THE RELATIONSHIP OF SOCIAL ACCEPTANCE TO
THE PERSISTENCE AND GRADES
OF COLLEGE STUDENTS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
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By

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* * * * * *

The Ohio State University
1959

Approved by:

[Signature]
Adviser
Department of Psychology
To my husband,

Robert A. Good
ACKNOWLEDGMENT

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CHAPTER I

INTRODUCTION

The history of education in this country has been characterized by a steady increase in the academic level attained by students before terminating their education. Nevertheless, many students capable of doing advanced work never do go to college, and in many universities only about one-third of those who do enter actually graduate with a degree (5, 38, 67, 76).

The problem of predicting academic success has been given a great deal of attention in educational and psychological literature, but most of this work has been in connection with predicting grades. Almost every factor which might be related to point hour ratio has been correlated with either freshman marks or with the average grades obtained during a college career. Thus academic aptitude tests, academic achievement tests, high school grades, interest tests, and personality tests have all been used in attempts to predict whether a student will succeed, i.e., make passing or better grades (16).

Much less attention has been given to predicting whether a student will stay in college, once he has been selected, than to these previous concerns. This is a curious neglect since some individuals make passing
grades, yet drop out before their college career is completed. The studies made of those students who leave before graduation have consisted mostly of exit interviews or questionnaires, addressed to students, asking them to check or write in their reasons for not returning (1, 7, 14, 35). These studies are all subject to the errors that students rationalize, will not admit, or do not even recognize their real reasons for leaving school. A further criticism might be the operation of a selective factor in who completes and returns such questionnaires. It would seem logical to assume that those with the most "acceptable" reasons would be most apt to cooperate.

This problem of student mortality is a serious one. With anywhere from one-third to two-thirds of entering students failing to graduate, it must mean that many persons are not attaining the educational goals of which they are capable. Doubtlessly, poor academic ability as shown by low high school and college marks and low scores on academic ability tests is the chief reason in many cases. That this is not the only factor is indicated by Weintraub and Sally in the summary of their study at Hunter College. "In common with other studies, this report shows that success on the regents examination, in the classroom, or on the ACE examinations is neither the sole nor the main factor which makes for withdrawal or survival" (69, p. 124).
Financial difficulty is another reason often given by students for leaving (2, 14, 27), yet many students with meager resources graduate, so this cannot be the only explanation.

In general, the majority of studies dealing with success in college have been concerned with predicting grades. Those concerning student mortality have taken the form of student exit interviews or questionnaires, or correlations between academic aptitude tests and persistence.

A possible factor relating to academic persistence which has been largely neglected is that of social acceptance. Menninger states that the "ability to get along well with people is the most important factor in personal happiness and effectiveness" (40, p. 45). Kuhlen and Lee also emphasize this same concept when they state: "At any age an acceptable social status is an important requisite for satisfactory personal and social adjustment. Lack of such status frequently makes for misery and unhappiness; whereas attainment of status once lacking may produce marked changes in an individual's personality and feelings of well-being" (32, p. 321). It is possible, therefore, that lack of acceptance from peers on the college campus might have some bearing on student withdrawals. One study of social acceptability and drop-outs was made at the high school level (31). Some relationship was found. No study
of this kind has been made at the college level, however.

There are a number of important reasons for studying the possibility of a relationship between social acceptability and academic persistence in addition to the fact that it has been a relatively ignored problem. Prediction of success is always of interest to administrators and researchers, as indicated by the large number of prediction studies mentioned previously. It is apt to be of even greater importance in the future as the number of college-age students exceeds the academic facilities. If it should develop that being accepted by members of a group is related to continuance and/or success in school, this would be an additional and valuable factor in the selection of students who would "stick." Second, a sociometric study of the student body could identify those who were not accepted and counseling could be started before the student dropped out of school. Aldrick (3) found that when relatively isolated students were helped to enter organizations and develop social skills, these students made more friends and were happier. This social guidance should also increase persistence if the hypothesis of a relationship between persistence and acceptance is substantiated. The value to the school, society, and student would be inestimable. Toven (64) also found that students counseled by faculty advisers stayed in school longer than those not so counseled, and it would
appear a reasonable assumption that social factors were partially responsible for this difference.

The above two studies indicate a third value of the study of persistence and acceptability. Student personnel services are still occasionally faced with the problem of demonstrating their own worth. If being accepted encourages persistence, then these services can have a very practical value to the administration in increasing the proportion of students remaining in school. Fourth, being accepted socially is in itself so highly valued by college students—so important to their happiness—that it is an area which deserves further study on its own merits.

It is possible that the general college population is made up of such an aggregate of personalities that being accepted would exercise more of a determining factor upon members of some subgroups than others. A separate consideration by sex, fraternity membership, and veteran status would help in determining whether this is a tenable hypothesis.

To summarize, this study is an investigation of the possible relationship between an individual's social accept- ance and his persistence and success in college. The effect of membership in various subgroups will also be considered.
CHAPTER II

HISTORY OF THE PROBLEM

In the first chapter it was indicated that there is a need to investigate the possible relationship between social acceptance and progress in college. Sociometry is the basic method for measuring acceptance, and is the technique used in this study. The development of this tool is the first area of research to be presented in this historical discussion. Indications as to the reliability and validity of the technique will also be included. This will be followed by a discussion of the value of sociometric studies in college. Typical sociometric studies of mutual friends and of contrasts between under- and over-chosen students will be reviewed. Although the author is not primarily concerned herein with why some students are accepted and others ignored or rejected, but rather with how their standing is related to their college careers, the bases for such a social position may contribute to the interpretation of the results of the study.

The few previous studies involving acceptance and persistence will be discussed in detail. Some of the previous work with strata of the student body, such as male-female, fraternity-non-fraternity, and veteran-non-veteran will also be reviewed.
History of Sociometry

The foundations for sociometry were laid by J. L. Moreno in the 1920's during his work with displaced persons in Europe. He arrived in this country in 1925 and in the early 1930's presented the methodology of sociometry to the United States through the medium of two books: Application of the Group Method to Classification, a report on work with prison inmates published in 1932, and the more famous Who Shall Survive? published in 1934.

At the New York State Training School for Girls at Hudson, New York, Moreno found a closed community well suited for experimentation, and much of the subsequent sociometric work was done there. One of the first studies to come out of this school was Helen Jennings' report (25) in 1936 on a group of sixteen girls who did not take the usual entrance tests regarding parents and family. This group was compared with two others which had gone through the regular sociometric process. The unassigned group was not so well adjusted as the two groups which were assigned at admission. The study, to quote the author, revealed that "a hit-or-miss assignment appears to facilitate social blocking and often firmly established an isolated person." This helped to establish sociometry as a useful technique. A comprehensive account of a major study done at the New
York State Training School is reported in Jennings' *Leadership and Isolation*, first published in 1943.

While these events were occurring, the possibilities of the sociometric method were recognized by sociologists and used in their studies of community organizations. One of the first examples of many projects in this area is that of Wolman (75). Families applying for membership in a resettlement community met in group meetings over a period of about a year, thus forming personal and social contacts. By secret ballot, each family then indicated their first, second, and third choices for neighbors. Sociograms were made showing the grouping and leadership, and then thirty-five families were actually assigned in close agreement with their preferences. They were again asked to make their three choices after six months, although it was explained that no changes would be made. The retest showed a diversion of tele from the most popular leaders and a reduction in the number of unchosen families from six to four. In general it was felt that the project had resulted in harmonious groupings.

Beginning around 1940, professional persons concerned with education became increasingly interested in the possibilities of sociometric studies of their classrooms and of whole student bodies. Numerous articles relating such efforts have been published in *Sociometry*, the journal
started by Moreno in 1937, and in other journals in the fields of sociology, psychology, and education. Some of the studies of educational communities pertinent to the problem being investigated will be presented in this chapter.

**Sociometry as a Technique**

In *Who Shall Survive?* Moreno defines sociometry as "a science which is concerned with the psychological properties of populations and with the communal problems which these properties produce." Sociometry is defined as "that part of sociometry which deals with the mathematical study of psychological properties of populations, the experimental techniques of, and the results obtained by, application of quantitative methods" (41, p. 10).

Moreno's original work was concerned with what he later defines as "operational sociometry," that is, the subject's responses and desires are considered and acted upon in subsequent planning (44). Thus in his work with the Austrian peasants, girls at the Training School, and resettlement of families in communities, changes actually were made according to expressed choices, and the participants knew that their desires would be carried out. This was necessary, Moreno felt and still feels, in order to obtain the maximum cooperation and spontaneity from the subjects involved. **Research sociometry** differs from
operational sociometry in that the investigator elicits from
the subject verbal or non-verbal responses in regard to
their interpersonal relations or uses observational methods
for their study (44).

As mentioned previously, sociometry gained rapidly in
popularity and was used by many educators and researchers to
study the organization of social groupings without anyone's
actually making the rearrangements according to the choices
elicited. Moreno later called these techniques near-
sociometric and defined them as follows: "Any study which
tries to disclose with less than maximum possible partici-
pation of the individuals in a group the feeling which they
have in regard to one another, is near sociometric. Near
sociometric procedures of the research or the diagnostic
type are of much value in the present stage of sociometry.
They can be applied on a large scale and within certain
limits, without unpleasantness to the participants" (43,
p. 64). He warned that "information gained in near-
sociometric studies is based, however, on inadequate moti-
vation of the participants; they do not fully reveal their
feelings. In near-sociometric situations the participants
are rarely spontaneous. They do not warm up quickly."
Despite the possible validity of this warning, information
can be gained about group structures and dynamics in situ-
ations where changes are not contemplated or are not
possible. Thus the number of near-sociometric studies has increased and surpassed the number of purely operational studies.

Originally all statements on sociometric questionnaires were formulated in terms of very specific criteria. (Criteria as used here means that the question has immediate situational relevance such as "Whom do you want to study with?" or "Whom do you want as a roommate?") In recent work on the acceptability of members of groups there has been a tendency to phrase statements more generally; for example, "Who are your best friends?" (9, 15, 60). Smucker (61) redefines near-sociometric to include this approach: "A near-sociometric test is one in which instructions for choice expression do not relate to specific situations, and subjects are simply answering investigators' questions about their feelings toward each other."

Bronfenbrenner's broad redefinition of sociometry would also apply here. "Sociometry is a method for discovering, describing, and evaluating social status, structure, and developments through measuring the extent of acceptance or rejection between individuals in social groups" (11, p. 364).

This non-criterion approach has been condemned by Polansky, Lippitt, and Redl (52), who say that, when no criterion is involved in the choosing, the data may best be
described as neither sociometric or near-sociometric, but rather as projected "liking" reactions in an undetermined setting. It seems possible, however, that in some cases this statement of liking is exactly what is desired in a study of social acceptance on a college campus. It indicates the persons whom each respondent most enjoys being with, whom he likes best—in short, his friends. An indication that choice of companions for social interaction does not change significantly with different criteria is found in a study by Powell, Thrasker, Darrough, and others (53) of thirty-six college girls. Choices for three different situations were made—chatting, eat most frequently, and roommate—and the social structure remained constant for these three criteria.

Additional indications are found in the work of Bronfenbrenner with younger children, ranging from nursery school through sixth grade (12). Three choice situations were presented (play, work, and seating) and it was found that each child chose the same person for more than one situation: that a child accepted on one criterion would probably be accepted on others. He also found that sociometric status was maintained more consistently among older children.

It seems that friendships in everyday life are not always and specifically situationally determined. One
quality of "best friendness" might be presumed to be the considerable variety of situations in which such a relationship, once formed, could function as such.

Validity. It was early noted that the traditional concept of validity does not apply to sociometric measures. Helen Jennings pointed this out in Leadership and Isolation when she said: "The sociometric test is unlike the usual mental test in that it does not attempt to measure behavior of a certain type by eliciting related responses, but employs a sample of the actual behavior studied. As such the sample is directly meaningful and need not be validated by relating it to an external criterion. Hence the mental test concept of validity as correlation with a criterion does not apply here" (26, p. 24). P. Pepinsky reminds us of this again when she says, "Validity is intrinsic to sociometric data, since test results are choice behavior and the test purports to measure that choice behavior" (50, p. 41).

Naturally, the above authors do not mean that every sociometric test is valid regardless of the use to which it is put. One necessary consideration is the amount of cooperation obtained from the respondent; how truthfully is he answering? Jennings adds this reservation to her statement on validity: "It may be considered, however, whether a sociometric test is valid in the sense that the behavior which it was intended to elicit actually appeared without
falsification of responses on the part of the subject. It is to be expected that maximum motivation for truthfulness would be obtained where action is to be taken following his choice. If this is not possible, maximum rapport should be cultivated and the respondent assured that his choices will be kept confidential" (26, p. 24).

Another caution involving use of sociometric results has been made explicit by P. Pepinsky (50) and Loomis and H. Pepinsky (103) when they warn against making generalizations about underlying traits and motives. An example of this interpretation is saying that the most chosen is the most adjusted. The previously mentioned intrinsic validity of the sociometric index applies only to the actual choice behavior itself, not to generalizations or interpretations made from it.

There have been several attempts to study the validity of the results and some of the generalizations from sociometric data. Northway and Wigdor (47) administered a sociometric index to children in the eighth grade, all of whom came from fairly similar homes as regards socioeconomic factors. Forty-five children, representing high, middle, and low sociometric levels were then selected and an individual Rorschach was administered to each child. Rorschach patterns for the three groups showed significant and meaningful differences. Some of their conclusions are
that the "high" group is distinguished by greater sensitivity to environment and an almost active striving in feeling tone. The "low" group is divided into two subgroups: "recessive lows," who have a withdrawal pattern and lack of energy; and "aggressive lows," who are the most disturbed and are characterized by less control of emotions, and more egocentricism. The intermediate group is more shallow, less anxious and introspective. These are interesting results and seem to support some common generalizations from sociometric scores. It must be recognized, however, that sociometric results are here being validated against another test whose validity has sometimes been questioned. Also, although it would be assumed that the Rorschach scorers did not have prior knowledge of the sociometric ratings of the subjects, the use of such a control is not mentioned.

A validity study of a sociometric technique as a predictor of military leadership was made by Williams and Leavitt (72). Two platoons, each consisting of fifty marine officer candidates took a Group Opinion Test. Combat ratings, test scores, and grades in school were also available. The results showed the group opinion scores to be by far the best predictors of combat performance, correlating .47 and .43 with ratings in the field. In addition, the Group Opinion score was the best predictor of
success in Officer Candidate School, although it did not correlate with intelligence.

It has also been emphasized that relative standing of a person in one group can not predict his acceptance in another group (36, 24). This appears to be a very valid warning against generalized interpretation. Northway (46), however, presents some evidence that relative acceptance persists in different groups. Eighty students in an elementary psychology course were ranked according to acceptance scores. Nineteen of these students went on to a second course, were joined by ten more students and again tested sociometrically. The ranks of the nineteen who participated in both tests correlated .58, and thus there was maintained a similar degree of acceptance in a group of twenty-nine as occurred in a group of eighty. From this, Northway feels that "an individual's acceptance score as measured in one group is a reliable index of what his acceptance score will be in a similar (cultural age) group. That is, his acceptance score is an outward measure of a psychological characteristic called acceptability" (46, p. 189). It is evident that such generalizations must still be made with considerable caution, however.

**Reliability.** Interpersonal relationships are not static, and retesting over a period of time should result in changes in reactions, thus reducing its "reliability" as
conventionally viewed. As is pointed out by P. Pepinsky, "Variation of choice behavior from one test to another, or variation of the behavior within a group at a stated time, is not to be referred to as a function of 'test reliability', but of the relative stability of the behavior itself" (50, p. 48).

Reliability measures obtained by fairly immediate re-checks are quite high, and decrease with greater intervening time. As explained above, this is what would be expected if the technique is valid.

Retesting on successive days, Zeleny (79) obtained reliabilities ranging from .93 to .95 for choice of friends in a college class. In a second study, Zeleny (80) administered the Group Membership Record to three college classes and obtained reliability coefficients of .93, .97, and .96 when checked six days later.

Byrd (13), in his study of fourth grade children, obtained and ranked choice status scores. When retested nine weeks later, the ranks correlated .89 with the first test. Bonney (6) obtained a general acceptance score for children in grades two to five by using such criteria as number of valentines received, results of balloting, and so forth. Despite changes in enrollment, the reliability of the sociometric scores for successive years varied only from .67 to .84. (These results speak well for the acceptability of
Witryol and Thompson (74), in their critical review of thirty-two studies where the stability of social accept­ance scores was involved, also concluded that the sociometric approach provides a fairly stable index of social acceptability which is not limited to a particular group.

Sociometric Studies of Acceptability in College

Colleges have been considered promising fields for research for several reasons. The college population is rather well defined and relatively stable, and enables the use of more controls than open communities. Second, a large number of subjects are readily available for study. These two advantages are particularly important in sociometric research. A closed community means that the subjects are limited in their friendship formations to other members of the community, and in this respect the situation is equal for all. Also, in a large population there is a wide range of personalities, and thus there are opportunities for the study of the socially most expansive or with­drawn individuals.

Perhaps even more important is the fact that for most students entry into college is the first real emancipation from home and childhood friends. This is particularly true for the students who "go away to school" and thus break with parents and home town social contacts. The first
college year is characterized by the need for contacts and adjustments to roommates, fellow dormitory dwellers, classmates, and possibly fraternity brothers or sorority sisters. Difficulties encountered at this time—rejection by roommate, not being pledged by a fraternity—can be traumatic to a student who is cut off from home town securities. For these reasons it is important to study the problem of acceptance at the college level.

