

A STUDY OF FACTORS RELATED TO PERSISTENCE AND
WITHDRAWAL AMONG SOPHOMORE STUDENTS
IN THE COLLEGE OF EDUCATION AT
OKLAHOMA STATE UNIVERSITY

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CHAPTER I

THE PROBLEM

This study examines selected factors related to the withdrawal and persistence of sophomores at Oklahoma State University. The factors explored here provide further insight into the problem of college mortality on a national scale.

Need for the Study

That the withdrawal of college students is of serious concern to higher education seems evident from the views of educators. Weintraub and Salley (1, p. 116) comment, "There is concern in many quarters, as there should be, relative to the academic mortality of college and university students." A writer of the last decade voices concern that *Shuman noted that* American colleges and universities are constantly faced with the situation of having approximately 50% of their beginning freshmen failing to complete the four year program. (2, p. 347). The general feeling among educators seems to be reflected by such expressions as these: the problem of student mortality still remains present; (3, p. 192) college mortality has long been recognized as a social problem of imposing significance; (4, p. 322) administrators and student personnel workers are concerned about the reasons which cause students to achieve or withdraw; (5, p. 85) in recent years there has been an increasing interest in the

problem of motivating students to achieve, (6, p. 34) the good college cannot be satisfied with the ninety and nine who are safe; it must seek the one who is lost, (7, p. 483).

Such expressions give evidence that the failure of a disturbing percentage of college students to complete a given program of study is a continuing problem. Writers of three decades ago express concern over a national ratio of loss to retention which has not changed significantly since that period.

(In spite of the fact that there have been numerous studies conducted which are somewhat related to the college withdrawal problem evidently few are developed at the local level. (The literature refers to a rather large number of studies) of the "number counting" type, that is those (which have as their major objective the numerical ratio of withdrawing students to persisting students.) These studies do not involve a consideration of the underlying factors which may be contributing to withdrawal. (A few research efforts have explored the academic or biographical records of students to secure identifiable causes. Almost all of the research has involved an attempt to reveal the causal factors in student withdrawal from a study of personnel records only. The writer feels that causal factors may be rather obscure and can be revealed only from careful study of both personnel records and unstructured responses from students. When statements of reasons for withdrawal are requested of students at the time of separation from the institution their responses may reflect a desire to record more "acceptable" reasons than those which are the real source of their thwarted progress. It may be true also that the individual who

is undergoing the emotional stress of this relatively serious decision is not able to isolate those specific causes for his action.

The writer intends to employ a Critical Incidents Technique which will allow the student to make free responses about those positive and negative influences in his life which may have influenced his decisions related to college. It is hoped that this approach will be less threatening than a request for specific causes for withdrawal. Also the instrument will be used at least three months after the time of the student's withdrawal, giving him time to "think through" his decisions and perhaps respond more accurately and with clearer understanding of the causal factors involved in his separation from college. When this technique is combined with the securing of data from personnel records it may be possible to obtain some insight into the real forces behind the student's decision.

That there is a general concern for such investigation at the local level has already been noted. No such research of this particular nature is in evidence within the College of Education at Oklahoma State University. A study of the literature impresses the reader with the fact that limited data is available concerning college students in the particular region of which Oklahoma is a part.

Purpose of Study

Generally stated it is the purpose of this study to determine if there are significant differences among sophomore students in the College of Education at Oklahoma State University who have transferred in, withdrawn, or remained since or after their freshman year. More specifically, the writer will attempt to achieve the following objectives:

1. determine the relationship of certain academic, psychological, and biographical factors to persistency and withdrawal among these students.
2. determine if there are significant incidents or situations in the students' lives, as they view them, which encouraged or discouraged their decisions to enroll and remain in the College of Education.

The procedure referred to in the first objective analyzes data from a psychological test and from student personnel records. The data secured from these sources will be compared to attempt to identify significantly distinguishing differences in the three groups.

The second objective entails an effort to secure unstructured, free responses of students of the three groups concerning those critical incidents or situations in their lives which have encouraged or discouraged their decision to enroll and continue in the College of Education.

Scope of Study

The subjects involved in this study are two hundred twenty nine students in the College of Education of Oklahoma State University. This number is comprised of: those who began the fall semester in September, 1961 and returned to enroll as sophomores for the fall term in September, 1962, hereafter referred to as Group A; those who began the fall semester as freshmen in September, 1961 but did not return to enroll as sophomores at the beginning of the fall semester, 1962, hereafter referred to as Group B; and those who were not enrolled in September, 1961 as the semester began but transferred into the College of Education during their freshmen year and remained to enroll as sophomores in September, 1962, hereafter referred to as Group C.

Since student persistency, academic success, and individual adjustment to college life are significant elements of the student mortality problem the writer attempted to design a study which would consider these three elements.

