society	2.00
Red Cross Chairman	1.90
Thespians	2.20
President	2.20
Other Officer	1.80
Member	1.70
Part in Play	2.30
Girls' T Club	2.20
President	2.27
Other Officer	1.90
Member	1.73
Terpsichoros	2.09
President	2.10
Other Officer	1.87
Member	1.66
Graphic Arts Club	1.28
President	1.62
Other Officer	1.25
Member	1.12
Boys State	2.50
Governor	2.60
Representative	2.30
Girls State	2.50
Governor	2.60
Representative	2.30
Student Body Pres.	2.90
Vice-Pres. Stu.Body	2.55
Sec. Student Body	2.55
Councilman-at-Large	2.44
House of Representatives	2.25
Senior Class Pres.	2.78
Senior Class Vice-Pres.	2.33
Senior Class Sec.-Treas.	2.33
Junior Class Pres.	2.67
Junior Class Vice-Pres.	2.11
Junior Class Secretary	2.22
Sophomore Class Pres.	2.78
Sophomore Class Vice-Pres.	2.22
Sophomore Class Sec.	2.33

APPENDIX B (cont.)

Class Council	1.75
Assembly Committee	1.55
Rodeo Queen	1.90
Queen Attendants	1.60
National Art Honor Society	1.60
Dance Committee	2.00
Dance Leader	1.33
Song Dancer	1.33
Flag Bearer	2.11
Junior Guard	2.11
Mid-Yr. Grad. Guard	2.11
Graduation Speaker	2.77
Peace Symposium Speaker	2.33
Band	2.60
Student Director	2.45
Member	1.73
Orchestra	2.40
Officer	2.09
Member	1.64
Swing Band	2.40
Vocal Quartette	2.30
Badger Balladeers	2.20
Allegretto	2.10
Allegro	1.37
Balladettes	1.37
Arion Club	1.37
Lyre's Club	1.25
National instrumental Music Society	1.25
Lettermen's Club	2.27
President	2.30
Other Officer	1.80
Member	1.60
Girls' Sports Leaders	2.09
President	2.09
Other Officer	1.73
Member	1.45
Football	3.00
Basketball	3.00
Baseball	2.90
Track	2.64
Boys' Tennis	2.45
Girls' Tennis	2.36
Golf	2.18
Intramural Sports	1.90
Wrestling	1.50
Bowling	1.37
Intramural Board	1.50
Basketball Manager	1.87
Baseball Manager	1.87
Football Manager	1.87
G.A.A.	1.67
President	2.33
Other Officer	1.89
Member	1.55
Pep Squad	1.55
Twirling Squad	1.89
Drum Major	2.00
Cheer Leaders	2.10
Song Leaders	1.78
Bi-Chem-Phy	1.55
Organ Club	1.33
Badger Camera Clickers	1.40
Gun Nuts Club	1.11
Afternoon French Club	1.11
"30" Club	1.77
Morning French Club	1.11
El Club Cervantes	1.33
Rhythm Rollers	1.60
Star Gazers Club	1.33
Co-Ed Club	1.33
Music Appreciation	1.30
Hot Rod Club	1.33
Ski Club	1.44
Stamp Club	1.40
Radio Production Club	1.22
Allied Youth	1.22
Bridge Club	1.40
Rifle Club	1.33
Latin Forum	1.33
Ping Pong Club	1.30
Scribblers Club	1.22

APPENDIX B (cont.)

Senior Office Com.	1.55
Future Bus. Leaders of America	1.44
T.H.S. Forum	1.25
Social Life Com.	1.25
Hostess Club	1.12
Science Club	1.25
Skating Club	1.37
Golf Club	1.37
Bachelors Club	1.25
Chess Club	1.25
Bowling Club	1.25
Speech Club	1.12
Riding Club	1.12
Radio Club	2.00
Needlework Club	2.00
Hiking Club	2.00

Officers for above clubs

President	1.71
Vice-Pres.	1.37
Secretary	1.50
Treasurer	1.37

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