A sociometric analysis has definite values for the students and the advisers and instructors of those students. Teachers are made more conscious of the importance of the interpersonal relations of their students. For example, the fact that, typically, 10 per cent of the class is completely unchosen and the top 20 per cent of the class receives 50 per cent of the votes is a surprise to many teachers. It has also been demonstrated that teachers are unable to judge the social acceptance of their students, erring particularly in the identification of students who are poorly accepted (9). Furthermore, sociometric studies point out the constancy of acceptance and indicate the need for more emphasis on the learning of social skills. Once the unaccepted are identified, aid can be given them in terms of social instruction, reassignment, and so forth. Sociometric analysis of the classroom also can be a basis for organizing committees which will function well, and for
roommate assignments.

One problem which has concerned educators and psychologists alike is the identification of factors operative in friendship formation or social status on the campus. This general problem has been approached from two angles: the study of best friends in an attempt to discern what they have in common or what draws them together and the contrasting of highly accepted students with isolates in order to ascertain the ways in which they differ.

**Mutual Friendships.** One of the first studies of mutual friendships was that of Fleming (18). He asked 200 sophomore psychology students to indicate the name of their best friend of the same sex in the college. When this best friend was among the 200 students, the members of the pair were compared on scores from several types of objective examinations. The class also made judgments of other members on such factors as pleasing personality, steadiness, emotional expressiveness, and social adjustment. In general, correlations tended to be positive, ranging from .12 to .56, and leading Fleming to believe that "birds of a feather flock together." The highest correlation (.56) was found for male friends on introversion-extroversion; this was not true for women. Men, more than women, chose friends who had been rated as having more pleasing personalities and better adjustment than they themselves had. Women, perhaps
partly as a result of the above, had more reciprocal friendships. Neither men nor women friends showed any similarity in intelligence as measured by the Army Alpha.

This early study has several weaknesses. The personality variables rated by students are vague, ambiguous terms, capable of producing varying interpretations. Little consideration was given to the judge's degree of knowledge of the individuals to be rated. The pairs studied were in some cases non-mutual choices, which makes questionable the consideration of the pair as "best friends."

Vreeland (65) eliminated this last criticism in his study of friends at DePauw. He selected fifteen pairs of mutual friends, one pair from each sorority and fraternity, and correlated their scores on a large number of objective psychological examinations. His results supported Fleming's in that there was no relationship between friends on intelligence as measured by the Thurstone Psychological Examination. Scores on the Thurstone Personality test had a low negative correlation whereas there was a .40 correlation between scores on the Moss Social Intelligence Examination. No relationship between friends was found on the opinion tests. One of the chief weaknesses of this study is the small number of subjects.

Bonney (8) also was concerned with factors which influence the formation of mutual attractions. He studied
thirty mutual pairs each, for elementary school, high
school, and college. Both academic achievement and intelli-
gence were found to have low positive correlations for the
college group, e.g., .14 and .28 respectively, although
these had been higher with the younger groups. The Bell
Adjustment Inventory also did not indicate any significant
degree of similarity in personality characteristics between
friends. On the Kuder Preference Record, some correlations
appeared at the high school level among the sub-scales, but
other sub-scales correlated at the college level. Also, the
majority of these correlations for the Kuder scales were
low, indicating that no extensive or very significant asso-
ciations exist here. The scientific scale did result in a
.67 correlation at the college level, however.

The friendship choices of an entire small Eastern
college were studied by Lundberg and Beazley (37). All stu-
dents were asked: "If it were possible for you to keep in
touch with only three students after leaving college, which
three would you choose?" They found a definite and strong
tendency to name students in one's own in-group as regards
common domicile. Next in importance was college class, then
major scholastic interest, and finally and of less impor-
tance was socio-economic class. Scholastic standing and
scholastic aptitude had little effect on in-groupness. It
was also found that students having to work closely
together, such as drama, music, and science students, had the largest in-group preference. The authors believe that the major factor here is propinquity; that students in a dormitory stick together once they are thrown together, rather than move to be with friends.

This leads the authors to an interesting theory of friendship formation: "We learn to react to people with whom we have contact, easier interactions are more pleasant, and people with whom it is easy and pleasant to interact are pleasant." The above emphasis on propinquity as the dominant factor in friendship choices differs somewhat from previous work which had viewed friend relationships as the result of a more active process of choosing and selecting. It is probable that friendships are a result of both these processes. Thus an arbitrarily assigned roommate need not always be chosen as a friend, but he is more apt to be so considered than someone living in another dormitory (4).

Lundberg and Beazley feel that there are more in-group preferences in well-organized areas such as music and drama because of the greater amount of association with fellow students. Along with the propinquity factor, however, there is also the possibility of active choice because of common interests and skills. Smith (59) takes this latter view when he says the friendship choices are ego-morphic in character: that the person selected reflects to some extent
the characteristics of the selector.

Further indications of the importance of opportunities for association in friendship formation are found in a study by Dixon (15). He studied the effect of different types of student personnel groupings on the social adjustment of students at two colleges with quite different programs. One of his findings is that in the college where there was affiliation with fraternities or sororities in the freshman year, a significantly larger percentage of friends was listed from members of the other three classes than occurred at the other college where such organizations did not exist. This probably is due to the fact that membership in fraternities facilitates association with upper class members of the same organization.

In summary, the research on factors common to best friends has indicated that academic aptitude and achievement are not significant variables. Some studies have indicated a little similarity on personality test scores, but these results are not consistent. It has been found that friends are apt to be in the same academic class, live in the same residence, and sometimes have interests in common. Indications are that this is a result of both chance propinquity and active selection.
Contrasts of Under-chosen and Over-chosen Students.
The other basic approach to the study of acceptance in schools has been to contrast members of isolated with members of "popular" groups in an attempt to discover factors which differentiate them.

One part of Jennings' study (26) of girls at the New York State Training School was devoted to a contrast of over-chosen and under-chosen. The subjects of her study are younger (age twelve to sixteen) than those involved in the present problem, but Jennings' study is one of the earliest in the field of acceptance and so is included in this discussion. Choices were made by 236 subjects as to whom they would and would not like to live with and whom they would and would not like to work with. Correlations revealed that there was no correspondence between age, intelligence or length of residence with the number of positive choices received. A study of behavioral characteristics, as reported by the housemother, indicated differences between the under-chosen and the over-chosen.

Individuals who are isolated from choice by other members for them show in the trends of their behavior tendencies to conduct themselves in ways which imply a marked lack of orientation on their part to the elements of the total group situation; frequently they not only fail to contribute constructively to the group but hinder by their behavior the activities undertaken by other members. . .

Individuals who are over-chosen by the expression of choice from other members for
them show, in the trends of their behavior, tendencies to conduct themselves in ways which imply an unusual sensitivity and orientation on their part to the elements of the total group situation; to a very much greater extent than the average member, they constructively contribute to enlarge the social field for participation of other citizens, to encourage the development of individual members, to make possible a wider, richer common experience for all. . . .

(26, pp. 164, 165).

It must be remembered that these are generalizations drawn from a study of young girls who were in a closed community because of inferior homes or sexual delinquency, and thus not typical of the college community.

Observations quite similar to Jennings' were made by Smucker in his study of 745 students at Stephens College (60). Each girl was asked to list her best friends on campus and also the names of girls whom she did not like so well. One part of the study involved informal personal interviews with forty individuals who had either very high or very low acceptance scores. From this interview it was concluded that the highly chosen were sensitive to the concerns of the group, were able to control their own needs and establish rapport. Those who were rejected displayed interpersonal insensitivity, a lack of manners, were quarrelsome, and actively interfered with group activities. Apparently these observations are the results of the informal interviews, and thus must be regarded as only impressionistic since quantification methodology is not
presented.

An early investigation of differences between accepted and unaccepted students at the college level is that of Palome (49). She used test scores plus the responses to anonymous reports and interviews with forty-nine first quarter freshman girls at Ohio State University. She found that in general the "liked girls" were characterized by enthusiasm and respect for individuality of others. They also were more apt to come from an urban background and have two or more siblings. On the other hand, age, general intelligence, and scholarship did not affect approval. The small number of students and the fact that they were questioned so soon after entering the school are two weaknesses of this study.

Reilly and Robinson (54, 55) studied the relationship between popularity at Ohio State University and various background factors. The subjects were 163 girls, mostly freshmen, living together in one dormitory. Each girl chose two or three friends with whom she would like to do various things: eat meals, study, spend free time, attend a football or basketball game, room, be in a bull session, double-date, and work with on a committee. The choices were weighted and then totaled so that a total acceptance score was obtained for each girl in the dormitory. The top and bottom thirds were then compared and none of the following
factors were found to distinguish the over-chosen from the under-chosen: intelligence, number of siblings, number of high school activities, offices held in high school, honors won in high school, whether the parents attended college or not, father's occupation, religion, size of home town, expressed vocational interest, college in which enrolled, or location of the student's room in the dormitory. Two factors were found to be significantly different for the two groups: (1) the less popular freshmen tended to be older than the popular freshmen and (2) the loss of one or both parents was found to be a disadvantage.

The above study is important in indicating that many factors commonly assumed to predict popularity do not necessarily do so. For example, although the difference was not significant, the above study showed a tendency for the more intelligent (on an academic aptitude test) to be less popular.

The sociometric status of a group of thirty-four girls living together in one sorority house was studied by French and Mench (19). Each girl rated every other girl on six variables: punctuality, sociability, fair-mindedness, intelligence, self-confidence, and humor. These ratings were then converted to "standard ratings" to eliminate rater difference in variability and central tendency. Each girl then chose three favorites for roommates and three with whom
she would not like to room (rejections). The girls were divided into three groups: group I, positive choices and no rejections; group II, both positive and negative choices; group III, rejected. When the ratings for these groups were compared it was found that group I was superior to group II in sociability, fair-mindedness, and sense of humor, and superior to group III in fair-mindedness and sense of humor. The results thus indicate that an individual having a favorable position sociometrically receives the highest ratings in certain characteristics. It may also be hypothesized that these characteristics are most valued socially. The subjectiveness of self-ratings was also indicated in the tendency for those rated low by the group to rate themselves higher.

Brody (10) studied the sociability of 140 freshman women living together in the same dormitory at Montana State University. The sociometric data employed were the choices for roommate reassignments at the end of six months of school. Maximum cooperation was obtained since action was taken according to the desires expressed. An accepted group, those receiving ten or more choices, and an unaccepted group, receiving four or fewer choices, were then compared on a number of variables. It was found that the accepted group indicated significantly greater participation in home duties and responsibility. Members of this group
also came from homes where there was greater harmony and
less overprotection. In outside activities, the accepted
group participated in social affairs, whereas the unaccepted
group had mostly solitary activities. The Minnesota Multi-
phasic Personality Inventory (MMPI) showed greater variabil-
ity from scale to scale for unaccepted students, but they
were not consistently higher or lower on any subtest.

Although this is one of the few studies of college
students where expressed choices were carried out and thus
maximum motivation assured, there are several criticisms
possible. The cutting score for the unaccepted group is
four, yet it does not seem that a person who has been chosen
by four other people as a roommate is really unaccepted. In
addition, the home factors were based on the subjects' own
ratings, not on objective measures, so it might be more
safely said that there was a significant difference in how
the students felt about their home relationships.

Kidd (28) utilized the same question, "Whom do you
want as a roommate?" in a study of 639 male residents of a
dormitory, but in this case reassignments were not made.
Background and behavior factors of the 102 most popular and
the 96 least popular were compared by means of the chi
square test. Three background factors differentiated the
groups, with rejections related to being a lower classman,
coming from a city of more than 100,000 population, and
being a foreigner. No significant differences were found for religion, age, parental relationship, father's occupation, family income, or race. On the behavioral characteristics it was found that those who were rejected had low leadership-prestige status, participated in fewer extracurricular activities or dormitory affairs, and had low grade points in relation to ability. They also rated themselves lower on social and personal adjustment and were similarly rated by the head resident. The author concludes that "marked atypicality results in an initial rejection by the group accompanied by barriers to interaction established both by the group in its ostracism and the individual in his different values and communicative handicaps which renders the gaining of acceptance more difficult than for the average group member" (28, p. 232).

The above study illustrates one of the difficulties in attempts to "put the finger on" basic differences between those who are accepted and those who are rejected. On almost all college campuses, a certain amount of social conformity is necessary for social success and in this study made at a college in a small midwestern city, being from a large city was atypical. Certainly the same results would not be obtained from a college in New York City. It will be recalled that Palome's work (49) at a university in a large city revealed that an urban background was an advantage.
Thus it probably can be assumed that social requirements and mores differ and are responsible for some of the inconsistencies in results from study to study.

Another difficulty which is often neglected is the disparity between the statements and actions of subjects. An example of this is Young's study (78) of 676 college students in which he found that intelligence was by far the most mentioned desirable trait. Yet the studies that have been made of mutual friends and of accepted versus unaccepted students have shown that intelligence (at least as measured on academic aptitude tests) is usually not a significant variable.

Another problem area is the interpretations that are made from the sociometric results. The dangers in generalizing were mentioned before, but can be re-emphasized here. There is a tendency to consider the results of near-sociometric tests as indices of popularity, and, if popularity here is defined as the number of times chosen on a particular criterion, this interpretation seems to be acceptable. However, generalizations to the effect that over-chosen individuals are the best adjusted in every respect, or the most likeable in all situations, go beyond the limits of sociometric test validity.

To summarize the results of these contrasts between under-chosen and over-chosen students, it would seem that
background factors do not consistently differentiate the groups. Also, some common measures of ability such as grades in school and academic aptitude do not distinguish the popular from the unpopular. Inconsistencies in results are also found from study to study, probably as a function of differences in the composition of the student bodies observed. Several studies agree rather well in drawing character sketches of members of the contrasting groups, but these are the result of interviews or behavior observations, not of objective examinations. It would seem that it is difficult to predict in advance who the popular students will be.

Sociometric Studies of Persistence

The above studies are illustrative of the sociometric work being done on college campuses. It is apparent that the main concern has been with identifying isolates or leaders or with discovering basic factors which differentiate the two. One area which has been relatively neglected is the possible relationship between an individual's acceptance status on campus and his persistence in school. The question of whether being an isolate is disturbing enough to the individual so that he will seek to escape the situation by leaving school has never been answered. Kidd (28) found that rejected students had low point hours in relation to their ability, but the effect on tenure in school was not
investigated. Conversely, it may be considered whether being well accepted by fellow students is related to greater persistence in completing a college education.

The only known studies directly pertaining to this problem have been done by Kuhlen and Bretsch (30) and Kuhlen and Collister (31), and these involved younger students than the present work. The first study, published in 1947, was of 692 ninth grade boys and girls in a central New York State high school. A sociometric test of six activities with two possible choices for each situation was distributed. Then the High School form of the Mooney Problem Check List, a 235-item list of problems frequently bothering adolescents, was administered. One change from standard administration procedure for this check list was made in that instead of simply circling or underlining statements pertaining to their problems, the subjects were asked to respond to each item by indicating whether it often, sometimes, or never bothered them. The number and type of problems indicated on the Mooney Problem Check List by students placing in the top and bottom one-fourth on the sociometric test were then contrasted.

The greatest difference between groups occurred in the often bother category, with the under-chosen individuals indicating more problems. Little difference was found between groups on the total number of problems sometimes.
encountered. In the type of problems indicated, the unaccepted group indicated greater dislike of school, more concern with social skills, unhappiness, and lack of status.

There is evidence of an unfavorable attitude toward school among the least acceptable group. Among boys this is suggested by a dislike for school, and for both sexes in the wish to quit school. This finding is in line with the hypothesis that the school, by its social nature, forces awareness of social deficiencies and inequalities upon children. Thus quitting school and dislike of school may, in some cases at least, be simply an escape by unacceptable children from an intolerable social situation (30, p. 125).

The above quotation was simply a hypothesis at this point because no follow-up data were included.

Later, in 1952, Kuhlen and Collister (31) published a study on sixth and ninth graders contrasting sociometric scores of those who later completed and those who failed to complete high school. The results were broken down by grade and sex of the subjects, and whether the choices received were from the same sex or the opposite sex. Only three of the twelve differences between drop-outs and graduates were statistically significant, although all were in the direction of higher acceptability scores for graduates. Two of the three significant ones, both at the 1 per cent level of confidence, were for sixth grade boys, where it was found that graduates were chosen much more by their own sex than were the drop-outs. This also meant that their total
acceptability was higher. The third significant difference, at the 5 per cent level, was for sixth grade girls, where the total acceptance score for graduates was significantly higher than for drop-outs. Kuhlen and Collister conclude that since ninth graders are more highly selected than sixth graders, it is to be expected that contrasts between drop-outs and graduates will be sharper for the sixth graders than for the ninth graders. If this trend continued, it might be expected that college would show even less contrast, but this has not been investigated. The above results also indicate that, at least in the sixth grade, the boys who are accepted by classmates of their own sex are more apt to be the ones who graduate, whereas this relationship is not so apparent for girls.

A second part of the study involved student ratings of their classmates on twenty specific traits. Contrasts between drop-outs and graduates revealed seven traits significant at the 1 per cent level for sixth grade boys and three significant at the 1 per cent level for the ninth grade boys. Among the girls, only four traits were significantly different for drop-outs and graduates in the sixth grade and one in the ninth grade. This again suggests that drop-outs and graduates are more similar among girls than among boys. In general, the drop-outs of both sexes were rated as being poorly groomed, physically
unattractive, lacking in social know-how, shy, and unhappy.

The above two studies indicate the possibility of a relationship between acceptance and persistence in grade school, a relationship which appeared to diminish in early high school. The main objective of the present study is to see if there is a continuation or perhaps an increase of this relationship in college. In some ways it may be hypothesized that there would be a greater relationship at advanced educational stages because college attendance is more voluntary than that of high school, and thus the possible effect of rejection on persistence in school would not be so obscured by legal requirements.