No attempt will be made to follow those students of the three study groups throughout or after the end of the sophomore year. Studies repeatedly indicate that the largest withdrawal movement occurs between the second semester of the freshman year and the first semester of the sophomore year. Thus the one year study seems to give some indication of the factors involved in persistency and withdrawal of freshmen students between the time of their first semester of enrollment and the beginning of their sophomore year.

Limitations of Study

The writer recognizes and acknowledges certain limiting elements of this study which must be considered before proceeding further.

Whenever biographical data is secured from student personnel records it must be assumed that the student has carefully completed the record form. The writer noted, however, that in approximately five percent of the student cases responses were incomplete. It must be assumed, for the purpose of this research, that the records completed by students are correct. Due to the fact that student responses were used as one basis for comparison of the three student groups the present study was limited to those students for whom complete personnel records were available.

Only certain psychosocial data were extracted from the students' personnel records. It was necessary that certain limitations of size and complexity be observed in order to develop a study of manageable

breadth. It is doubtful if all related factors are known. There may be significantly influential elements in the students' lives having an impact upon their success in college which are not considered in this study. The psychosocial factors chosen were related to the hypotheses being tested and have often been mentioned by counselors and advisors as possible contributors to failure in college.

The value of the questionnaire as an instrument for securing information about students is subject to question. The general consensus of opinion seems to point to the fact that its value is partially determined by the procedure used. This particular instrument, The Critical Incidents Questionnaire, was chosen in order to secure unstructured, free feelings of students about the factors in their lives which had influenced their decision to enroll and remain in the College of Education. It is felt, however, that students who have withdrawn from the College of Education may be somewhat less motivated to respond than those who remain in the College of Education even when they are allowed to structure their own responses. Thus the percentage of returned questionnaires among the transfers and persisting groups might be expected to be greater than the percentage of returned questionnaires among the withdrawal group. A study will be made of the responses from those students who return completed questionnaires.

The Hypotheses Tested

For the purpose of brevity and clarity letter symbols are used in the following statements to represent the three student groups being studied.

The hypotheses are stated as follows:

1. Students of Groups A, B, and C are not significantly different in scholastic performance, as indicated by grade point average.
2. Students of Groups A, B, and C are not significantly different in educational achievement, as indicated by their scores from the American College Test Battery.
3. Students of Groups A, B, and C are not significantly different as to the following psychosocial factors:
 - a. sex
 - b. marital status
 - c. parents' marital status
 - d. father's occupational level
 - e. parents' level of education
 - f. size of high school from which student graduated
 - g. extent of financial self support
 - h. relatives other than parents with college education.
4. When student groups A, B, and C are asked to mention critical incidents or situations in their lives which encouraged or discouraged them in their decision to enroll and remain in the College of Education, the nature of their responses are not significantly different.

Definition of Terms

An attempt has been made to refrain from superfluity of word usage in this study. Terms have been used which are relatively common to literature associated with college matriculation. To assure clarity of

understanding, however, further explanation is given as to their meaning as it applies to this research.

Appearing frequently will be the terms "withdrawal" and "dropout". Both refer to those students who left the College of Education for any reason during the period of this study.

Reference will be made to the word, "persistence" or "persistency". It will indicate the period of enrollment of a student from the time of his initial enrollment to the point of conclusion of this study or to his leaving the College of Education.

Other writers mention the word "mortality" frequently and it appears often throughout this study. The term means the student loss rate of colleges and universities through any avenue by which students leave school.

In The Hypotheses Tested the three student groups under study are designated as groups A, B, and C. As these groups are studied they will be thought of as: the persistence group, (Group A); the dropout or withdrawal group, (Group B); and the transfer group, (Group C).

CHAPTER II

REVIEW OF THE LITERATURE

Few issues demanding the critical investigation of personnel in higher education have initiated more extensive research than that of college dropout and persistence. Due to the large numbers of studies to be considered a systematic approach seems necessary to provide continuity of thought and ease of reading. Since the changing areas of concern, methods of approach, and nature of findings tend to follow an interestingly significant evolutionary pattern from earlier studies to the most recent ones the writer has chosen to review chronologically these research contributions.

A Historical Overview

The earliest research related to students withdrawing from college seems to have appeared soon after the beginning of the twentieth century. The major concern of educators through the first two decades evidently centered in a consideration of how many were being dropped from college and at what point or stage of academic progress the greater percentages of dropout occurred.

To be noted in the descriptions of earliest studies is the use of the word "elimination" to indicate the process by which a student was separated from college for reason or reasons not identified, at least not

by the institution. This term may suggest a certain lack of concern for the psychosocial needs of the individual student with more attention being given to his academic success. The writer noted, however, that in the early 1930 studies research personnel began to mention a need for investigation of reasons for poor scholarship. Subsequently, there began to appear in the literature dealing with college mortality the term "persistence" when referring to the student's success in adjusting to the demands of college life over a given period of time. The use of this term seems to suggest that colleges were beginning to view the student's potentialities for success rather than studying their ability to eliminate the student. In more recent studies of college mortality the term "withdrawal" begins to appear. This term also suggests that colleges were beginning to look at the psychosocial factors which act upon students in order to attempt to predict their continuation in or separation from institutions of higher education.

Another aspect of the development of such studies throughout the last four decades is the growing interest in an attempt to predict withdrawal by securing attitudes about various activities of college life from college students. Whereas the earlier studies seem to involve simply a counting of dropouts, as has been noted, one more recent study attempts to allow the withdrawing student to evaluate several elements of his life experiences and rank each as to its influence, favorable or unfavorable, upon his decision to withdraw from college, (3, pp. 192-194).

The writer has observed from the research dealing with this issue the two following trends: (1) a greater interest in studying the student to determine reasons for withdrawal; and (2) more attention to student

attitudinal factors related to withdrawal rather than objective biographical factors or student-stated reasons for withdrawal.

In order to view more clearly the method of approach and the results from these investigations each study will be considered briefly.

A Survey of Related Studies

One of the earliest attempts to determine causes for college dropout was made in 1928 at Pennsylvania University under the direction of Learned and Longmuir, (8, pp. 35-38). Results from this four-year study indicated approximately the same number of students withdrawing as graduating. The period of greatest withdrawal seemed to be between the first and second semesters of the freshman year. Although students reported reasons for withdrawal in order of frequency as "deficiency," "finances," and "health," the authors seemed to feel that these were mere labels and not actual causes.

Williams (9, pp. 515-520) failed to find significant reasons for withdrawal among former students at the University of Michigan. This group made up twenty-five percent of the total number enrolled at the beginning of the one-year study. He noted that both withdrawal and persisting groups had maintained an academic grade average of above C for the period of the study.

Lord (7, p. 483) discovered that the size of college evidently had little bearing on student mortality. His rather comprehensive investigation of the mortality record of 266 colleges in the United States again revealed that nearly one-half of the students admitted to college do not complete their four year course.

As had Learned and Longmuir (8, pp. 35-38) noted from withdrawal reports Sheeder (10, pp. 34-40) listed academic deficiency, financial problems, and health as the most often mentioned reasons for leaving college. The subjects of his study, freshmen and sophomores of Ursinus College, provided these data through interviews conducted at the time of separation from this institution.

Among all entering classes from 1919 to 1934 at Emory University fifty-three percent failed to complete their period of training. Langhorne (11, pp. 41-51) was able to discover a .53 correlation between achievement test scores and graduation.

In 1940 J. H. McNeeley (12, pp. 119-124) reported the results from an analysis of 9000 withdrawal questionnaires. These questionnaires represented contact with the dropouts from twenty-four universities; fourteen of which were under public control, and ten were under private control. From the responses of students from public institutions "low scholarship" appeared most frequently as a cause for leaving college. Dropouts from private colleges gave "financial difficulty" as the principle cause. Both groups frequently mentioned "lack of interest" as a second cause.

One of the first studies to deal with major curriculum choice as an independent variable was that conducted by Snyder (13, pp. 26-32) at Los Angeles City College. He indicated that the largest group of school leavers came from Liberal Arts curricula. School leavers from the Pre-Teaching Department made up the smallest group. Reasons given for withdrawal coincided with those revealed in previous studies already discussed.

Financial difficulties seemed to be the significant factor in the withdrawal of forty-six percent of the freshmen and sophomores involved in a study by Keller and Carson (14, p. 53). These subjects were students of fourteen private liberal arts colleges in Minnesota.

Coffey (15, pp. 269-271) was concerned with the relationship between college dropout and academic performance in high school. With academic performance rank as a measure he divided the subjects into two groups; an upper fifth and a middle fifth. Of the upper fifth group twenty-seven percent of the women withdrew before completing their four-year program, and thirty-one percent of the men withdrew before completing the program. He found a seventy-six percent withdrawal rate among women of the middle fifth group and a sixty-eight percent withdrawal rate among the men of this group.

Amori (16, p. 20) felt that the technique with which reasons for withdrawal are secured influenced student responses. When reasons tabulated from an official report blank were compared with reasons given during a withdrawal interview significant differences were indicated. Interview reports revealed general discontent and desire to work as most important in that order. Official report blanks showed desire to work and illness as most important in that order.

Whereas Coffey (15, pp. 269-271) had pointed out that a relatively large percent of high school "high achievers" fail in college, Mitchell (17, pp. 95-100) noted that among the freshmen students at Michigan State College who had scored above the median on an admissions achievement test one-third of them had withdrawn from the college by the end of the third year of the matriculation.