There also are indications that the importance of acceptance might be different for the sexes. Boys who drop out of school are more apt to be unacceptable to their peers than are girls. A related problem is whether positive choices received from the same sex are more related to persistence than are opposite sex choices. It was noted in the above article, for example, that boys who later graduated received many more votes from boys than the drop-outs did; however, the number of choices received from girls did not differentiate the two groups. It also might be hypothesized that being chosen as a friend by boys is more important to a girl than being chosen by her own sex. Changes in the importance of heterosocial relationships make
Another factor influencing the social life of the campus is the presence of sororities and fraternities. Studies of these social organizations have given various results. Washbourne (68) found that non-pledged freshman girls were more apt to obtain favorable scores on all the subtests of the Washbourne Social Maturity Scale. Lepley (34), on the other hand, found that on the Adams-Lepley Personal Audit, the non-sorority girls were more irritable, anxious or fearful, and intolerant, whereas the sorority members were more emotional. (Interpretation would seem difficult!) There was little difference in scores of men who belonged to fraternities and those who did not.

Students tend to choose members of their own group (71), but mere membership in a sorority is no guarantee of social acceptance because French and Mench (19) found isolates among members of these social organizations. Young, Draught, and Bergstresser (77) found no relationship between underachievement and pledging a fraternity, whereas other studies have shown a drop in scholarship to accompany pledgedom (33). In a study contrasting college drop-outs with graduates, Slocum (58) found that members of sororities had the highest academic survival rate, followed by fraternity members, then dormitory residents, and finally off-campus residents. The question of whether being a member of
such a social group has any effect on the possible acceptance-persistence relationship has not previously been investigated, and will be considered in the present study. World War II produced another subgroup on the college campus which has aroused much interest in the last twelve years, the veterans. Their academic achievement has been studied and often found to be higher than that of non-veterans (56, 63). This superior performance has been attributed to the fact that they are older (48, 57), which often means that they have greater responsibilities and motivation. Kinzer (29) found that although veterans indicated no more problems on the Mooney Problem Check List than did non-veterans, they were more concerned with academic and professional problems, whereas non-veterans checked more social adjustment, religious and moral worries, and similar non-academic problems. From this it could be hypothesized that to older students, which most veterans are, being socially accepted is not so important a goal as is preparing for a vocation. We might thus expect to find less of a relationship between acceptance and persistence and success for these students.

Throughout this review of sociometric studies of acceptance, references have been made to the variations in the results reported. It was also pointed out that this may be due, in part, to differences in the composition of the
respective student bodies. The inclusion of several schools which differ in social structure would thus possibly reveal whether social acceptance is of more importance in one academic setting than another. This variable was incorporated in the design of the present study.

To summarize: the sociometric technique has been found to be a valid and reliable instrument in the study of social relationships. Peer acceptance has been generally acknowledged to be a very important factor in personal and social adjustment, and many studies have been made of elements common to friends or of characteristics which would distinguish accepted from non-accepted students. The possible relationship of acceptance to persistence in college has been neglected, however, and this is the basic problem presently considered. In addition to studying the acceptance-persistence and acceptance-grades relationships in large student bodies, the possible relationships in various subgroups also will be considered: men, women, fraternity members, non-fraternity members, sorority members, non-sorority members, veterans, non-veterans, and students entering college in the middle of the academic year.
CHAPTER III

METHODOLOGY

The major problem in this study is to determine the relationship between an individual's social acceptance in college and his persistence and grades in that school. The present chapter will discuss the nature of the data used, how they were collected and analyzed, and finally, the specific methods used in the sub-problems.

Nature of the Data

In order to answer adequately the major problem posed above, the data to be utilized in this study had to meet certain requirements. First of all, it was desirable that the data about friends or acceptance be sociometric in nature. The previous chapter on the history of sociometry revealed the advantages of the sociometric method of studying human relationships, and the author considered it to be the most appropriate procedure for the proposed study of acceptance and persistence. However, merely using a sociometric approach would not have been sufficient to guarantee reliability or validity. It was also necessary to determine that the basic requirements of good sociometric procedure had been followed during the collection of the data. Some of these characteristics are gaining the confidence of the
subject, guaranteeing anonymity of results, and using a well constructed instrument.

Another basic requirement for the data used in this particular study was that at least six years had elapsed since the information was originally collected. Since the purpose of this study was to determine whether acceptance as a freshman had any relation to delayed criteria such as graduation and cumulative grades, it was necessary that enough time be allowed for virtually all students to complete their training—if they planned to do so. Some students require more than four years to finish college because of illness, financial and other difficulties, but six years after entrance was considered a safe margin for a study of this sort. As was noted in the history chapter, many studies have been published correlating acceptance with other contemporary variables, but there is a dearth of information about possible long range effects.

In many sociometric studies, the data are grouped during analysis, or else code names or numbers are assigned to individual cases. Since information about persistence and grades had to be obtained many years after the original sociometric data had been collected, it was necessary that the true names of the students studied still be available and that their sociometric scores be in a usable form.

This study is concerned with acceptance in college.
It was necessary, therefore, to have information collected at this level. A further desirable characteristic of the data would be that several different types of higher institutions be represented to see whether there is a variance in relationship in different academic atmospheres.

Finally, it was desirable to have the sociometric scores obtained from the study of large college groups, or preferably whole student bodies. Wherry and Fryer (70) found that the most reliable sociometric results were obtained when large groups were used. Witryol and Thompson (74) stated the same conclusion in their critical review of the stability of social acceptance scores. This indicates the advisability of obtaining ratings on the widest basis which the acquaintanceship of the group permits.

Two sources of data meet the above requirements. One is Dixon's study (15) of the complete student bodies of two colleges, and the other is Reilly and Robinson's study (54, 55) of a large dormitory at another college. The results of these two pieces of research have been presented earlier in Chapter II, but more details of the methodology utilized will be discussed here.

Toward the end of the 1946-47 school year, Dixon administered sociometric questionnaires to the total population of two coeducational colleges and received over 50 percent responses from each school. Good cooperation was
assured by the fact that Dixon was a respected graduate of one of the colleges and was the head of the counseling program at the other school. He guaranteed that the information obtained would be kept in strictest confidence.

The blanks which were distributed to the students were divided into two sections. The top part requested the following identification data: name, class, living quarters, dining hall, college, and the number of semesters that the student had attended the college. The remainder of the blank requested three types of sociometric information. First, the students were asked to name the five people in college with them whom they considered their best friends. Second, they were asked to name additional friends, up to ten, beyond the first five. It was thus possible to name a maximum of fifteen friends. Third, they could name casual acquaintances up to a maximum of ten whom they considered desirable as friends. The opportunity to name the ten additional friends beyond the first five was provided in case five was found to be too restrictive a number. Dixon later concluded that five was too small a limit and combined the results of groups I and II to form one list of friends with a maximum of fifteen. A sample of the questionnaire will be found in Appendix I.

Code designations were assigned to the subgroupings within the variables of sex, class, social group
affiliation, living quarters, and dining hall assignment. The friendship choice of each student was then tabulated according to these various classifications.

The two colleges which Dixon studied were similar in size and location. They were both private liberal arts colleges located in the same state and had student bodies of less than 2,000 students. They were both Class I colleges with high admission standards. The coeducational student bodies contained about the same proportion of male and female students.

The two colleges differed, however, in four characteristics. (1) At college A, 85 per cent of the student body was organized into fraternities and sororities, whereas at college B there were no formal organizations of this sort. (2) At college A, men pledged fraternities in their freshman year and moved into fraternity houses at the start of their sophomore year, whereas at college B upperclassmen were mixed together in dormitories. (3) At college A, there were no coeducational dining halls, whereas twelve of the seventeen dining halls at college B were coeducational. (4) The final major difference in the two schools was that at A the social program was left to the individual organizations on campus, whereas B had many all-college functions with a full-time Director of Recreation.

The data collected from the above study meet the
requirements previously stated in that (1) they are socio­metric in nature, (2) good cooperation was obtained from the subjects, (3) the responses of a large group were obtained, and (4) the study was completed more than six years ago, thus allowing a valid follow-up of the subjects.

A second source of sociometric data is the study made by Reilly and Robinson in 1941 (54, 55). The subjects in this case were the 161 residents of a dormitory for women at a large state university. The majority of the residents were freshmen, next in number were sophomores, then juniors, and last seniors. This distribution was due to the fact that only a definite percentage from each class was permitted to live in the dormitory. Within each class, assignment to the dormitory was made in the order of application, so no preference was shown to any particular girls. The sociometric instrument which was used in the original study presented eight different social situations and the students filling it out were asked to list in order their three female preferences for associates in each activity. The choices were not limited to the dormitory and any girl enrolled at the same school could be chosen. Each girl thus made three choices for each of the following eight situations: eat meals, study, spend free time, attend a football or basketball game, room, be in a bull session, double date, and work on a committee. After completing
this, the students were asked to star the names of the three people whom they liked best of all. A sample of the questionnaire will be found in Appendix I.

In this study the results were weighted to obtain a "total acceptability" score. Being starred as a best friend had a weight of one, first choice on any of the activities counted three, second choice two, and third choice received a weight of one. The total scores ranged from a low of one to a high of one hundred twenty-seven.

Good rapport with the subjects was assumed in that the test administrator had been a graduate resident of the dormitory and had served as counselor for many of the subjects. She was also in charge of organizing the student government within the dormitory and was responsible for social activities. It is thus likely that the girls thought that some concrete action might result from their choices, and they were also assured that the information was being received by a responsible person and would be used with discretion. A further indication of the fact that good rapport was obtained is the fact that all of the questionnaires that were distributed were filled out and returned.

The school where Reilly and Robinson's study was made is a large state university. Social fraternities and sororities are well organized, but the proportion of students belonging to them is much smaller than at college A
of Dixon's study. Women freshman pledges usually do not live in the sorority houses, so the freshmen women studied in this dormitory contained some affiliated students and some who were not.

The data from this study meet the basic requirements for the present problem in that (1) they are sociometric, (2) good cooperation was received from the subjects, (3) a large group was studied—in this case one large women's dormitory, and (4) sufficient time had elapsed since the sociometric study was made for the students to graduate if they planned to do so.

There is also an additional advantage in the fact that this study was made at an entirely different type of educational institution than the study made by Dixon. Thus it is possible to make further comparisons of the possible relationships between acceptance or persistence in different academic climates.

The data from Reilly's study also have two disadvantages. For one, only women were studied; therefore, there is no opportunity to evaluate the importance of acceptance among men or from men at this large school. Second, a sociometric approach different from Dixon's was used—one of selecting friends for specific situations rather than simply listing the five or ten best friends. Thus the results of the two studies must be evaluated.
separately, in some cases, because of the variance in technique and type of school. It is quite likely, however, that similar sociometric rankings would have resulted from these two methods, as was indicated in the section on sociometric validity and reliability.

Although Dixon and Reilly and Robinson had collected sociometric data about students from the freshman through the senior classes, it was decided to limit this particular research to the study of freshman students. The reasons for this limitation are basic to the study of persistence. If acceptability is an important factor in remaining in the academic climate, then early identification (freshman year) of the "misfits" would be desirable. Most drop-outs occur at the end of the freshman year. Although there is always the possibility of a change in general "acceptability" throughout an academic career, there are also indications that considerable stability exists (24). Horrocks (23) found that in both rural and urban children varying from age ten to seventeen there was a trend toward greater stability of friendship with increasing chronological age. Thus it might be hypothesized that an individual who was not accepted in his freshman year at college would find it difficult to become an accepted person in succeeding years unless help were given to him.
Collection of the Data

After determining that the available data met the basic requirements, it was necessary to obtain the permission of the authors and of the schools involved in order to use them. Robert Dixon, Jean Reilly, and Francis P. Robinson all kindly gave their permission to the use of their sociometric data, and the author is indebted to them. The three schools involved also agreed to make their records available to the author so that necessary additional data could be obtained. Anonymity was requested and of course guaranteed to all three schools and the students. The schools were given code designations. The private college with sororities and fraternities was given the code A. The letter B was assigned to the college without the Greek organizations, and the large state university became C. Each freshman within each group was also given a code number.

A work card was made for each student with his code number at the top, and the relevant data were entered in the appropriate places thereon. The sociometric data for the various students were entered first. It will be recalled that Dixon had asked three major questions in collecting his data: the names of a student's five best friends, names of additional friends up to ten in number, and additional students whom the individual would like as friends.
It was decided that this last category of "desirable friends" was not a realistic measure of actual friendship for use in this study and it was not included in the friendship scores.

In the treatment of his data, Dixon had considered that limiting the friendship choices to the five best friends was too restrictive and he combined the "best friends" and the "additional friends" categories. In this study too, choices received as either a best friend or an additional friend were combined to make one total measure of friendship called the total sociometric score. This total number of friendship choices received was then subdivided according to the sex of the person doing the choosing, so that there were two additional sociometric measures—the number of times a student was chosen by members of the same sex, and the number of times chosen by members of the opposite sex. These three major sociometric measures of acceptance (total, same sex, and opposite sex) were used throughout the study of colleges A and B.

In addition to these three major measures of acceptability which were studied at schools A and B, the number of "best friend" choices was studied at one school, college A, to see if there was any significant difference in the predictability obtained from a more restrictive friendship criterion. It will be recalled that "best friend" choices
were limited to five, whereas the total possible number of
friendship choices that a student could make was fifteen.
When the "best friend" sociometric scores received by stu-
dents at college A were correlated with the measures of
their persistence and grades, the results were found to be
similar to those obtained from the total or the same sex
sociometric scores. In most cases the predictability of
the "best friend" sociometric score was slightly lower than
it was for the other sociometric scores and in no case was
it significantly better. (The actual correlations obtained
are given in Table 13, Appendix II.) Limiting the friend-
ship choices to five was thus considered to be too re-
strictive and the "best friends" sociometric score was not
utilized in the remainder of this study.

The sociometric data from Reilly and Robinson's work
were weighted as in their study, with best friends receiv-
ing four points, first choices three points, second choices
two points, and third choices one point. The total socio-
metric scores for the freshman girls studied ranged from one
to ninety-nine.

After the above sociometric data were tabulated and
entered on the data cards for each student, the next step
was to obtain the necessary academic achievement and per-
sistence records from the colleges. Locating the record
cards of students who had entered six or more years
previously and in some cases stayed less than one year was at times difficult. Once the cards were located, the majority of the needed information could be obtained from them. In some cases it was necessary to consult a number of offices within the school for additional data such as veteran status or college aptitude scores.

Schools B and C used the Ohio State Psychological Examination as an academic aptitude test. The results of these tests were stated in the form of percentiles on the student record cards. At college C, a large state university, the state norms were used; at school B, with a student body so select that state norms gave little spread, the local norms were used. College A used the American Council on Education Psychological Examination (1946 edition) as their academic aptitude test and the results were reported in raw score form. It was necessary to eliminate a total of forty-one cases from college A at this point because there were no aptitude scores for them. Ten of these forty-one students had entered at the start of the school year and the remaining thirty-one entered at the beginning of the second semester.

Fraternity or sorority membership was recorded on a yes-no basis for schools A and C. Since fraternities and sororities theoretically differ in their "group personality" and in the degree of prestige which they enjoy individually
on college campuses, it might have been interesting to see whether there were significant differences in acceptance or persistence in different groups. The small number of pledges and members represented in the data made this independent study of each organization impossible, however.

The veteran status of each male student was ascertained from the student record card of the Dean of Men's office. Any male who had served in any branch of the service was considered to be a veteran, regardless of age.

Two grade averages were needed for each student. One was the grades obtained during the freshman year and the second was the cumulative grade average for each student's college career.

It was also noted on the work cards whether the student had entered school in the fall or at the beginning of the second semester. It was believed that the second semester entrants should not be included with the first semester students in that they had not had the same amount of time to make friends and the sociometric results would thus not be comparable. The second semester entrants were studied as a separate unit.

Finally, the two criteria of persistence used in this study were obtained from the record cards. It was noted for each student how many semesters (or quarters) he had remained in school with a maximum of eight (or twelve
for quarters), and whether or not he had graduated.

A close study of the record cards revealed that some students who had been considered freshmen when the sociometric data were collected actually were not first year students. Some of the "freshman" students had either been enrolled at the college for several semesters or had transferred to it as upperclassmen. The data from these students were not included in the present study. In addition, some students were listed as friends who were no longer enrolled in the college. In order to make sure that the freshman students receiving votes actually were in school at the time of the sociometric study, the fact of their receiving final grades for the sociometric semester was used as a criterion. Table 1 shows the number of "freshman" cases from the original data who were investigated, the number who were rejected because they did not meet the criteria of freshman status and presence in school or whose data were incomplete, and the number finally used in this study.

Treatment of the Data

After the pertinent data about each of the 815 students who met the criteria and for whom complete data were available had been entered on the work cards, it was necessary to get the information assembled in some workable form. IBM cards were used because of the size of the
### Table 1

**Characteristics of the Data on Freshman Students in Three Colleges**

<table>
<thead>
<tr>
<th>Item</th>
<th>Freshmen in original study</th>
<th>Omitted from this study</th>
<th>Cases used in this study</th>
</tr>
</thead>
<tbody>
<tr>
<td>College A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not true freshmen</td>
<td>399</td>
<td>17</td>
<td>262</td>
</tr>
<tr>
<td>Did not complete second semester</td>
<td></td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Complete data not available</td>
<td></td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>First semester entrants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second semester entrants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College B</td>
<td>409</td>
<td>4</td>
<td>355</td>
</tr>
<tr>
<td>Not true freshmen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not complete second semester</td>
<td></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>First semester entrants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second semester entrants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College C</td>
<td>96</td>
<td>1</td>
<td>95</td>
</tr>
<tr>
<td>Complete data not available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First semester entrants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>904</strong></td>
<td><strong>89</strong></td>
<td><strong>815</strong></td>
</tr>
</tbody>
</table>
sample and the number of variables to be studied.