Of 861 freshmen students at Indiana University who failed to reenroll as sophomores the following year 528 were men, and 333 were women. Eaton (18, pp. 1-17) reports that twenty percent were from small high schools, seventy percent were from middle-sized high schools, and ten percent were from large high schools.

From the records of 3,023 students entering nine Missouri colleges during the two-year period of 1936 and 1937 Hilton and Carpenter (19, p. 269) counted sixty percent of these students who returned the following year. Sixty-seven percent did not begin their junior year.

After discovering a fifty percent dropout rate among Hunter College freshmen before the beginning of their sophomore year Wintraub and Salley (1, pp. 116-126) concerned themselves with the question, "Why does high mortality occur when admissions requirements are high?" Although reasons given were, in order of frequency; financial, desire to transfer, and personal illness, the authors seemed to feel that the real causes were more complex than those indicated by students.

Stalnaker (20, pp. 81-101) concluded after studying the persistence record of students at West Virginia University that positive relationships existed between college persistence and the following factors: (1) scholastic ability as measured by psychological tests; (2) grade point average earned in college; and (3) intelligence as measured by psychological tests.

Cummings (21, p. 123) commented that withdrawal interviews often produce responses from students not usually found among officially recorded causes. A desire to be near home was frequently expressed by students withdrawing from DePauw University.

World War II veterans who withdrew from The University of Minnesota mentioned "inadequate housing" and "illness" as chief reasons for leaving. Aaronson (22, p. 97) remarked that, "It should be remembered that illness is an excellent hook on which to hang the onus of personal failure."

Graduates of high schools with strong academic emphasis were found by Long and Perry (23, pp. 103-105) to leave colleges of technology more readily than did graduates of high schools with general or vocational curriculum emphasis.

Nelson (24, p. 61) reports that among college women in Home Economics size of college, marriage obligations, and lack of effective guidance and counseling seemed to be related to withdrawal.

Among mixed-sex dropout groups, however, White (25, p. 143) noted that matrimonial status seemed to have little relationship to dropout. Sporadic attendance seemed to precede a student's separation from college.

Munger (26, p. 121) states that there seems to be a meaningful relationship between college persistence and grades earned in first semester courses in college where students with low secondary school achievement records are involved.

Slocum (27, pp. 53-64) discusses, among other frequently reported causes of dropout, participation in extracurricular activities, and educational level of parents as being related significantly to degree of persistence.

After checking questionnaire reports to select out common characteristics of dropouts Koelsche (28, pp. 357-364) listed the following: (1) no financial assistance; (2) their fathers of professional, proprietary or managerial occupational classification; (3) from average size families;

(4) active in high school extracurricular activities; (5) from average sized high school; (6) tended to lose interest in college easily; and (7) frequently dropped or changed courses in college.

Berry and Jones (29, p. 477) sought to elicit responses from withdrawing students which would produce factors perceived by them as exerting positive or negative influence on their progress in college. Students perceived parental encouragement, college instruction, and college curriculum offerings as providing positive influence. Lack of finances was given as a negative influence. High school subjects taken, and counseling help received in high school were not considered of consequential influence either positively or negatively.

Bragg's (30, p. 200) findings among withdrawing students were similar to those of Snyder's (13, pp. 26-32) in that the withdrawing groups seemed to have chosen significantly different courses while in college.

Fulmer (31, p. 446) noticed that students who had changed their major field of concentration tended to have a better persistence record than those who had not changed their major field.

The position that academic success in college is related significantly to academic success in high school is supported by the research work of Minger (32, p. 243).

When interviews were conducted with college male dropouts and college male non-dropouts Dryer (33, p. 114) secured responses which differed significantly from one group to the other on the subject of finances, work obligations at home, and military service. The dropout group viewed these factors as detrimental to successful college work.

Iffert's (34, p. 177) extensive study concluded that three of the six most often given reasons for leaving college were related to home pressures.

Less objective factors such as ability to make decisions independently, sense of responsibility, and feelings of anxiety were found by Grace (35, p. 39) to be related to college attrition.

Wooster and Stowe (5, pp. 85-90) sought for reasons behind college losses by studying the occupational level of the student's parents. Their efforts gave information that seventy-five percent of the dropouts had fathers who were either craftsmen, foremen, professionals or technical workers.

The level of personality adjustment seemed to be just as high among college dropouts as among non-dropouts according to Yoshino (36, pp. 42-48). He noted, however, a significant difference between the two groups where high school academic performance was considered.

Seventy percent of the freshmen dropouts at Syracuse University were very dissatisfied with college academic counseling. According to Holmes (37, p. 297) the most frequently reported reasons for leaving college was a desire to attend another university.

Fultz and Taylor (38, pp. 109-114) pointed out that high schools in general were failing to prepare students adequately for the demands of college study.

An interesting study by Slater (39, pp. 3-8) indicated that a significant relationship exists between persistence and a curriculum choice closely related to father's occupation. Also a significant relationship was shown between persistence and degree of specificity of vocational goal choice.