Code sheets were made of the data from the work cards. An IBM card for each student was punched and verified. Each card contained the following information about one student: the school which the student attended, the code name of the student, the sex of the student, whether or not he was a veteran, his college aptitude test score, whether or not he belonged to a fraternity (schools A and C), the total number of choices received on the sociometric test, the number of votes received from members of the same sex, the number of votes received from members of the opposite sex (for schools A and B), the number of best friend votes received (college A), whether the student had entered in the first or the second semester, his freshman grades, his cumulative grades, the number of semesters he had remained in school, and whether or not he had graduated.

The IBM cards bearing this information were sorted according to various categories and duplicate cards were punched. In all, nineteen decks of cards were made, each differing in one major characteristic. The descriptions of the nineteen decks are listed below.

1. College B freshmen, except those who had entered in the second semester (N-355)
2. College A freshmen, except those who had entered in the second semester (N-262)
3. College C freshmen— all women (N-95)
4. College B freshmen who had entered in the second semester (N-38)

5. College A freshmen who had entered in the second semester (N-65)

(Decks four and five are the only ones where second semester entrants are included. They were omitted from previous and subsequent groups.)

6. College C freshman women who belonged to a sorority (N-49)

7. College C freshman women who did not belong to a sorority (N-44)

8. College B freshman women (N-150)

9. College B freshman men (N-205)

10. College A freshman women (N-108)

11. College A freshman women who belonged to a sorority (N-90)

12. College A freshman women who did not belong to a sorority (N-11)

13. College A freshman men (N-154)

14. College A freshman men who belonged to a fraternity (N-112)

15. College A freshman men who did not belong to a fraternity (N-19)

16. College A freshman men who were veterans (N-79)

17. College A freshman men who were not veterans (N-75)

18. College B freshman men who were veterans (N-78)

19. College B freshman men who were not veterans (N-127)
It will be noted that in separating the freshman women of college A (group 10, with an N of 108) into those who did belong to sororities (group 11, N=90) and those who did not (group 12, N=11), seven cases from the large group were not included in the finer divisions. These students were omitted because they belonged to semi-selective, loosely formed organizations that could not be considered sororities, yet might give an extra feeling of belonging not shared by those having no organizational ties. Similar organizations existed for the men at college A and twenty-three members of these groups were not considered in the fraternity-non-fraternity categories. At college C two freshman women from Group 3 were not included in the sub-division into groups six and seven because their sorority membership status was not clear.

The above decks of cards, with the information that they contained, were used to answer the questions and hypotheses of the study.

Hypotheses

The problem of the relationship of acceptance to persistence and grades among college students was divided into ten major questions. Within each of these problem areas, the basic hypotheses to be considered were stated in the form of the null hypothesis. Each of the hypotheses was tested by computing correlations between the variables
being studied by means of the original-score formula (51, p. 99). The criterion of graduation-or-not was treated by assigning a value of zero to graduation and one to non-graduation. A product-moment $r$ was then computed with the original score form of Pearson's basic formula. The result was a point-biserial correlation (21, p. 329). The IBM computer was used to calculate the factors required in the above formula. The statistical significance of the resulting correlations was obtained by consulting the Wallace-Snedecor tables as adapted by Guilford (21, pp. 609-610). When greater refinement of information was needed, the formula for the standard error of a correlation, when the population correlation is assumed to be zero, was used (21, p. 207).

**Problem I. To determine the relationship of total sociometric scores to persistence and grades**

**Hypothesis I A. There is no significant relationship between total sociometric scores and persistence among college freshmen.**

The above hypothesis, stated in the null form, is probably the most basic hypothesis of the study. It was tested by correlating the total sociometric scores of first semester freshman students at colleges A and B with the two measures of persistence used throughout this study: (1) the number of semesters that the students remained in
college and (2) whether they graduated. The significance of the correlations was obtained by consulting the Wallace-Snedecor table referred to above.

Hypothesis I B. There is no significant relationship between total sociometric scores and grades among college freshmen.

The above hypothesis, stated in the null form, was tested by correlating the total sociometric scores of freshman students at colleges A and B with the two measures of grades used throughout the study: (1) freshman grades and (2) cumulative grades. The degree of significance of the correlations was then obtained.

Problem II. To determine whether sociometric scores derived from friendship choices received exclusively from members of the same sex or from the opposite sex are related to persistence and grades in college.

Hypothesis II A. There is no significant relationship between same-sex sociometric scores and the persistence of freshman students in college.

The hypothesis stated above in the null form was tested by correlating the same-sex sociometric scores of the students at colleges A and B with the two measures of persistence. The original score formula was used and the significance of the correlations was obtained by means of the Wallace-Snedecor table.
Hypothesis II B. There is no significant relationship between opposite-sex sociometric scores and the persistence of freshman in college.

This null hypothesis was tested by correlating the opposite-sex sociometric scores of first semester freshmen at colleges A and B with two measures of persistence. The original score formula was used to compute the correlations and the significance of them was obtained from the table referred to above.

Hypothesis II C. There is no significant relationship between same-sex sociometric scores and the grades freshmen achieve in college.

This hypothesis, stated above in the null form, was tested by correlating the same-sex sociometric scores of freshmen at colleges A and B with the freshman and cumulative grades that they received in their college careers. The correlations were computed by means of the original score formula and the statistical significance of the resulting correlations was obtained from the Wallace-Snedecor table.

Hypothesis II D. There is no significant relationship between opposite-sex sociometric scores and grades in college.

The null hypothesis was tested by using the original score formula to compute correlations between the
opposite-sex sociometric scores and the grades achieved by students who were first semester freshmen when the sociometric study was made. The significance of the correlations was obtained from the Wallace-Snedecor table.

Problem III. To determine whether academic aptitude is a factor in the relationship of acceptance to persistence among college freshmen

Hypothesis III. There is no significant relationship between academic aptitude and sociometric scores among college freshmen.

To test this hypothesis, the total, same-sex, and opposite-sex sociometric scores were correlated with the college aptitude test scores of freshman students at colleges A and B. The statistical significance of the correlations was obtained by consulting the table referred to above.

As an additional test, partial correlations, holding intelligence constant, were calculated between the three sociometric scores and the four criteria. The general formula for first-order partial coefficient of correlation was used (21, p. 345). The results were compared with the original correlations to see if there had been any reduction in the significance of the correlations. As an added restriction to the data, it was decided to use partial correlations in the remainder of this study of acceptance
Problem IV. To determine the relationship of acceptance to persistence and grades among male college freshmen

After the importance of acceptance to persistence and grades in the freshman class as a whole had been studied, the freshman student body was divided into groups. The first subgroup to be studied was the male students at colleges A and B. Hypotheses about the relationship of acceptance to persistence and acceptance to grades were stated in the form of the null hypothesis. Each of the hypotheses was tested by correlating the acceptance variable with the criterion variable by means of the original score formula. Partial correlations between the acceptance measure and the criterion were then calculated to eliminate the effects of academic aptitude. Finally, the statistical significance of the partial correlations was obtained by consulting the Wallace-Snedecor table.

The six null hypotheses which were tested are listed below.

Hypothesis IV A. There is no significant correlation between total sociometric scores and persistence among male college freshmen.

Hypothesis IV B. There is no significant relationship between same-sex sociometric scores and persistence in college of male freshmen.
Hypothesis IV C. There is no significant relationship between opposite-sex sociometric scores and persistence in college of male freshmen.

Hypothesis IV D. There is no significant relationship between the total sociometric scores of male freshmen and the grades they achieve in college.

Hypothesis IV E. There is no significant relationship between the same-sex sociometric scores of freshman men and their grades in college.

Hypothesis IV F. There is no significant relationship between the opposite-sex sociometric scores of freshman men and their grades in college.

Problem V. To determine the relationship between acceptance and persistence and grades among men who are not veterans.

After the acceptance-persistence and acceptance-grades relationships had been studied among freshman men, this large group was subdivided into those men who had served in the armed services and those who were not veterans. Problem V is concerned with the men who are not returning veterans at colleges A and B.

The same methodology was used in studying non-veteran students as was utilized in the previous problem. Six null hypotheses concerning the relationship of the sociometric scores to the criteria were stated. Three of
these involved the relationship of the three different sociometric scores to persistence and the other three concerned the relationship of the sociometric scores to grades. Each of these six hypotheses was then tested by correlating the sociometric score with the criteria. Partial correlations were then calculated to reduce the effect of academic aptitude. The significance of the partial correlations was obtained by consulting the Wallace-Snedecor table.

Problem VI. To determine the relationship between social acceptance and the persistence and grades of freshman veterans

The methodology for the study of veteran students at colleges A and B was the same as that used for Problems IV and V. Six null hypotheses about the relationship of the acceptance scores to the criteria of persistence and grades were stated. Each hypothesis was tested by correlating the sociometric variable with the criterion variable by means of the original score formula. The effect of academic aptitude on the correlations was then minimized by calculating partial correlations with academic aptitude held constant. The statistical significance of the correlations was obtained by consulting the Wallace-Snedecor table.
Problem VII. To determine the relationship between acceptance and persistence and grades among freshman fraternity men

Another segment of the male college population which was studied in detail was the men who belonged to fraternities. Data from 112 freshman men at college A were available for analysis; there were no fraternities on the college B campus. The methodology which was used was the same as that of the three previous problems. Six hypotheses were stated in the null form regarding the relationship of acceptance to persistence and grades among fraternity members. Each hypothesis was tested by correlating the acceptance variable with the persistence or grade criteria by means of the original score formula. The effect of academic aptitude on the correlations was then minimized by calculating partial correlations between the acceptance and criterion variables. Finally, the significance of the partial correlations was obtained.

The small number of men (nineteen) who belonged to neither fraternities nor the semi-formal organizations at college A precluded a comparable study of non-fraternity men.
Problem VIII. To determine the relationship of acceptance with persistence and grades among women college freshmen

Data for the study of the importance of acceptance among women freshmen were available from three different colleges, A, B, and C. The total number of cases used in this problem was 353. The methodology was the same as that explained in detail in Problem IV and used in it and in Problems V, VI, and VIII: six null hypotheses regarding the relationship of acceptance to persistence and grades were stated. Each hypothesis was tested by correlating the sociometric score for freshman women with the criteria of grades or persistence in each of the three schools. Partial correlations were then calculated to minimize the effect of academic aptitude on the relationship. The statistical significance of the partial correlations was obtained by consulting the Wallace-Snedecor table.

Problem IX. To determine whether sorority membership affects the relationship of acceptance to persistence and grades among college freshmen

At two colleges, A and C, social sororities existed on the campus, and the relationship of various sociometric measures to persistence and grades among the members of these organizations was studied in this problem. Two null hypotheses were stated and each was tested by correlating the sociometric scores with the persistence or grade
criteria. Partial correlations were calculated to minimize the effects of academic aptitude, and the significance of the results was obtained. The two hypotheses are:

**Hypothesis IX A.** There is no significant relationship between measures of acceptance and persistence among freshman sorority members.

**Hypothesis IX B.** There is no significant relationship between measures of acceptance and grades among freshman sorority members.

**Problem X.** To determine the relationship of acceptance to persistence and grades among students who enter college at midyear.

Earlier in this chapter it was noted that at colleges A and B there were a number of students who began their college career by entering school in the second semester instead of in the fall. The data from these second semester entrants were not included in the study of any of the nine previous problems because the friendship-making time of the midyear students was not equal to that of the majority of the student body. In this problem the 103 second semester entrants in colleges A and B were

\[\text{As will be seen later, since none of the partial correlations found in Problems VIII and IX in schools A and C was statistically significant, it was thought unnecessary to compute the partial correlations for non-sorority women.}\]
studied by correlating their sociometric scores with the measures of persistence and grades. Partial correlations were then calculated to minimize academic aptitude and the significance of these partial correlations was obtained.
CHAPTER IV

RESULTS

This study has been concerned with the possible relationship between an individual's social acceptance and his persistence and success in college. This broad topic has been divided into the ten problems summarized at the end of Chapter III. The results for each of these aspects of acceptance and persistence and grades will be discussed in turn in this chapter.

Problem I. To determine the relationship of total sociometric scores to persistence and grades

Hypothesis I A. There is no significant relationship between total sociometric scores and persistence.

This question, as stated above in terms of the null hypothesis, is the major one of the study. The total sociometric score, it will be recalled, is the total number of times a student is chosen as a friend by other students at that school, regardless of sex. In this broad question of the relationship between a student's total sociometric score and his persistence in college, the two freshman classes at colleges A and B were used. Thus the population studied was composed of both male and female students. The two measures of persistence which were used are (1) the
number of semesters the student attended college and (2) whether he graduated. The results of the correlation of the total sociometric scores with the two measures of persistence at colleges A and B are shown in Table 2.

All four of the correlations of the total sociometric scores with persistence in college are low and positive ($r = .11$ to $.13$). Although they are low, three of the four correlation coefficients are significant at the 5 per cent level of probability. The 5 per cent level of confidence means that there are only five chances out of one hundred that a correlation of this size could have occurred by chance if the true correlation were zero. The fact that three of the correlations are significant enables us to reject the null hypothesis of no significant relationship between total acceptance scores and persistence.

**Hypothesis I B.** There is no significant relationship between total sociometric scores and grades.

Table 2 also includes the results of correlating the total sociometric scores with freshman and cumulative grades at colleges A and B. The four correlations are all low and positive (.19 to .22) and all of them are significant at the 1 per cent level. This means that there is only one chance in one hundred of a correlation of this size occurring by chance if the true correlation were zero. It is thus possible to reject the hypothesis of no
Table 2
Correlations of Total Sociometric Scores with Persistence and Grades

<table>
<thead>
<tr>
<th>Sociometric scores</th>
<th>N</th>
<th>Persistence</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of</td>
<td>Graduate or not</td>
</tr>
<tr>
<td></td>
<td></td>
<td>semesters</td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total sociometric</td>
<td>262</td>
<td>.13*</td>
<td>.11</td>
</tr>
<tr>
<td>scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total sociometric</td>
<td>355</td>
<td>.12*</td>
<td>.11*</td>
</tr>
<tr>
<td>scores</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 5% level
** Significant at 1% level
significant relationship between sociometric scores and grades.

In summary, the results indicate that acceptance as measured by total sociometric scores is significantly related to the persistence and grades attained by freshman students at two colleges. All of the correlations are low, but due to the number of cases used in the study, three of the four correlations of acceptance with persistence are significant at the 5 per cent level of confidence. All of the correlations of acceptance with grades are significant at the 1 per cent level of confidence.

The next step is to see if certain factors are causing this relationship.

Problem II. To determine whether sociometric scores derived from friendship choices made by members of the same sex, or scores derived exclusively from members of the opposite sex are related to persistence and grades in college.

The total sociometric scores which were utilized in the preceding problem were composed of friendship choices received from students of both the same and the opposite sex. A second area of interest is whether friendship choices received exclusively from members of the same sex or from the opposite sex would be related to persistence and grades.
Hypothesis II A. There is no significant relationship between same-sex sociometric scores and the persistence of freshman students in college.

The subjects used in this portion of the study are, once again, the freshman students, both male and female, at colleges A and B. The same-sex sociometric score is the number of votes each student received from other students of the same sex. Thus, for the men it is the total number of times each was chosen by other men. For the women it represents friendship choices made by other women. Actually, the majority of the choices comprising the total sociometric score were received from students of the same sex. In school A the mean number of friendship choices received was 4.38, of which a mean of 3.90 were votes from members of the same sex. The correlation of these two sociometric scores was .93. A similar situation existed at school B, where the mean number of total sociometric choices received was 5.96. Of these a mean of 4.72 choices were made by students of the same sex. The correlation between total and same-sex sociometric score here was .94.

The results of correlating the same-sex sociometric scores with the two measures of persistence are shown in Table 3. The four correlations are all low, but there is a difference in the significance of these correlations from one school to the other. At school A the correlations of
Table 3

Correlations of Same-Sex Sociometric Scores and Opposite-Sex Sociometric Scores with Persistence and Grades

<table>
<thead>
<tr>
<th>Sociometric scores</th>
<th>N</th>
<th>Persistence</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of semesters</td>
<td>Graduate or not</td>
</tr>
<tr>
<td>Same-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>262</td>
<td>.15*</td>
<td>.14*</td>
</tr>
<tr>
<td>College B</td>
<td>355</td>
<td>.08</td>
<td>.09</td>
</tr>
<tr>
<td>Opposite-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>262</td>
<td>-.04</td>
<td>-.06</td>
</tr>
<tr>
<td>College B</td>
<td>355</td>
<td>.13*</td>
<td>.11*</td>
</tr>
</tbody>
</table>

* Significant at 5% level
** Significant at 1% level
.14 and .15 are both significant at the 5 per cent level of confidence. This means that there are only five chances out of one hundred that a correlation of this size could have occurred by chance if the true correlation were zero. At school B, the correlations of .08 and .09 between the measures of acceptance and persistence do not reach the 5 per cent level of confidence. The results are not so conclusive as when all votes were counted. Factors which might be involved here in the differences between the schools will be discussed along with the next hypothesis.

**Hypothesis II B.** There is no significant relationship between opposite-sex sociometric scores and the persistence of freshmen in college.