As have many other studies previously noted research in student persistence at North Dakota University indicated academic performance rank in high schools to be a significant factor in college success. Bachmeier (40, p. 9) includes grade point average earned at the end of the first semester of the college freshman year as also significant.

In a study comparing withdrawal groups to persistence groups as to certain affective and cognitive variables Ikenberry (4, pp. 322-329) found that withdrawal groups ranked above persistence groups in social background. No significant difference was found between the two groups as to sex, cultural background, or intellectual aptitude.

When dropouts and non-dropouts rate college curriculum, faculty instruction, faculty advisement, accessibility of information concerning counseling services, and availability of degree requirements information, Gehoski and Swartz (3, p. 193) discovered that dropout rating sheets are more apt to show lower ratings of these services than are shown by rating sheets of non-dropouts. Non-dropouts mentioned more often than did dropouts that home life, social life in college and religious life in college had been helpful in college experiences.

Hinton (41, p. 274) concluded that students who have had special remedial reading courses in college seem to have a better persistence record than those who do not have such training.

Heilbrun (42, pp. 58-63) indicated that college dropouts and college non-dropouts differ in their socio-cultural need structure.

Only high school grade point average and certain parts of the Ohio State Psychological Examination were found by Vomeyer (43, p. 364) to be related to dropouts and non-dropouts of college freshmen. No adjustment factors seemed to be related.

An Analysis of Related Studies

Research dealing with the relationship of psychosocial and psychological factors to satisfactory matriculation in college is extensive yet varied in characteristics of subjects, specific factors considered, and methodology. Some studies deal with samples including one sex only. Subjects have been chosen from various levels of academic progress. The colleges from which the various samples are taken represent many different curriculum emphases and vocational training objectives. The bio-cultural background of subjects is often dissimilar from one study to another.

Although general purposes of the foregoing research have followed a consistent pattern specific factors considered have varied from objectively derived data of a biographical nature to cognitive responses elicited through non-structured techniques. Whereas variables considered in one case are related to academic performance in another case the researcher seems to be chiefly concerned with social adjustment as it bears upon college success.

Such a wide range of research approaches, however, may make possible a greater opportunity to study the degree to which significant factors are common to dropout groups regardless of the procedures used. Moreover the widely distributed samples as related to geographic location may make an analysis of these results more meaningful as to their application to college groups in general throughout the United States.

Of the various techniques utilized for securing data certain ones seem to most consistently appear. Objective, non-attitudinal information is frequently derived from high school transcripts, college personnel records and admissions office records. Attitudinal responses are usually

secured through pre-withdrawal or post-withdrawal interviews, and pre-withdrawal or post-withdrawal questionnaires. Often some or all of these procedures are used.

Noteworthy from a study of past and present is the consistency of the nature of the findings. The studies which sought to analyze the dropouts quantitatively seem to indicate that approximately one-half of the students who begin a four-year plan of college study do not complete this study. The period in which the largest percentage of loss occurs is between the first and second years of college. From twenty-five to thirty-five percent of the students are lost during this period. When students are asked to express their own feelings as to the factors related to persistence and withdrawal they tend to state them in the following order of frequency: (1) finances, (2) health, (3) poor grades, (4) lack of interest, (5) lack of guidance, and (6) desire to transfer. When data is secured from admissions office records or personnel office records the following factors can be listed by degree of significance: (1) academic grade point in college, (2) work responsibilities, (3) illness, and (4) poor attendance at classes. At first glance at the relative importance of position of reasons obtained from both methods it will no doubt be noted that "finances" are viewed by students as more significant than official records indicate. Nevertheless, academic grade point may be the product of many motivational forces or factors, including finances, which are affecting the morale of the student. Poor grades are recognized by students as being significant although they are not mentioned with the greatest frequency. The illness factor appears when both techniques are used. It may be that official records are not

structured in such a way that they would include a multiplicity of causal factors. Thus the reasons secured from this source would differ somewhat from those secured through extensive interview sessions or lengthy questionnaires. At the same time, however, interviews and questionnaires may be threatening to the already discouraged withdrawing student to the extent that he chooses responses which are socially acceptable. The point is that all methods used by the authors of studies here considered were recognized as having weaknesses which may be partially eliminated through continued research.

A study of the foregoing research literature has indicated some general facts relative to future study. They might be expressed as follows: (1) If similar methods for securing data are used certain factors consistently appear as significantly related to college persistence; (2) Different techniques of securing data reveal common related factors but in different rank as to degree of importance in influencing college persistence; (3) Degree of dropout rate and the period in college progress within which the greatest amount of dropout occurs have remained somewhat constant during the past several years.