After finding out that the same-sex sociometric scores differed in predictability from one school to the other, it seemed essential to inquire whether friendship choices received only from members of the opposite sex would be significantly related to persistence in college. The male and female freshmen at colleges A and B were once more the subjects of the study. The opposite-sex sociometric scores of each student were correlated with each of the two measures of persistence. The results are shown in Table 3. At college A, the correlations of -.04 and -.06 between opposite-sex scores and persistence are not significant. At school B, the opposite-sex scores correlate .13
and .11 with persistence. Although these last two correlations are slight, they are significant at the 5 per cent level of confidence. It is, therefore, possible to reject the null hypothesis at one school, but not at the other.

It might be well to review here the relationship of these three sociometric measures with persistence. In each case, the same large group of freshman students at two different types of liberal arts colleges was studied. When the total sociometric score was correlated with the two measures of persistence at colleges A and B, three of the four correlations were significant at the 5 per cent level of confidence and the fourth almost reached this level. The results were highly consistent for the two schools. When this total sociometric score was subdivided according to whether the friendship choices came from members of the same or opposite sex, a difference appeared in the results from the two schools. At school A, persistence was significantly related to same-sex votes. It was not related to opposite-sex votes. At school B, the reverse was true—opposite sex correlated significantly with persistence and there was no relationship between same-sex sociometric score and persistence.

The acceptance-persistence difference between the schools may be related to the different social structures which existed on the two campuses. These differences were
reported in considerable detail in Chapter III but it may be well to review a few of them here. At school A there are nationally organized sororities and fraternities, eating is done in one-sex dining halls, and after the first year the men who have pledged fraternities live in the fraternity house. College B has no sororities or fraternities, many of the college dining halls serve men and women together, and there are many more all-school social functions than exist at college A.

It is possible to hypothesize that at school A, where the sexes are socially more segregated except for formal dating, same-sex friendships are the more important relationships for the student. At school B, where there are more opportunities for cross-sex friendships to develop, these friendships have importance for the student. Some support for this hypothesis is found in the number of cross-sex votes cast at the two schools. At school A, freshmen received a mean of .50 votes from members of the opposite sex, while at school B a mean of 1.18 votes was received.

It was also noted that the two measures of persistence (semesters in school and whether or not the student graduated) were almost identical in the degree to which they were related to the various sociometric measures. There is no tendency for one persistence criterion to be
more closely associated with all the sociometric scores or with any particular type of sociometric measure.

Hypothesis II C. There is no significant relationship between same-sex sociometric scores and the grades freshmen achieve in college.

The preceding appraisal of the relationship between same-sex and opposite-sex sociometric scores and persistence revealed differences between the two schools. It was next logical to inquire whether the acceptance scores were also related to grades. To test the null hypothesis as stated above, the same-sex sociometric scores for the freshman students at schools A and B were correlated with the freshman and cumulative grades which these freshmen received at these schools. The results are shown on Table 3. The four correlations are low and positive, but due to the size of the sample studied they are significant at the 1 per cent level of confidence. This means that there is only one chance in one hundred that a correlation coefficient of this size could have occurred by chance. It is thus possible to reject the null hypothesis of no relationship between same-sex sociometric scores and grades.

The next step was to test whether the friendships as expressed by members of the opposite sex also were related to grades.
Hypothesis II D. There is no significant relationship between opposite-sex sociometric scores and grades in college.

To test this hypothesis the freshmen at colleges A and B were utilized. The number of votes each student received from members of the opposite sex was correlated with the grades he received during his college career. The results are given in Table 3. The correlations are all slight and range from .04 to .10. None of them differs significantly from zero. It is thus not possible to refute the null hypothesis.

Several conclusions may be drawn from a comparison of the three different sociometric measures and their relationship to grades. First of all, it is apparent that the two different grade measures—freshman grades and cumulative grades—yield almost identical results. No doubt part of this similarity is due to students who attended college for only one year. For these students, freshman grades would be the same as the cumulative grades. In all cases the freshman grades are a part of the cumulative grades and performance for one year is known to be highly predictive of grade performance for a longer period of time.

A second conclusion is that both the total sociometric scores and the same-sex scores are significantly related to grades in school. All eight correlations are
significant at the 1 per cent level of confidence.

A third conclusion is that friendship choices received from members of the opposite sex are not significantly related to grades although (as noted in Hypothesis II B) they are significantly related to persistence in one school.

Fourth, the results are generally consistent for the two colleges used in this study. A sociometric measure which was significantly correlated with grades at one school also correlated significantly at the other, and vice versa.

Problem III. To determine whether academic aptitude is a factor in the relationship of acceptance to persistence among college freshmen

Before proceeding with the study of acceptance and persistence among various groups of students, the author felt that it was necessary to investigate the possibility that there was a relationship between acceptance and academic ability. If there were such a correlation between these two factors, it would mean that the students who were well liked were also more intelligent. They would, therefore, be expected to get better grades and to stay in school longer. The correlation of persistence with acceptance might thus be due at least in part to the correlation of each factor with academic aptitude. The next section is
Hypothesis III. There is no significant relationship between academic aptitude and sociometric scores among college freshmen.

To test this hypothesis the academic aptitude of each freshman student at colleges A, B, and C was correlated with his sociometric score. The results of the calculations are presented in Table 4.

At colleges A and C all of the correlations are in the range attributable to chance and at college B the correlation of the opposite-sex sociometric scores with academic aptitude is also in the chance range. The other two correlations of sociometric scores with academic aptitude at college B are significant at the 5 per cent level of confidence. The correlations are low, but because of the size of the sample these correlations would have occurred by chance less than five times in one hundred repetitions.

It is interesting to speculate upon what factors might be operating to create the difference in relationship between acceptance and academic aptitude in colleges A and B. There seem to be two principal factors. One is the difference in academic climate. Although both colleges are class A schools and selective in their student bodies, college B places greater emphasis on "brains" and grades
<table>
<thead>
<tr>
<th>Sociometric scores</th>
<th>Academic aptitude</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>College A</td>
</tr>
<tr>
<td>Total sociometric scores</td>
<td>.01</td>
</tr>
<tr>
<td>Same-sex sociometric scores</td>
<td>.05</td>
</tr>
<tr>
<td>Opposite-sex sociometric scores</td>
<td>.01</td>
</tr>
</tbody>
</table>

* Significant at 5% level
than does college A. It thus might be that college B students who do well academically are favored as friends by members of their own sex. The relationship does not seem to hold for cross-sex friendships.

Another possible factor in the varying results of the two schools is that the institutions used different academic aptitude tests. The two tests differed in their predictive ability, at least in the college populations studied. At school A, which used the American Council on Education Psychological Examinations, the ACE scores correlated .35 with freshman grades and .33 with cumulative grades. The correlations with persistence were .10 for number of semesters in school and .12 with whether or not the student graduated. At college B, the Ohio State Psychological Examination was used. The correlation of the percentiles with grades was .58 for freshman grades and .52 for cumulative grades. The test results also correlated .21 with the number of semesters the student remained in school and .18 with whether or not he graduated. It is thus evident that at college B the OSPE was a better predictor of college success than was the ACE at college A. Among the sample of freshmen women at college C, a state university with a less select student body, the OSPE correlated .63 with freshman grades, .64 with cumulative grades, .44 with number of semesters in school, and .41
with whether or not the women graduated from the college. The differences among the schools in the relationship of acceptance to academic aptitude probably are the result of a combination of two factors—different academic climate and different academic aptitude tests.

The foregoing data indicated that in one of the three schools there was a significant relationship between academic aptitude and acceptance by the same sex. The next step was to find out whether there would still be a significant correlation between acceptance and persistence without the common factor of academic aptitude. In order to investigate this, partial correlations were calculated between the sociometric scores and the measures of persistence and grades with academic aptitude held constant. The general formula for first-order partial coefficient of correlation was used.

In order to treat the data uniformly for comparison purposes between the schools, partial correlations were calculated for all three schools. In Table 5 are presented the results of the partial correlations between sociometric scores and persistence and grades with college aptitude held constant. The original correlations are also reproduced in the table so the changes, if any, as a result of holding intelligence constant will be more apparent.

Since the correlations between intelligence and
Table 5
Comparison of the Original and Partial Correlations of Sociometric Scores with Persistence and Grades

<table>
<thead>
<tr>
<th>Sociometric scores</th>
<th>N</th>
<th>Number of semesters</th>
<th>Graduate or not</th>
<th>Freshman grades</th>
<th>Cumulative grades</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Original</td>
<td>Partial</td>
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<td>Partial</td>
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<tr>
<td>Total sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>262</td>
<td>.13*</td>
<td>.13*</td>
<td>.11</td>
<td>.21**</td>
</tr>
<tr>
<td>College B</td>
<td>355</td>
<td>.12*</td>
<td>.09</td>
<td>.11*</td>
<td>.19**</td>
</tr>
<tr>
<td>Same-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>262</td>
<td>.15*</td>
<td>.15*</td>
<td>.14*</td>
<td>.14*</td>
</tr>
<tr>
<td>College B</td>
<td>355</td>
<td>.08</td>
<td>.05</td>
<td>.09</td>
<td>.07</td>
</tr>
<tr>
<td>Opposite-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>262</td>
<td>-.04</td>
<td>-.04</td>
<td>-.06</td>
<td>-.06</td>
</tr>
<tr>
<td>College B</td>
<td>355</td>
<td>.13*</td>
<td>.13*</td>
<td>.11*</td>
<td>.11*</td>
</tr>
</tbody>
</table>

* Significant at 5% level
** Significant at 1% level
sociometric scores were practically zero in school A (.01 and .05), the partial correlations were almost identical to the comparable original correlations. At school B, the partial and original correlations also were identical when the opposite-sex sociometric scores were correlated with persistence and grades. However, the partial correlations of the two other sociometric scores (total and same-sex) with persistence and grades were somewhat lower than the original correlations. The actual change in the correlations was slight (the greatest reduction was .06) but this change was sufficient in four cases to change the statistical significance of the original correlations. At school B, therefore, the partial correlations between the total sociometric scores and two measures of persistence were no longer statistically significant. Similarly, the partial correlations between same-sex sociometric scores and grades were now significant at the 5 per cent level of confidence whereas the original correlations had reached the 1 per cent level of confidence.

Summary. The partial correlation coefficients which were calculated to hold constant the effect of academic ability actually differed very slightly from the coefficients originally computed. However, in some cases the difference was sufficient to change the degree of significance of a correlation. Thus, as a precaution, partial
correlations, holding academic aptitude constant, were calculated and used throughout the remainder of this study of the relationship of acceptance to grades and acceptance to persistence.

The results of this problem indicate that a low positive relationship persists between some sociometric measures and persistence and grades even after the possible effects of academic aptitude have been minimized. It is impossible to recognize or control all factors which may be operating in the situation; it is possible to make hypotheses about the cause or causes of the relationship found to exist here. One hypothesis is that the relationship between acceptance and persistence and acceptance and grades is due to the fact that being accepted and having friends is important to students of college freshman age. Freshmen have only recently been separated from their homes and friends and relatives; they must form new liaisons. Those who succeed and are happy socially in their new environment will make an effort to remain in college. They will thus work to obtain grades which meet the school requirements and also satisfy parents at home who may be financing the college career. As a result, according to this hypothesis, students who are accepted socially will tend to make better grades and to remain in college longer.
It is obvious that there is not a perfect, or even a strong, acceptance-persistence relationship. The correlations for students in general are too low to be of much use in predicting persistence. But some relationship is present. The question to be answered now is whether the relationship is more important among certain segments of the student body.

Problem IV. To determine the relationship of acceptance to persistence and grades among male college freshmen.

The study thus far has been concerned with the investigation of acceptance and persistence among freshmen students in general. A low positive but statistically significant correlation has been found to exist between the total sociometric score and persistence and grades. The next step was to inquire whether this relationship was also present among various groups of students. Another question to be answered was whether the other sociometric measures (same-sex and opposite-sex scores) would be related to persistence and grades when subgroups of the student population were studied. The first segment of the student body selected for study was the men freshman students.
Hypothesis IV A. There is no significant correlation between total sociometric scores and persistence among male college freshmen.

The results of correlating the total sociometric scores with the number of semesters the men attended college and whether or not they graduated are presented in Table 6. The four correlations are all positive and low. At school A both of the correlations are statistically significant; the correlation of .24 between total sociometric score and the number of semesters that the men attend college is significant at the 1 per cent level of confidence and the correlation of .20 between total sociometric score and whether or not the men graduate is significant at the 5 per cent level of confidence. At school B, however, the correlations are not statistically significant, although the correlation of .13 between the total sociometric score and graduation approaches the 5 per cent level of confidence.

It is evident that at college A the null hypothesis of no significant relationship can be rejected, while at college B it is not possible to reject it. The meaning of this finding will be discussed in a moment, but first let us inquire whether this relationship for men also exists when the friends doing the choosing were other men or when the votes were given by women students.
<table>
<thead>
<tr>
<th>Sociometric scores</th>
<th>N</th>
<th>Persistence</th>
<th></th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of</td>
<td>Graduate</td>
<td>Freshman grades</td>
</tr>
<tr>
<td></td>
<td></td>
<td>semesters</td>
<td>or not</td>
<td></td>
</tr>
<tr>
<td>Total sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>154</td>
<td>.24**</td>
<td>.20*</td>
<td>.16*</td>
</tr>
<tr>
<td>College B</td>
<td>205</td>
<td>.10</td>
<td>.13</td>
<td>.17*</td>
</tr>
<tr>
<td>Same-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>154</td>
<td>.31**</td>
<td>.28**</td>
<td>.18*</td>
</tr>
<tr>
<td>College B</td>
<td>205</td>
<td>.08</td>
<td>.13</td>
<td>.11</td>
</tr>
<tr>
<td>Opposite-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>154</td>
<td>-.10</td>
<td>-.12</td>
<td>.01</td>
</tr>
<tr>
<td>College B</td>
<td>205</td>
<td>.11</td>
<td>.09</td>
<td>.16*</td>
</tr>
</tbody>
</table>

* Significant at 5% level
** Significant at 1% level
Hypothesis IV B. There is no significant relationship between same-sex sociometric scores and persistence in college of male freshmen.

The results of correlating the number of times a man was chosen as a friend by other male students with the two measures of persistence used in this study are presented in Table 6. It is evident that a similar situation exists here as that present when persistence was correlated with the total sociometric score (Hypothesis IV A). All four correlation coefficients are low positive. At school A the coefficients of .31 and .28 are significant at the 1 per cent level of confidence and at school B the low positive correlations do not reach the 5 per cent level of confidence. The null hypothesis may thus be rejected at school A, but not at school B.

Hypothesis IV C. There is no significant relationship between opposite-sex sociometric scores and persistence in college of male freshmen.

The correlations of the number of friendship choices that the men students received from women students with the measures of how long those men students persisted in college are presented in Table 6. At school A the coefficients tend to be low and negative and at school B they are positive but not significantly different from zero. It is not possible to reject the null hypothesis of no
relationship between the men students' popularity with women students and their persistence in college.

The degree to which acceptance is related to persistence among men students apparently depends upon the sociometric measures used and the social structure of the school which is being studied. At college A, the correlation between acceptance by other men students and measures of persistence in college are .31 and .28. Both of these correlations are significant at the 1 per cent level of confidence. The number of votes that men at college A received from women students did not correlate with persistence, thus the total sociometric score is slightly lower (although still statistically significant) than the score derived solely from male votes. At school B the correlations between persistence and the three sociometric scores are all about equal and low. None of them is statistically significant.

A comparison of these results for freshman men with the results obtained when the whole freshman classes were studied reveals several changes in the acceptance-persistence relationship. At school A the statistical significance of the correlations between same-sex sociometric scores and persistence and between total sociometric scores and persistence showed the former had statistical significance at the 1 per cent level and the latter at only a 5
per cent level of confidence. At school B the correlations of the men's sociometric scores with persistence are about the same as the correlations for the whole freshman class. However, a smaller number of cases is involved in the study of men students alone, thus the correlations are not statistically significant.

There are a number of possible factors involved in the acceptance-persistence relationships among men students at college A and also in the difference of this relationship at schools A and B. The difference in the acceptance-persistence relationship at the two schools may in part be due to the different social climates at the two schools. At college A, with its strong fraternity system, somewhat greater emphasis may be placed on belonging and on conforming. A student who did not "make the grade" socially with his own sex might be more unhappy in a situation where the importance of being popular was stressed than in a college such as B where more importance is attached to academic achievement.

It is therefore probable that an unaccepted student at college A would be more apt to drop out of college than a similar student at college B. And also, a student who achieved social success might make a greater effort to remain in the rewarding environment of school A than at school B. This hypothesis will be discussed again as the
relationship is studied in other groups of men. It should be noted also that number of votes from women friends is unrelated to male persistence in college.

**Hypothesis IV D.** There is no significant relationship between the total sociometric scores of male freshmen and the grades they achieve in college.

The total number of friendship choices that each man received was correlated with his freshman and cumulative grades. As discussed previously, partial correlations were then calculated to attempt to eliminate the effect of academic aptitude. The results are presented in Table 6.

The correlations are all low positive and remarkably consistent, with a range of .16 to .19 for the two schools. Because of the number of men involved in this study these low correlations are all significant at the 5 per cent level of confidence. It is thus possible to reject the null hypothesis of no significant relationship.

**Hypothesis IV E.** There is no significant relationship between the same-sex sociometric scores of freshman men and their grades in college.

The number of times men were chosen as friends by other men students was correlated with two grade measures. The results are presented in Table 6. The four correlations are low positive. At school A the two partial correlations of .18 between number of men friends and grades
received in college are significant at the 5 per cent level of confidence. The comparable correlations at school B do not reach this criterion of significance. It is possible, therefore, to reject the null hypothesis of no relationship at school A and not possible to reject it at school B. This is the same situation as prevailed when the same-sex sociometric scores were correlated with persistence in Hypothesis IV B, and the same reasons may well apply.