CHAPTER III

METHOD AND PROCEDURE

In order to conduct a study of the factors related to withdrawal and persistence among college sophomores certain specific procedures were necessary. A sample of subjects consistent with the purpose of the study must be selected. Adequate techniques for securing the necessary data must be designed and selected. Finally appropriate statistical procedures must be followed in order to determine if any differences indicated were statistically significant. All of these procedures are based on certain assumptions.

Assumptions

For the purpose of determining the level of educational development of subjects and the likelihood of their academic success in college a measuring instrument which would meet this criterion to an acceptable degree was chosen. The American College Test of Science Research Associates was selected. It was assumed that the subtests and composite scores of this instrument accurately measure the achievement level of students within those academic subject areas commonly taught in high schools and accepted as appropriate preparatory subjects for college matriculation. From the Technical Report of the American College Test (44, p. 16) the following statements are made:

At present the best evidence pertaining to the validity of the American College Test forms is provided by longitudinal studies of the qualifying tests used in the National Merit Scholarship Qualifying Test form and the American College Test form are constructed from common item pools at comparable difficulty levels and are presented in similar forms. Thus the subtests in the National Merit Scholarship Qualifying Test are paralleled to those in the American College Test Battery as surely as ACT forms are parallel to each other. Validity tests of correlation between the composite scores of the National Merit Scholarship Qualifying Test and first semester grade point averages of college freshmen yield scores of .35, .49, .51, .59, and .44. Reported data indicate that the composite score of the National Merit Test usually provides the best predictor of total grade point averages.

The fact that almost all of the colleges and universities in Oklahoma require that scores from the American College Test be submitted prior to enrollment seems to indicate that this test is accepted with confidence as a useful predictor of college success.

For the purpose of obtaining expressed feelings of the subjects concerning critical incidents in their lives which encouraged or discouraged their decision to enroll and remain in the College of Education a non-structured questionnaire was administered to members of the three groups under study. The responses to this type of questionnaire were accepted as being valid records of the subject's feelings about the incidents which they were requested to mention. Flanigan (45, p. 327) states that:

the essence of this technique is that only simple types of judgment are required of the observer. The extent to which a reported observation can be accepted as fact depends upon the objectivity of the observation.

Since subjects in this study were requested to simply mention critical incidents in their own experiences and since the format of the questionnaire allowed him to structure his own responses it was felt that this technique would provide a sufficiently simple and objective method of securing the desired information from the subjects of the three groups.

Freshmen students in the College of Education at Oklahoma State University are requested to complete a personnel record form which becomes a part of their cumulative record folder. The information requested is accepted as a valid record and is filed as a permanent reference to remain in the College of Education throughout the student's period of enrollment. The items of information from this cumulative folder which pertain to this study, namely; name of high school, degree of financial self support, sex, occupational level of parents, highest educational attainment level of parents, marital status of student, and college attendance of other family members, were considered to be accurate reports by the subjects and were accepted as sufficiently valid for the purpose of this study.

Another information item to be a part of this study is the subject's grade point average for the first semester of his college matriculation. This average is recorded in the cumulative folder by office personnel at the end of the first semester of the freshman year. It is assumed that instructors of the subjects have been able to accurately assess their academic performance and that the computed grade point represents a valid judgment of such academic performance.

The Subject and His Environment

The degree to which a college student is able to adequately adjust to the defined situations of environment is largely determined by the adjustive skills provided him by his cultural background. The college sophomore is representative of changes in philosophies, values, attitude, and most of all in the human personality itself. He has been trained to

face new knowledge with critical appraisal and new learning experiences with anticipation. The question which may be asked with ever increasing frequency is whether he will be able to successfully utilize these intellectual tools for the attaining of a social-cultural position which is acceptable to him and produces rewards which are self enhancing.

Of 229 students in the College of Education at Oklahoma State University who comprise this study, approximately eighty-five percent reside in Oklahoma. Of the total number of subjects 169 were females and 60 were males. Approximately one-third of the students list as their home town centers with a population greater than 35,000. Of the remaining number about two-thirds are from rural communities or towns of less than 2,000 population. Only eleven percent of them are married. Their average age is 20.4 years. Due to the fact that the major objective of the College of Education at Oklahoma State University is the training of elementary and secondary school teachers all of the subjects have been enrolled in a somewhat uniform curriculum program. Such a program is preparatory to admission to the professional teacher training program. Although the assumption is made that their intellectual ability would follow the normally distributed pattern of a college population the subjects comprise a sample which is somewhat selective. Its selectivity is due to the fact that most of the subjects have scored in the upper three-fourths of the total group taking the American College Test.

Preparation of the Questionnaire

It has been previously indicated that the purpose of the questionnaire is to elicit unstructured responses which mention situations or incidents

that have had a favorable or unfavorable influence upon the subject's college success. In order to secure such responses it was necessary to devise an instrument which would contain a minimum amount of directed procedures but which would contain sufficiently clear instructions. The Critical Incidents Technique does not consist of a rigid set of rules for procedure. Due to this flexibility it is easily adaptable to many needs. Flanigan (45, p. 327) comments that its flexible principles must be modified to meet the specific situations at hand. He further states that a fair degree of success can be obtained with only a minimum number of inferences (p. 335).