Hypothesis IV F. There is no significant relationship between the opposite-sex sociometric scores of freshman men and their grades in college.

The partial correlations of the opposite-sex sociometric scores with the grades that men achieved in college are presented in Table 6. The correlations are all low, ranging from .01 to .16. Three of the four are not statistically significant, but the correlation of .16 at school B between the grades that men made as freshmen and the number of women who listed them as friends is significant at the 5 per cent level of confidence. This one significant correlation, however, is not sufficient grounds for rejecting the null hypothesis.

Summary. The study of the relationship of the grades that freshman men make in college with their acceptance by other students reveals that there are some low but statistically significant relationships. The total
sociometric score correlated at the 5 per cent level of confidence with freshman and cumulative grades at both colleges. When the total friendship score is divided according to whether the votes came from men or women the correlations do not remain significant for both colleges; acceptance by other men correlates significantly with grades at college A, but not at B.

It will be recalled that when the sociometric scores of freshman men were correlated with measures of persistence (Hypotheses IV A, B, and C), similar and even more pronounced differences were found regarding the predictability of the various sociometric scores at the two colleges. Sociometric choices received from men correlated at the 1 per cent level of confidence with persistence at college A, but were unrelated to persistence at college B. Friendship votes received from women students were not significantly related to persistence at either school.

The nature of the relationship of social acceptance to persistence and grades among freshman women will be discussed later in Problem VIII.

Problem V. To determine the relationship between acceptance and persistence and grades among men who are not veterans.

The preceding section which studied the freshman men at two colleges revealed that, at one college at least,
there was a consistently significant relationship between friendship with other men and both persistence and grades. The sociometric data in this study were collected shortly after the end of World War II when many veterans were in college. To ascertain whether their inclusion in the college population could cause an atypical relationship, the veterans were sorted out and the men who had and those who had not been in the armed services were studied as separate groups. The relationship of the various measures of friendship to the non-veteran's persistence and grades in college will be presented first.

**Hypothesis V A. There is no significant relationship between the non-veteran's total social acceptance and his persistence in college.**

To test this hypothesis the total sociometric score of non-veterans at colleges A and B was correlated with the two measures of persistence. The results are presented in Table 7. At school A the correlations of .42 and .44 are significant at the 1 per cent level of confidence. At school B, the correlation of the total sociometric score with whether or not the non-veteran graduated is .21 and this is significant at the 5 per cent level of confidence. The correlation of .17 between total number of friendship choices received and the number of semesters the student remained in school just misses the 5 per cent criterion.
Table 7

Partial Correlations of Sociometric Scores with Persistence and Grades of Non-Veteran College Freshmen

<table>
<thead>
<tr>
<th>Sociometric scores</th>
<th>N</th>
<th>Persistence</th>
<th></th>
<th>Grades</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of semesters</td>
<td>Graduate or not</td>
<td>Freshman grades</td>
<td>Cumulative grades</td>
</tr>
<tr>
<td>Total sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>75</td>
<td>.42**</td>
<td>.44**</td>
<td>.28*</td>
<td>.30**</td>
</tr>
<tr>
<td>College B</td>
<td>127</td>
<td>.17</td>
<td>.21*</td>
<td>.15</td>
<td>.14</td>
</tr>
<tr>
<td>Same-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>75</td>
<td>.42**</td>
<td>.43**</td>
<td>.23*</td>
<td>.32**</td>
</tr>
<tr>
<td>College B</td>
<td>127</td>
<td>.14</td>
<td>.18*</td>
<td>.07</td>
<td>.10</td>
</tr>
<tr>
<td>Opposite-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>75</td>
<td>.06</td>
<td>.09</td>
<td>.16</td>
<td>.01</td>
</tr>
<tr>
<td>College B</td>
<td>127</td>
<td>.17</td>
<td>.17</td>
<td>.21*</td>
<td>.17</td>
</tr>
</tbody>
</table>

* Significant at 5% level
** Significant at 1% level
It is interesting to note that among these non-veteran men at college A the correlations of the academic aptitude test scores with persistence are .13 with number of semesters in school and .10 with graduation.

The results thus indicate that it is possible to reject the null hypothesis of no significant relationship in both schools.

**Hypothesis V.B.** There is no significant relationship between the number of men friends a non-veteran has and his persistence in college.

To test the above hypothesis the same-sex sociometric score was correlated with the two measures of persistence. Table 7 shows that the results are very similar to those obtained when the total friendship score was used. The correlations in the .40's at school A are significant at the 1 per cent level of significance. At school B the correlation of the same-sex sociometric score with one measure of persistence (graduation) is significant at the 5 per cent level of confidence, whereas the correlation with semesters in school does not reach this level. Since three of the four correlations are statistically significant, it seems safe to reject the null hypothesis of no relationship between friendship from men students and persistence in college of non-veterans.
Hypothesis V.C. There is no significant relationship between the opposite-sex sociometric score of non-veteran men and their persistence in college.

In Table 7 are given the results of correlating the opposite-sex sociometric score with the two measures of persistence used in this study. The four correlations range from .06 to .17 and none of them reaches the 5 percent level of significance. At school B, the two correlations of .17 between opposite sex and semesters in school and opposite sex and graduation approach this criterion, however (.06 level). Nevertheless it is not possible to reject the null hypothesis of no significant relationship between friendship choices by women and non-veteran persistence in college.

Summary. The results of correlating acceptance with the persistence of non-veteran men in college indicate that at college A there is a definite relationship between being chosen as a friend by other men and continuing a college career. The four correlations at college A between the same-sex sociometric score and persistence and between the total sociometric score and persistence range between .42 and .44 and are significant at a degree better than the 1 percent level of significance. Friendship votes from women seem much less important in determining persistence of these male non-veterans. At college B, the correlations
are considerably lower but both total and same-sex socio-
metric measures do correlate with graduation at the 5 per
cent level of confidence.

The results indicate that among college men who have
not been in the service there is a substantial relationship
between friendships expressed by other men and whether or
not the non-veteran will graduate from college. The degree
of this relationship does vary between the two schools
studied. Further discussion will be delayed until the
veteran students are studied.

Hypothesis V D. There is no significant relation-
ship between a non-veteran's acceptance by other students
and his grades in school.

In order to test this hypothesis the total sociomet-
ric scores of freshman men who had entered college directly
from high school were correlated with their freshman and
cumulative grades. The results are presented in Table 7.
Partial correlations were calculated in an attempt to elim-
inate the effects of academic aptitude. At school A the
two correlations of .28 and .30 are statistically signifi-
cant, one at the 5 per cent level of confidence and the
other at the 1 per cent level. At school B, the low posi-
tive correlations are not statistically significant. The
data thus make it possible to reject the null hypothesis at
school A, but not at school B.
Hypothesis V E. There is no significant relationship between the number of male friends a non-veteran has and his grades in school.

In Table 7 are presented the results of correlating the same-sex sociometric scores with the grades made by non-veteran men at colleges A and B. The results are similar to those of Hypothesis V D. At school A the correlation of .23 between number of friends and freshman grades is significant at the 5 per cent level and the correlation of .32 between same-sex score and cumulative grades is significant at the 1 per cent level. The low positive correlations at college B are not significant. The null hypothesis thus may be rejected by the data from one school but the results do not substantiate this position at the other school.

Hypothesis V F. There is no significant relationship between a non-veteran's being chosen as a friend by women students and his grades in college.

To test this hypothesis the opposite-sex sociometric scores of non-veterans were correlated with the freshman and cumulative grades that they made. The results are presented in Table 7. At college A the correlations are not statistically significant. At college B, however, one correlation is statistically significant at the 5 per cent level and the other (.17) is significant at the 6 per cent
level. It appears that the null hypothesis of no significant relationship between choices by women and grades can not be rejected at school A, but may be rejected at about the 5 per cent level of confidence at school B.

Summary. It is interesting to note the reversal of relationships in the two schools. Apparently, in this study of non-veteran men, same-sex and total sociometric scores are related to grades at school A, whereas at school B there is an indication that the opposite-sex friendships are more apt to be related to grades. The significance of these findings will be discussed at the end of Problem VI.

Problem VI. To determine the relationship between social acceptance and the persistence and grades of freshman veterans

In the above study of non-veteran freshmen, a significant relationship was found at college A between total friendship scores and persistence and grades, and also between the number of men friends and persistence and grades. The next question to be answered was whether the same relationship existed among veteran students. Consequently, the freshman students who had served in any branch of the armed forces were selected for further study.
Hypothesis VI A. There is no significant relationship between the total number of students who choose a veteran as a friend and the persistence of that man in college.

To test the above hypothesis the total sociometric scores of freshman veteran students at colleges A and B were correlated with the persistence and the grades of the men in school. In this problem, as in the preceding two problems, all the correlations are partial correlations, calculated to minimize as much as possible the effects of academic aptitude. Table 8 presents the results of the calculations. The four correlations range from -.01 to .03. Consequently no significant relationship between acceptance and persistence among veterans is demonstrated. The null hypothesis cannot be rejected.

Hypothesis VI B. There is no significant relationship between the number of men who choose a veteran as a friend and the veteran's persistence in, or graduation from, college.

The same-sex sociometric score of freshman veteran students were correlated with the number of semesters the veterans remained in college and with whether or not they graduated. The results are presented in Table 8. The four correlations range from -.05 to .17, and none of them is statistically significant. It is not possible,
Table 8

Partial Correlations of Sociometric Scores with Persistence and Grades of Freshman Veterans

<table>
<thead>
<tr>
<th>Sociometric scores</th>
<th>N</th>
<th>Persistence</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of semesters</td>
<td>Graduate or not</td>
</tr>
<tr>
<td>Total sociometric scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>79</td>
<td>.03</td>
<td>-.02</td>
</tr>
<tr>
<td>College B</td>
<td>78</td>
<td>-.02</td>
<td>-.01</td>
</tr>
<tr>
<td>Same-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>79</td>
<td>.17</td>
<td>.13</td>
</tr>
<tr>
<td>College B</td>
<td>78</td>
<td>-.05</td>
<td>.00</td>
</tr>
<tr>
<td>Opposite-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>79</td>
<td>-.21</td>
<td>-.24*</td>
</tr>
<tr>
<td>College B</td>
<td>78</td>
<td>.01</td>
<td>-.06</td>
</tr>
</tbody>
</table>

* Significant at 5% level
therefore, to reject the null hypothesis of no significant relationship.

**Hypothesis VI C.** There is no significant relationship between the number of women who choose a male veteran as a friend and the veteran's persistence in college.

To test the above hypothesis the opposite-sex sociometric scores at colleges A and B were correlated with the two measures of persistence. At school A the correlation between opposite-sex sociometric scores and the number of semesters the freshman veterans continued to attend college is \(-.21\), a figure that does not quite reach the 5 per cent level of significance. The correlation between opposite-sex sociometric scores and graduation is \(-.24\) and this is significant at the 5 per cent level. The results thus seem to indicate that for veterans at school A there is a negative relationship between friendship votes received from women and persistence in college.

In school B the two correlations between the opposite-sex sociometric score and persistence in college are in the chance range. The null hypothesis may be rejected on the basis of the data at school A, but not rejected at school B.

**Summary.** The correlations of sociometric measures with the persistence of freshman veterans in their college careers are all chance with the exception of one negative
correlation. There is no significant correlation between total or same-sex sociometric score and persistence. At college A there does seem to be some indication of a significant negative relationship between friendships expressed by women (the opposite-sex sociometric score) and persistence, but this relationship is not present in college B.

Hypothesis VI D. There is no significant relationship between the number of students who choose a freshman veteran as a friend and that man's grades in college.

The above null hypothesis was tested by correlating the total sociometric scores of the freshman veterans at colleges A and B with the freshman grades and cumulative grades that the men achieved. Partial correlations were calculated for the testing of this and the succeeding hypotheses in an attempt to eliminate the effects of academic aptitude. The results of these partial correlations are presented in Table 8. The four correlations range from .09 to .14 and none of these is statistically significant. It is thus not possible to reject the null hypothesis of no significant relationship between the total number of students listing a veteran as a friend and the veteran's grades in college.
Hypothesis VI E. There is no significant relationship between the number of times a freshman veteran is chosen as a friend by other men students and the grades the veteran achieves in college.

In order to test this hypothesis the same-sex sociometric scores at colleges A and B were correlated with the grades that students who had been in the service achieved when they returned to college. The results are presented in Table 8. The correlations are all positive and range from .10 to .16. None of these correlations is statistically significant. It is thus not possible to reject the null hypothesis that there is no relationship between a veteran's acceptance by other men students and his grades in college.

Hypothesis VI F. There is no significant relationship between the number of women students who choose a freshman veteran as a friend and the grades that the veteran achieves in college.

In order to test this hypothesis the opposite-sex sociometric scores for the veteran students at colleges A and B were correlated with the freshman and cumulative grades that the veterans received. The results of these calculations are presented in Table 8. The four correlations range from -.02 to .11, and none of these is statistically significant. It is thus not possible to reject
the null hypothesis of no significant relationship between a veteran's grades and the number of female students who chose him as a friend.

**Summary.** The three hypotheses above have dealt with the relationship of social acceptance of veterans at two colleges with the grades that the veterans achieved. Correlations of three different types of sociometric scores with both freshman and cumulative grades resulted in no correlations with statistical significance. Among the freshman veteran students studied, therefore, there is no significant relationship between acceptance and grades.

**Discussion.** The groups of men studied in Problems V and VI were differentiated on the basis of one variable: the men of Problem VI had all served in the armed forces, those in Problem V had not. This means that veterans, in addition to the experience of life in the service, were also somewhat older than the non-veteran freshmen who were the subject of study in Problem V. The results of the study of the importance of social acceptance as it is related to persistence and grades in college showed significant differences between the two groups of men. Among the non-veteran men there was a significant positive correlation between the total number of times a man was chosen as a friend or the number of times he was chosen as a friend by other men and whether or not the non-veteran graduated.
In addition, at school A these two sociometric measures also correlated very significantly with the number of semesters that the man remained in school. Among the veterans, however, there were no significant positive correlations. The only correlation of statistical significance was a negative one between opposite-sex sociometric score and graduation at school A.

These results tend to substantiate the basis hypothesis first discussed in Problem IV, that the social acceptance achieved by a freshman student in college is a factor in determining how long the student will persist in college and also whether or not he will graduate. The persistence of the young non-veteran was evidently related to the acceptance he received from other students, particularly other men students. The behavior of the more mature veteran was not so affected by whether or not he had many friends; if anything, he tended to quit school if attractive to women. This negative relationship between friendship with women and persistence at school A may be due to two factors. It is possible that some veterans who were not seriously interested in college work accepted the educational provisions of the G. I. Bill and entered a social school such as A. The veterans who were least motivated toward college work might attend more parties, do more dating, and thus make more friendships with women students.
than would the more academic-minded veterans. A second interpretation is that the veterans who were most attractive to women married earlier and left school to support a family.

The author recognizes the possibility that the positive correlations which exist between sociometric scores and persistence may be due to the fact that men like, and choose as friends, men who have such qualities as drive, ambition, direction, and organization. These qualities would also affect persistence and grades. However, if this is the underlying "cause" of the acceptance-persistence relationship, it is more difficult to account for the differences between the veteran and non-veteran groups, because it would mean that non-veterans were chosen as friends on the basis of the previously mentioned qualities, but that these qualities were not considered in friendships among veteran students. It would seem more logical to assume that age and experience resulted in a change in the veteran himself.

If a maturity factor is operating, it is present in one academic climate (school A) but not the other (school B). It appears that a group of younger non-veterans are attending school A, who value friendship of other men, but that older veterans at this same school who develop friendships with women are more apt to leave school. On the
other hand, in school B these particular relationships do not affect persistence or grades except with the possibility that non-veterans with friends (either men or women) are more apt to stay in school.

Problem VII. To determine the relationship between acceptance and persistence and grades among freshman fraternity men.

An important factor in the social organization of college A was the presence of fraternities. It could be hypothesized that men who joined these organizations felt a need to belong and to conform and that there would be a significant relationship between their sociometric scores and persistence. To investigate this hypothesis the men who belonged to fraternities were selected for additional study.

Hypothesis VII A. There is no significant relationship between the total number of friendship choices received by fraternity freshmen and the persistence of the men in college.

The partial correlations of the total sociometric score with the two measures of persistence are presented in Table 9. The correlations of .18 and .15 are too low to be statistically significant so it is not possible to reject the null hypothesis of no significant relationship between total expressed friendships and persistence.
Table 9

Partial Correlations of Sociometric Scores with Persistence and Grades of Fraternity Freshmen

<table>
<thead>
<tr>
<th>Sociometric scores</th>
<th>N</th>
<th>Persistence</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of semesters</td>
<td>Graduate or not</td>
</tr>
<tr>
<td>Total sociometric scores</td>
<td>112</td>
<td>.18</td>
<td>.15</td>
</tr>
<tr>
<td>Same-sex sociometric scores</td>
<td>112</td>
<td>.22*</td>
<td>.20*</td>
</tr>
<tr>
<td>Opposite-sex sociometric scores</td>
<td>112</td>
<td>-.07</td>
<td>-.05</td>
</tr>
</tbody>
</table>

* Significant at 5% level
Hypothesis VII B. There is no significant relationship between the number of men who choose a fraternity freshman as a friend and the persistence of the fraternity man in college.

To test this null hypothesis the same-sex sociometric scores were correlated with the number of semesters that the fraternity man remained in school and with whether or not he graduated. The resulting correlations were .22 and .20 respectively, and they are statistically significant at the 5 per cent level of confidence. It is thus possible to reject the null hypothesis that there is no significant relationship between the number of times men students choose a fraternity member as a friend and the persistence of the fraternity freshman in college.

Hypothesis VII C. There is no significant relationship between the number of times a member of a fraternity is selected as a friend by women students and the persistence of the man in college.

To test this hypothesis the friendship choices received from women students (opposite-sex sociometric scores) were correlated with the number of semesters fraternity freshmen remained in college and with whether or not they graduated. The results of these calculations for the 112 fraternity men in this study are presented in Table 9. The two correlations of -.07 and -.05 are not
statistically significant. It is thus not possible to reject the null hypothesis of no significant relationship.

The correlations of three sociometric measures with the persistence in college of fraternity men reveal that there was a significant relationship between being chosen as a friend by other men and the persistence that the fraternity member displayed in pursuing his college career. The correlations of friendship choices received from women with persistence are negative, but not statistically significant.

Hypothesis VII D. There is no significant relationship between the total number of friendship choices received and the college grades achieved by fraternity men.

The correlations of the total sociometric scores with freshman and cumulative grades are .20 and .18 respectively. The .20 correlation is significant at the 5 percent level of confidence and the correlation of .18 almost reaches this level. It is thus probably safe to reject the hypothesis of no significant relationship between total friendships and grades among fraternity men.

Hypothesis VII E. There is no significant relationship between friendship choices received from other men and a fraternity member's grades in college.

To test this hypothesis the sociometric score derived from the number of times a fraternity freshman was
chosen as a friend by other male students was correlated with the college grades he later received. The correlation results of .19 and .18 are very similar to those of Hypothesis VII D. The correlation of .19 between same-sex sociometric score and freshman grades is significant at the 5 per cent level of confidence. The correlation of .18 between same-sex sociometric scores and cumulative grades does not quite reach the 5 per cent criterion. It would seem that the hypothesis of no significant relationship could be rejected.

Hypothesis VII F. There is no significant relationship between friendships expressed by women students and a fraternity man's grades in college.

The opposite-sex sociometric scores of the men students at college A who belonged to fraternities were correlated with their grades. The results are presented in Table 9. Neither of the two correlations is statistically significant. It is thus not possible to reject the null hypothesis.

The correlations of three different sociometric scores with the freshman and cumulative grades of fraternity men indicated that there was a positive relationship between total and same-sex sociometric scores and grades. The correlations between opposite-sex sociometric scores and grades were not statistically significant.
Discussion. It had been hypothesized that men who joined a fraternity would be the ones to whom social acceptance was most important. The results indicate that there was a significant correlation between the number of votes a fraternity member received from other men and his persistence in school. But this relationship was not so great as that found in Problem IV for all men or Problem V for non-veteran men. The fraternity population was composed of both veterans and non-veterans and in all probability it was the presence of the veterans in this group that reduced the relationship. It would be interesting to compare the effect of sociometric acceptance on persistence and grades of non-fraternity men, but this group was too small (N=19) to permit reliable analysis.

Problem VIII. To determine the relationship of acceptance with persistence and grades among women college freshmen

Thus far all the subgroups studied have been composed of men. Significant positive correlations between some measures of acceptance and persistence were found among non-veterans, fraternity members, and men students in general. Only among veteran students were there no significant positive correlations. The question now is whether this relationship of acceptance to persistence is also present among women students.
In addition to the two schools, A and B, which have been the location of the sociometric study of men students, the data from an additional school, college C, were available for the study of women students alone. The subjects of the sociometric study at college C were freshman women living in a large dormitory in a state university. All the friendship choices were made by other women living in the same dormitory, so the data are similar to the same-sex category of Dixon's study. The data from college C will be considered in Hypotheses VIII B and VIII E, which pertain to the friendship choices made by women for women.

**Hypothesis VIII A.** There is no significant relationship between the total number of times a woman student is chosen as a friend by other students and her persistence in college.

To test the above null hypothesis the total sociometric scores of the freshman women students at colleges A and B were correlated with the number of semesters that the women remained in college and whether or not they graduated. Partial correlations, to eliminate the effects of academic aptitude, were then calculated, and all the correlations used in the succeeding problems are partial correlations.

The results are presented in Table 10. The four correlations range from .05 to .13 and, although they are
Table 10
Partial Correlations of Sociometric Scores with Persistence and Grades of Freshman Women

<table>
<thead>
<tr>
<th>Sociometric scores</th>
<th>N</th>
<th>Persistence</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of</td>
<td>Freshman</td>
</tr>
<tr>
<td></td>
<td></td>
<td>semesters</td>
<td>grades</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Graduate or not</td>
<td></td>
</tr>
<tr>
<td>Total sociometric scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>108</td>
<td>.09</td>
<td>.13</td>
</tr>
<tr>
<td>College B</td>
<td>150</td>
<td>.06</td>
<td>.05</td>
</tr>
<tr>
<td>Same-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>108</td>
<td>.07</td>
<td>.10</td>
</tr>
<tr>
<td>College B</td>
<td>150</td>
<td>.00</td>
<td>-.01</td>
</tr>
<tr>
<td>College C</td>
<td>95</td>
<td>.00</td>
<td>-.04</td>
</tr>
<tr>
<td>Opposite-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>108</td>
<td>.09</td>
<td>.07</td>
</tr>
<tr>
<td>College B</td>
<td>150</td>
<td>.18*</td>
<td>.15</td>
</tr>
</tbody>
</table>

* Significant at 5% level
all positive, none of them is statistically significant. It is thus not possible to reject the null hypothesis of no significant relationship between total acceptance and persistence among college women.

Hypothesis VIII B. There is no significant relationship between the number of times a freshman woman is chosen as a friend by other women and her persistence in college.

The above null hypothesis was tested by correlating the same-sex sociometric scores of freshman women students at colleges A, B, and C with the number of semesters that the girls remained in college and whether or not they graduated. The results are presented in Table 10. The six correlations are very similar, ranging from -.04 to .10. None of these correlations approaches statistical significance, thus it is not possible to refute the null hypothesis of no significant relationship between same-sex acceptance and a woman student's persistence in college.

Hypothesis VIII C. There is no significant relationship between the number of times a freshman woman is chosen as a friend by men students and her persistence in college.

This hypothesis was tested by correlating the opposite-sex sociometric scores of freshman women students at colleges A and B with the persistence of women at those
schools. The results are presented in Table 10. The four correlations are all positive and range from .09 to .18. Three of these are not statistically significant, but the correlation of .18 between number of friendship votes received from men students and the number of semesters that the women remained at college B is statistically significant. Despite this one significant correlation the evidence does not seem to warrant the rejection of the null hypothesis.

**Hypothesis VIII D.** There is no significant relationship between the total number of times a woman student is chosen as a friend and her grades in college.

The correlations of the total sociometric scores with the freshman and cumulative grades that freshman women made at colleges A and B are presented in Table 10. The correlations range from .01 to .11 and none of these is statistically significant. It is thus not possible to reject the null hypothesis of no significant relationship between total number of friendship votes received and the grades achieved.
Hypothesis VIII E. There is no significant relationship between the number of friendship choices that a freshman woman receives from other women and the grades she achieves in college.

The above hypothesis was tested by correlating the same-sex sociometric scores of freshman women at schools A, B, and C with the freshman and cumulative grades that they received. The resulting correlations range from -.01 to .15. None of these correlations reaches the level of statistical significance, so it is not possible to reject the null hypothesis.

Hypothesis VIII F. There is no significant relationship between the number of friendship votes a woman student receives from men and the grades that she achieves in college.

The above hypothesis was tested by correlating the opposite-sex sociometric scores of freshman women at schools A and B with the freshman and cumulative grades that they received. The resulting correlations range from .07 to .14. None of these correlations reaches the level of statistical significance, so it is not possible to reject the null hypothesis.

Discussion. An overall view of Table 10, which presents all the correlations between the various sociometric scores and the measures of persistence and grades among
freshman women reveals only one correlation which is not well within the limits of chance. Although not much weight can be placed on this one statistically significant correlation of .18, it is interesting to observe that it occurs between the number of times a woman student is chosen as a friend by men students and the number of semesters that the woman remains in college B. These overall results for freshman women contrast with the equivalent results for the large body of freshmen, which are presented in Table 6. Eleven out of the twenty-four correlations between men's acceptance and their persistence and grades are significant at the 5 per cent level of probability. The highest correlations occur at school A between acceptance by other men and persistence; acceptance by women is not related to persistence or grades at school A. At school B the correlations of the sociometric scores with persistence are all low and not significant for the three different measures—total, same-sex, and opposite-sex. When only the non-veteran men at these schools are considered, the correlations between acceptance and persistence are even higher at school A, and at school B there also appears to be a significant acceptance-persistence relationship.

The overall results indicate that the persistence of men in some colleges is more related to the social acceptance that the men achieve than is the case among women. In
addition, among men at some schools it is friendships received from other men that are most important.

Although it is impossible to know the underlying causes of these differences between men and women, it is interesting to speculate. Do the results indicate that among men and women students of the same age the men's actions are more dependent upon the attitudes of their associates than are the women's? Does it mean that men are influenced primarily by same-sex friendships whereas women, if their behavior is affected, are influenced more by the opposite sex? These generalizations go beyond the limits of the present data, but the results obtained in this study can form the basis for some interesting research.

Problem IX. To determine whether sorority membership affects the relationship of acceptance to persistence and grades among college freshmen

The previous problem revealed that there was virtually no relationship between acceptance and persistence and grades among freshman women students in general. At two of the three colleges studied, social sororities existed on the campuses and it seemed possible that among this more select group of "joiners" the acceptance-persistence relationship might be different. Consequently the members of
sororities at schools A and C were selected for further analysis.

**Hypothesis IX A. There is no significant relationship between measures of acceptance and persistence among freshman sorority members.**

To test this hypothesis the various sociometric scores from school A and the same-sex sociometric score from school C were correlated with the two indices of persistence used throughout this study. The results are presented in Table 11. The correlation figures range from .08 to .20, but partly because of the smaller number of cases available for this group, none of these correlations is statistically significant. It is thus not possible to refute the null hypothesis that among sorority members there is no significant relationship between acceptance and persistence.

**Hypothesis IX B. There is no significant relationship between measures of acceptance and grades among freshman sorority members.**

In order to test the above null hypothesis the sociometric scores of sorority freshmen at colleges A and C were correlated with the freshman and cumulative grades that the members received during their college career. The results are reported in Table 11. The correlations range from .04 to .23 and none of these reaches the 5 per cent
### Table 11

Partial Correlations of Sociometric Scores with Persistence and Grades of Freshman Sorority Members

<table>
<thead>
<tr>
<th>Sociometric scores</th>
<th>N</th>
<th>Persistence</th>
<th>Grades</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of semesters</td>
<td>Graduate or not</td>
<td>Freshman grades</td>
<td>Cumulative grades</td>
</tr>
<tr>
<td>Total sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>90</td>
<td>.12</td>
<td>.15</td>
<td>.10</td>
<td>.09</td>
</tr>
<tr>
<td>Same-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>90</td>
<td>.08</td>
<td>.12</td>
<td>.11</td>
<td>.08</td>
</tr>
<tr>
<td>College C</td>
<td>49</td>
<td>.20</td>
<td>.08</td>
<td>.11</td>
<td>.23</td>
</tr>
<tr>
<td>Opposite-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>90</td>
<td>.09</td>
<td>.08</td>
<td>.08</td>
<td>.04</td>
</tr>
</tbody>
</table>
level of statistical significance. It is thus not possible to reject the null hypothesis of no significant relationship between acceptance and grades among sorority members.

Summary. The results of correlating three different sociometric scores at one school and one at another school with measures of persistence and grades indicate that among sorority freshmen there is no significant relationship between acceptance and either persistence or grades. The correlations tended to be a few points higher than those for women students in general, but the changes are not significant.

The results of Problems VIII and IX indicate that, in general, the behavior of women as measured in this study is not related to the friendships expressed by their fellow students. It had been theorized earlier that if the behavior of either sex were influenced by social acceptance it would be more apt to be the women students. It was thought that men would feel more goal-directed, would place more importance on graduating and getting a job than women did, and that the academic careers of men would therefore be less dependent upon the social reactions of fellow students. Such is not the case according to this study. The persistence in college of men, particularly young men who have not been in service, is related to the number of times
they are chosen as a friend by other students, particularly other men students.

Problem X. To determine the relationship of acceptance to persistence and grades among students who enter college at midyear

It was mentioned earlier in this study that the data from students who had entered college at the start of the second semester were not included in any of the previous calculations. It was felt that since these students had not had an equal length of time in which to make friends, the sociometric results would not be comparable to those of the main body of freshmen. The author was curious about this group of second semester entrants, however, and desired to find out whether the difference in friendship making time or the characteristics of people who entered at midyear would result in acceptance-persistence relationships which were different from those of the first semester entrants. It should be noted that the second semester entrants are indeed different from the main body of freshman students at colleges A and B. All of the midyear entrants at both schools are male. At school A, 77 per cent of them are veterans, and at school B 69 per cent of the second semester entrants are veterans.

The sociometric scores of students who entered at
the start of the second semester were correlated with their persistence and grades. The results are shown in Table 12. Among these predominantly veteran second semester students at college B the same-sex sociometric score correlated at the 5 per cent level of confidence with both graduation and cumulative grades. However, among the first semester veteran students at both schools there are no significant positive correlations with either persistence or grades.

When the results of these male second semester entrants (Table 12) are compared with those of male first semester entrants (Table 6), it can be noted that there is a reversal in the persistence-predictability value of sociometric scores at the two schools. Same-sex and total sociometric scores of male first semester entrants correlated significantly with persistence at school A, but not at school B; same-sex and total sociometric scores of second semester entrants correlated significantly with graduation at school B but not at A.

It is impossible to ascertain from the above data whether the differences in the behavior of the second semester group are due to the shorter period of time the students had in which to make friends or due to the different characteristics of the students who enter at midyear. The results do indicate once again the need for more research in this area. It is possible that sociometric data
Table 12
Partial Correlations of Sociometric Scores with Persistence and Grades of Freshman Students (Men) Who Entered College at the Start of the Second Semester

<table>
<thead>
<tr>
<th>Sociometric scores</th>
<th>N</th>
<th>Persistence</th>
<th>Grades</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of semesters</td>
<td>Graduate or not</td>
<td>Freshman grades</td>
</tr>
<tr>
<td>Total sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>65</td>
<td>.10</td>
<td>.13</td>
<td>-.02</td>
<td>.08</td>
</tr>
<tr>
<td>College B</td>
<td>38</td>
<td>.24</td>
<td>.34*</td>
<td>-.17</td>
<td>.32*</td>
</tr>
<tr>
<td>Same-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>65</td>
<td>.10</td>
<td>.13</td>
<td>-.05</td>
<td>.08</td>
</tr>
<tr>
<td>College B</td>
<td>38</td>
<td>.26</td>
<td>.37*</td>
<td>-.20</td>
<td>.36*</td>
</tr>
<tr>
<td>Opposite-sex sociometric scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College A</td>
<td>65</td>
<td>.18</td>
<td>.14</td>
<td>-.21</td>
<td>.13</td>
</tr>
<tr>
<td>College B</td>
<td>38</td>
<td>.05</td>
<td>.05</td>
<td>-.21</td>
<td>.04</td>
</tr>
</tbody>
</table>

* Significant at 5% level
obtained after only one semester at college would be as predictive of academic persistence as those obtained at the end of the freshman year. If this were the case, the relatively unaccepted student could be identified sooner. Early identification would be of definite value in helping unhappy students who sometimes do not even endure through one semester or do not return to college for the second semester.

Summary and Discussion

This dissertation has been concerned with the study of the relationship of social acceptance to the persistence and grades that a student achieves in college. Sociometric data from freshman students at three colleges were studied. The students were then divided into groups according to the criteria of sex, veteran status, fraternity membership, and semester of entrance. Various similarities among groups and schools were found and some dissimilarities also were encountered.

When the total sociometric scores for the freshmen at colleges A and B were correlated with measures of persistence, a positive and statistically significant relationship was found to exist between the total number of times a student was chosen as a friend and the number of semesters he remained in college. In other words, a student who was accepted socially tended to stay in college
for a longer period of time. On the basis of the data available, it is impossible to say that acceptance was the cause of greater persistence. It is possible that the causation was in other directions, with students who possessed qualities such as organization and direction being chosen as friends. But it also is not difficult to believe that a lack of persistence may be due in part to a lack of acceptance. College life is social in nature and can force awareness of social deficiencies and inequalities upon students. Thus, leaving college may in some cases be an escape by unaccepted students from an intolerable social situation. In any case, regardless of the cause, a relationship between total acceptance scores and persistence and also between acceptance and grades was found to be present among college students.

It must be pointed out here that although the correlations between acceptance and persistence for freshman students in general were statistically significant—that is, the odds of correlations of this size occurring by chance were five in one hundred or fewer—nevertheless the correlations are too low to be of much predictive value. The prediction of the persistence behavior of any one student would not be improved usefully by knowing the total number of students who chose him as a friend.

One factor which might have lowered the
acceptance-persistence correlations is the fact that the sociometric study was made toward the end of the freshman year. Quite a few students dropped out of college during and at the end of the first semester and during the second semester. It is possible that these were some of the more unhappy and possibly more unaccepted students. Students who complete one year of college have already been somewhat screened as far as persistence is concerned.