The format of the questionnaire consisted of a single paragraph. Within this paragraph the subjects were requested to list those situations or incidents which had encouraged or discouraged them in deciding to enroll and continue in the College of Education at Oklahoma State University. To prevent misunderstanding as to what was meant by incidents or situations it was decided that certain examples would be mentioned as guides.

To select example incidents that might be typical of the life experiences of college freshmen and sophomores ten sophomores presently enrolled in the College of Education were selected from enrollment lists in the Personnel Office of the College of Education. In order to obtain a representative group each twenty-fifth name was selected from the total list until the desired number of ten was obtained. From this group three were males and seven were females. A one-hour interview was conducted with each of the ten subjects. During the period of the non-directive counseling session students were encouraged to relate life experiences which they

felt had influenced in some way their college life. All incidents mentioned at least once were tabulated. From this total the ten most frequently mentioned were selected to be included in the questionnaire format as typical examples to aid the subjects who were to complete the questionnaire.

To test the clarity of instructions and degree of response to the questionnaire the instrument was first administered to a pilot group. This group consisted of two classes of students enrolled in the course, The School in American Society. Approximately eighty percent of the students were sophomores enrolled as full-time students in the College of Education. After receiving a brief explanation as to the purpose and use of the questionnaire data the subjects were directed to read the written instructions and proceed. They were given one hour to complete the questionnaire. In order to use responses from students as similar to those in the major study as possible only those questionnaires completed by sophomores were used.

Responses were divided into ten different categories. The kinds of incidents discussed were varied and numerous which seemed to indicate that the instrument might adequately measure the causal factors contributing to college success of other students of similar academic level within the College of Education.

A letter of explanation was prepared to accompany each mailed questionnaire. Each subject in the three groups was mailed an explanation letter and a questionnaire. If completed forms were not returned within one month a follow-up letter and second questionnaire were mailed with additional explanation as to the value of the data requested.

If no response was received after one month a second follow-up letter and questionnaire were mailed. After four months no further communication was attempted. As returned questionnaires were received responses were tabulated into the proper group according to the previous group classification and response categories.

Collection of Biographical and Academic Data

The eight factors from the subjects' biographical and academic record which were studied are a part of the cumulative record maintained for each student in the College of Education. The cumulative record of each subject was studied and the desired data were tabulated. Only data which were complete were used. Approximately ninety-five percent of the total number of freshmen beginning the school year in the fall semester of 1961 had complete records.

At the beginning of the spring semester of 1962 the total group was rechecked to determine the number of students still enrolled. A second check was made at the beginning of the fall semester of 1962 to identify those students still enrolled. Those students whose cumulative records had been removed from the permanent file either by the beginning of the spring semester of 1962 or by the beginning of the fall semester of 1962 were listed as withdrawal students. Other students entering the College of Education between the end of the fall semester of 1961 and the beginning of the fall semester of 1962 whose records indicated that they were not enrolling in college for the first time were considered to be the transfer group. The biographical and academic data were then retabulated separately for each of the three study groups; the persistence group, the withdrawal group, and the transfer group.

Collection of the Psychological Data

The American College Test is a battery of achievement tests which is required of all high school seniors preparing to attend Oklahoma colleges. The test battery consists of four subtests; they measure achievement in English, Mathematics, Social Studies, and Natural Science. A composite score is compiled which represents an average score based upon the total number of correct items from all four subtests. The five scores are recorded in the student cumulative folder.

These scores were taken from the folder of each student and tabulated according to the three groups already identified. In a few cases scores had been recorded according to percentile rank instead of in raw form. For these cases it was necessary to determine the equivalent raw score by referring to the appropriate national norms. These norms were published in the Student Information Handbook furnished each student by American College Test Company at the time he receives the report of his scores. Scores were not used unless the scores of all subtests and the composite score were recorded in the cumulative folder. As has been stated in the Collection of Biographical and Academic Data approximately ninety-five percent of the total number of freshmen in the College of Education had a complete record of these test data.

As each group of data was obtained and tabulated it was tested statistically to determine its relationship to the pertinent hypothesis as stated. These procedures are explained in Chapter IV, Analysis of Findings.

CHAPTER IV

ANALYSIS OF FINDINGS

It is the purpose of this phase of the study to interpret the results of the investigation at an adequate level of accuracy yet without unnecessarily elaborate techniques. Due to the fact that the groups of secured data differ in nature it has been necessary to select different statistical tests for the treatment of each group. It is not suggested that the tests chosen are the only appropriate ones for obtaining the desired comparisons. Their recognized advantages do, however, seem to make them acceptable for the objectives of this study.