The total sociometric score discussed thus far was composed of friendship votes received from members of both sexes. When this total score was divided according to whether the votes came from students of the same sex or the opposite sex, and the results were correlated with measures of persistence and grades in the various groups of students studied, some trends appeared: among the men who were freshmen at college A, there was a definite relationship between the number of votes that a man received (particularly from other men) and his persistence in college. The academic grades that he achieved also were related to this popularity with other men students, even when the effects of academic aptitude were held constant. For the men at this school, friendship choices received from women students were not related to either persistence or grades.

The situation at school B contrasts with school A in that at B the correlations for men students generally were
lower and the various sociometric scores were more equal in their lack of predictability. Part of the difference between the schools in the importance of men friends or women friends may be due to the social structure of the two campuses. At school A the majority of men and women are organized into fraternities, there are no coeducational dining rooms and few college-sponsored activities. The reverse of these three conditions is to be found at college B. It is thus possible that men found it more difficult to develop casual friendships with women at A.

Further investigation of one of the social differences between colleges A and B, the presence of fraternities at A, revealed that the persistence of fraternity members was positively and significantly related to the same-sex sociometric score and not related to the opposite-sex sociometric score.

It was interesting to note that the acceptance-persistence correlations were no higher among fraternity men than they were among men students in general. In fact, because of the smaller number of cases involved, the statistical significance was decreased. Evidently it was not the fraternity system alone, or the type of man who joined such an organization, that was responsible for the acceptance-persistence relationship.

A more important variable than fraternity membership
in predicting the persistence of freshman men students was whether or not the man had served in the armed forces. The highest correlations between persistence and acceptance were found among the non-veteran men, particularly those enrolled at college A. Once again, it was the friendship choices made by other male students which were most closely related to how long a freshman non-veteran remained in college and whether or not he graduated. Among veterans who had entered at the start of the year, on the other hand, there were no significant positive correlations between acceptance and persistence at either school. It would seem that it is the immaturity of the non-veteran which made him dependent upon friendships and which influenced his college career. The results of this study of veterans suggested that for some students there may be advantages in working for a year or two after the completion of high school training and before starting college. It is possible that greater experience and maturity might help to make some men more able to cope with college social life.

The results of the study of men students entering at the start of the second semester differed from the correlations of first semester entrants. It is possible that some of this difference is due to the fact that the students were tested before they had completed one semester of college work. If it is true that sociometric scores obtained
toward the end of one semester's college work have as much predictive value as those obtained later in the year, it would mean that potential drop-out students could be identified sooner. It is evident that more research is needed on this question.

The sociometric study of freshman women revealed that there was no relationship between the number of friendship choices a woman received from other women and her persistence or grades in college. There was an indication, however, that the persistence of women students in one school at least might be related to the number of men students who chose them as friends. This would mean that there was a tendency for women to stay in school longer if they were enjoying the companionship of men, although once again the correlations are too low to be useful predictively.

When the women students who belonged to sororities were studied with regard to persistence it was found that the correlations were all positive, but that none of them was high enough to be statistically significant. Thus even among women whose desire to belong was sufficiently great to cause them to join sororities, acceptance was not significantly related to graduation.

There is no way to know for sure the reasons behind the lack of a relationship between the acceptance a
freshman woman receives from other women students and her persistence. It is possible, however, to make some guesses. One hypothesis is that women might be more conscious of the importance of social acceptance and thus make greater efforts to develop social skills and to conform to the mores of a college campus. Some support for this hypothesis is found in the study of school children made by Kuhlen and Collister (31). They found that there was less contrast in various personality traits between girl drop-outs and graduates than was found among boy drop-outs and graduates. Their study also revealed a greater acceptance-persistence relationship among boys than was found among girls. An additional interesting fact is that even among these young boys it was the sociometric choices made by other boys which best predicted who would graduate.

Another factor which may have influenced the correlations of acceptance with persistence among the women students is the student personnel programs of the colleges themselves. Women traditionally have received the greater help in adjusting to college through such aids as dormitory counselors, big sisters, house mothers, pre-entrance counseling and correspondence, and so forth. It is possible that this extra assistance given to some women who otherwise might have been unhappy enough to drop out would minimize the acceptance-persistence correlations.
An implication of this study, therefore, is that the importance of social acceptance to men students—at least at some colleges—is greater than had been suspected. This indicates that more student personnel attention could profitably be given to men students.

It has been obvious throughout the writing of this study that in some basic respects the results from the different schools were similar and in other areas they were quite different. For example, the overall correlations between the total sociometric scores with persistence and grades were very much alike at colleges A and B. However, when the whole student body was divided into groups and the sources of the acceptance were considered, there were different trends at the two schools. This problem should be investigated in additional schools to determine whether either of the patterns found here is a prevailing one. It is also quite possible that the importance of social acceptance and the source of the acceptance may depend upon the social structure of the individual school.

One problem in the interpretation of the data from different schools arises when the purpose and efforts of a student personnel program are considered. Assuming that being accepted is important to whether students "stick it out" through college, one of the functions of a good student personnel program would be to identify the socially
maladjusted students (the potential drop-outs) as early as possible and through counseling, dormitory organization, and campus activities make an extra effort to help the unaccepted student make some friends or achieve some recognition. Admittedly, the ideal program is easier to talk about than to achieve. But if it were functioning, the effect would be to reduce the correlations between acceptance and persistence in that previously unaccepted students would receive additional motivation for remaining in college. It is thus possible that low correlations between acceptance and persistence at a given college might indicate not that acceptance was unimportant to the students at that school but rather that an efficient student personnel program was in operation. An evaluation of the program at a particular school would help to assess this factor.

In the present situation it is true that at college B there was a full-time Director of Student Activities and more all-college social functions than at college A. But it is also true that at college B more recognition was given to "brains" and grades than at college A where the social organizations had considerable importance. It thus might be easier for a student who was not well liked to obtain satisfaction and recognition through academic achievement at school B than at school A.

Although the three schools studied here differed
rather markedly from each other in their basic social structure, they were all located in the same state. There would be value in expanding this study geographically to find out whether there are regional differences in the relationship that acceptance bears to persistence.

The study also probably should be repeated during a period of at least relative world peace. At the time that the sociometric data at school C were collected the United States was at war. When the data at schools A and B were obtained, World War II had just ended and many veterans were enrolled at both schools. The social structure of the campus might well be influenced by the presence of these older students. The results in this study show that the acceptance-persistence relationships are different for the veteran and the non-veteran students.
CHAPTER V

SUMMARY AND CONCLUSIONS

This study was concerned with the investigation of the possible relationship between an individual's social acceptance and his persistence and grades in college. The problem of predicting academic success has been the subject of a great deal of research and, to a lesser degree, the importance of social acceptance among students has been studied. There has been very little work done on the possible relationship between these two factors.

The data used in this study of acceptance and persistence at the college level had to meet the following requirements: that the information about the acceptance of students be sociometric in nature, that good sociometric procedure had been followed during the collection of the data, that sufficient time had elapsed since the collection of the data to allow for the graduation of the students being studied, and that several different types of higher educational institutions were represented. Data from two sociometric studies met the above requirements. One was a study made by Dixon of two coeducational colleges with differing social structures. The other was a study made by Heilry and Robinson of the residents of a large dormitory for women at a state university. Permission was received
from the authors to use their sociometric data and from the colleges involved to have access to their student record cards.

It was decided to limit this study to freshman students, since early prediction of those who might drop out of college was one of the goals. For each freshman student at colleges A and B, the two colleges studied by Dixon, a total sociometric score was recorded which represented the total number of times a student was chosen as a friend by other students at that college. In addition, this total sociometric score was subdivided according to whether the votes came from members of the same sex or the opposite sex. At school C, where only women students had been studied, the sociometric score represented same-sex friendship choices.

The above sociometric information about each of the freshman students studied at colleges A, B, and C was entered on a work card. The criteria of persistence and grades which were used throughout the study were then obtained from the records of the various institutions. The two measures of persistence were (1) the number of semesters that the student remained in college and (2) whether or not he graduated. The grade measures were (1) the freshman grades received by the student and (2) the cumulative grades that he achieved. In addition, the following
information was recorded about each student: sex, academic aptitude, whether or not he was a veteran, sorority or fraternity membership, and whether he entered college during the first or second semester. Because of the size of the sample and the number of variables to be considered, this information was transferred to IBM cards.

The general topic of the relationship of acceptance to academic success was then divided into ten major problems. Within each problem the hypotheses about the relationship of each of the three sociometric scores to the criteria of persistence or grades were stated in the null form. The hypotheses were tested by correlating the particular sociometric measure with the particular criterion being considered by means of the original score formula. The significance of the resulting coefficients of correlation was obtained from the Wallace-Snedecor tables of significance.

The ten problems which were investigated in this study are described below.

Problem I concerned the relationship of the total acceptance score to the persistence and grades of freshman college students. The total sociometric scores of students at colleges A and B were correlated with two measures of persistence and two measures of grades. The correlations of the total acceptance scores with persistence were
slight (.11-.13) but statistically significant at the 5 per cent level of confidence. The correlations with grades were also low (.19-.22) but statistically different from zero at the 1 per cent probability level.

In Problem II friendship choices received from members of the same sex and the opposite sex were studied as they related to the criteria of persistence and grades. The male and female students at colleges A and B were used in this problem. At school A the same-sex sociometric scores correlated significantly with persistence (.14-.15) and at school B it was the opposite-sex sociometric scores which were significantly related to persistence (.11-.13). At both schools the same-sex sociometric scores correlated significantly with grades (.18-.23), whereas the opposite-sex sociometric scores did not.

In Problem III the possible effect of academic aptitude on the relationship of acceptance to persistence and grades was studied. When the academic aptitude was correlated with the sociometric scores a slight (.13-.14) but statistically significant relationship was found to exist at college A. To attempt to eliminate the effect of academic aptitude on the acceptance-persistence and acceptance-grade relationship, partial correlations were calculated. A comparison of the partial correlations with the originals showed only very slight changes. In a few
cases, however, the reductions were sufficient to alter the statistical significance of a correlation. For precise definition, partial correlations were calculated and reported as the results in the remaining problems.

In Problem IV, the relationship of acceptance to persistence and grades among men students was studied. The sociometric data from men at colleges A and B were used. It was found that a positive and statistically significant relationship existed between the total or same-sex sociometric scores and measures of persistence (.20-.31) and grades (.16-.19) at school A. At school B, although the acceptance-persistence correlations were all positive, none of them was statistically significant. Three out of the six correlations between acceptance and grades were significant at school B, however (.16-.17).

In Problem V, the relationship of acceptance to persistence and grades was studied among the non-veteran male freshmen at colleges A and B. The results showed a definite relationship between total and same-sex sociometric scores and all measures of both persistence (.42-.44) and grades (.23-.32) at college A. At college B the same two sociometric scores were significantly related to whether the men graduated (.18-.21). The other correlations of acceptance with persistence at college B did not quite reach the 5 per cent level.
Problem VI concerned the relationship of acceptance to persistence and grades among male veterans at colleges A and B. There were no significant positive correlations between acceptance and any of the criteria used in this study. There was an indication of a significant negative relationship between opposite-sex sociometric scores and persistence of veteran students at school A \(-.24\).

In Problem VII the fraternity freshmen on the campus of college A were studied to see how their social acceptance was related to their academic persistence and grades. The same-sex sociometric scores correlated significantly with persistence \((.20--.22)\) and also were related to grades \((.18--.20)\). Opposite-sex sociometric scores were not significantly related to any of the criteria.

Problem VIII concerned the relationship of acceptance to persistence and grades among freshman women. The sociometric scores of freshman women at colleges A, B, and C were correlated with the criteria of persistence and grades. None of the correlations approached statistical significance except the correlations of opposite-sex sociometric scores with the number of semesters that women at college B remained in school \((.18)\).

Problem IX dealt with the freshman women at colleges A and C who were members of sororities. Their sociometric scores were correlated with the measures of persistence and
grades. The correlation coefficients between the sociometric measures and the criteria were positive (0.04—.23) but none of them was statistically significant.

Problem X was a study of the relationship of acceptance to persistence and grades among students who entered college at the start of the second semester. At schools A and B the sociometric scores of students who entered college at midyear (all of them male) were correlated with their academic persistence and grades. At school A none of the correlations between acceptance and the criteria was significant. At school B, the total and the same-sex sociometric scores were significantly related to graduation (.34—.37) and to cumulative grades (.32—.36).

The following conclusions were drawn:

1. Among college freshmen there is a statistically significant relationship between total acceptance scores and measures of persistence and grades.

2. The persistence and grades of freshmen at college A are significantly related to acceptance by students of the same sex. At college B, persistence is significantly related to acceptance by members of the opposite sex.

3. The relationship between acceptance and persistence and between acceptance and grades remains statistically significant after the academic aptitude factor is
held constant.

4. Although the correlations between total acceptance and the academic persistence and grades of a large body of college freshmen are statistically significant, the correlations are too low to be of use in individual prediction.

5. The size of the correlations obtained when measures of acceptance are correlated with academic criteria varies, depending upon four major factors: the sociometric measure being used, the academic criteria being predicted, the characteristics of the group of students being studied, and the college social and academic environment.

6. As a group the persistence and grades of non-veteran male freshmen are most related to measures of acceptance.

7. Both the persistence and grades of male freshmen at college A are definitely related to how well they were accepted by other men students.

8. Among freshman men who are veterans of the services, the extent to which other men students accept them as friends is not related to the veteran's persistence or grades. At one school there is an indication of a negative relationship between the number of friendship votes received from women and the persistence of the veterans.

9. The academic persistence and grades of freshmen
who join fraternities is related to the number of male students who choose them as friends and unrelated to the number of women who choose them as friends.

10. Among freshman women acceptance by other female students is unrelated to persistence or grades in school. At one school there is an indication that being accepted by men students is related to the persistence of women in college.

11. Among freshmen who belong to sororities, sociometric measures of acceptance are not significantly related to persistence or grades.

12. The acceptance-persistence and acceptance-grades relationships of freshman students who enter college at the second semester are not typical of first semester entrants.

13. Further research on the problem of acceptance and persistence at other colleges is needed.
APPENDIX I

Front Page of Test Used at College A

PLEASE PRINT ALL OF THE INFORMATION REQUESTED BELOW
(See the back of this blank for detailed instructions)

Name: ________________________ Class: __________
(last) (first) (middle)

Social
Affiliation: ____________________ Living

Quarters: ______________________

Number of Semesters at College A (give dates): ______________________

Dining Hall: __________________

On the five lines immediately below print the names of the five students whom you consider your best friends at College A. These may include both men and women.

1. __________________________

2. __________________________

3. __________________________

4. __________________________

5. __________________________

If a limit of five on your list of best friends forced you to omit some friends whom you wanted to include, print the names of these additional friends below:

6. __________________________ 11. __________________________

7. __________________________ 12. __________________________

8. __________________________ 13. __________________________

9. __________________________ 14. __________________________

10. __________________________ 15. __________________________
If there are any students, not listed above, with whom you have not had sufficient opportunity to become close friends, but whom you think might have been included above, given such opportunities, print their names on the lines provided below:

16. ______________________ 21. ______________________
17. ______________________ 22. ______________________
18. ______________________ 23. ______________________
19. ______________________ 24. ______________________
20. ______________________ 25. ______________________

If you could not be a member of the social group to which you now belong, and could be a member of any other social group on the campus, to which of these social groups would you most like to belong?
Sociometric Test Used at College C

Name_________________Class and College______Date______

Girls Who Are Attractive to Me!

Under each of the following classifications name two or three girls with whom you would like to do the things mentioned below. Write the name of the person you prefer most on line 1, the next on line 2, etc. The same name may, of course, be used in various situations.

It does not matter whether or not you have done any of these, or other things with the girls you choose. Perhaps you have just admired one of them from afar. The only thing which matters in this selection is whether you would like to have her as a companion in the order named.

Girls with whom I would like:

To Eat Meals
1
2
3

To Study
1
2
3

To Spend My Free Time
1
2
3

To Be in a "Bull-Session"
1
2
3

Important Note: When you have finished your listings, put a star (*) in front of the names of three or more people whom you like best of all, and place letters after each name according to the symbols below:

"O"--from home town
"X"--sorority sister

To Attend a Football or Basketball Game
1
2
3

To Work on a Committee
1
2
3
## APPENDIX II

### Table 13

Correlations of "Best Friend" Sociometric Scores with the Persistence and Grades of Freshman Students at College A

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of semesters</th>
<th>Graduate or not</th>
<th>Freshman grades</th>
<th>Cumulative grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total freshmen</td>
<td>.14*</td>
<td>.11</td>
<td>.15*</td>
<td>.17**</td>
</tr>
<tr>
<td>Men students</td>
<td>.23**</td>
<td>.19*</td>
<td>.16*</td>
<td>.21**</td>
</tr>
<tr>
<td>Non-veterans</td>
<td>.38**</td>
<td>.37**</td>
<td>.35**</td>
<td>.35**</td>
</tr>
<tr>
<td>Veterans</td>
<td>.05</td>
<td>.01</td>
<td>-.01</td>
<td>.09</td>
</tr>
<tr>
<td>Fraternity members</td>
<td>.22*</td>
<td>.19*</td>
<td>.17</td>
<td>.20*</td>
</tr>
<tr>
<td>Women students</td>
<td>.06</td>
<td>.05</td>
<td>-.01</td>
<td>-.02</td>
</tr>
<tr>
<td>Sorority members</td>
<td>.04</td>
<td>.03</td>
<td>.03</td>
<td>.04</td>
</tr>
<tr>
<td>Second semester entrants</td>
<td>.07</td>
<td>.10</td>
<td>-.03</td>
<td>.12</td>
</tr>
</tbody>
</table>

* Significant at 5% level  
** Significant at 1% level
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