A method of presentation of the findings shall be used which can be followed with a minimum of difficulty. The results of the statistical treatment of each variable or group of variables shall be briefly stated. This statement shall be followed by more specific analysis of the data presented and an application of the results to the related hypothesis. A summarization of the findings and their significance shall conclude the Analysis of Findings.

Analysis of Findings from the Scholastic Performance Data

To select an appropriate test of the grade point data certain facts concerning the nature of the data must be considered. The groups are not large; they are composed of interval type, parametric data. Since the

t test of Significance of Difference Between Means enables the researcher to analyze the differences between arithmetic means it was felt that this instrument would be satisfactory for this purpose. It was determined that the differences must meet the .05 level of confidence before they could be accepted as significant.

Arithmetic means were computed from each of the group grade point totals. The test was then applied to the differences between means of Groups A, B, and C. The means, standard deviations, and resultant t-values are stated in Table I.

TABLE I
THE MEANS AND STANDARD DEVIATIONS OF THE GRADE
POINTS OF STUDENTS FROM GROUPS A, B, AND C
AND RESULTANT T-VALUES FROM
THE MEAN DIFFERENCES

Group	A	B	C
Mean	2.62	1.65	2.49
S. D.	.37	.57	.13
N.	147	54	29
T-Value	12.7**(A-B)	3.61**(A-C)	10.5**(B-C)
D. F.	199	70	176

**Significant at .01 level

From a comparison of Group A and B means with 199 degrees of freedom, based on the total of the combined means, a t-value of 12.7 is obtained. Upon reviewing hypothesis number one which states that no significant

difference exists between the groups as to scholastic performance it can be seen that the hypothesis is rejected at the .01 level of significance when Groups A and B are concerned.

Although the actual percentage of difference between the means of Groups A and C is much less than that between the means of Groups A and B, indicating a greater similarity in scholastic performance, nevertheless this difference is great enough to be statistically significant at the .01 level. Thus again hypothesis number one is rejected as it relates to Groups A and C.

The data from Table I concerning Groups B and C represent a completion of the testing of hypothesis number one. From this analysis it can be concluded that a significant difference does exist among the three groups as to scholastic performance. The t-value of 10.5 is well above the .05 level of 2.00 and .01 level of 2.65 required for significance.

Analysis of the Psychological Test Data

Since the raw scores from the American College Test Battery are interval in nature, are quantifiable and comprise a population sample which is relatively small the t-test of Significance of the Differences Between Means was selected as the technique for analysis of this data. It was determined that a mean difference must reach or exceed the .05 level of confidence before it would be considered significant and attributable to any factor other than chance. Since a two-tailed test is appropriate for the testing of non-directed hypotheses the region of rejection was assumed as falling at end areas under the normal curve of a sampling distribution equidistant from the mean.

Hypothesis number two stated that there is no significant difference between Groups A, B, and C in level of educational achievement as indicated by scores from the American College Test Battery. Group A, B, and C means were compared in this manner; A to B, A to C, and B to C. The mean difference obtained from each of the three comparisons was treated with the t test. The results are shown in Tables II, III, and IV.

To avoid unnecessary duplication of data the mean test scores and t-value of each subtest from the battery are consolidated in each of the three tables.

TABLE II

MEAN SCORES AND T-VALUES OF THE MEAN DIFFERENCES
OF STUDENT GROUPS A AND B FROM THE SUB-
TEST RESULTS OF THE AMERICAN
COLLEGE TEST BATTERY

Subtest	Group A Mean	Group B Mean	T-Value
English	19.58	18.78	.80
Mathematics	17.71	16.74	.79
Social Studies	21.80	17.10	6.81**
Natural Science	19.02	18.55	.42
Composite	18.90	16.96	1.78

Degrees of Freedom = 199
**Significant at the .01 level

It is apparent that only the mean differences between Groups A and B on Social Studies and Composite scores approach significance. From a Table of t's with the appropriate degrees of freedom it can be seen that a t of 2.35 or greater is necessary at the .05 level. Thus when the mean

scores of the Social Studies Test from the two groups are considered the hypothesis number two is rejected. Indeed it is rejected at the .01 level. It is not rejected at the .05 level when the mean differences between Groups A and B on the other subtests are considered.

The reasons for the difference between the Social Studies mean score and the mean scores of the other subtests are not discernable from the results of this study. It can be seen, however, from a study of the American College Test that much more reading is required in the Social Studies subtests than in the other subtests. It might be theorized that a reading skill factor is being isolated rather than factual knowledge of social concepts. This possibility warrants further study. Another interesting feature of this data is the relatively small difference between the two groups in English subtest mean scores. Some research has seemed to indicate that skill in oral or written communication is closely related to college success. Such findings do not seem to be supported by this data. Further investigation of the item content of the subtests might provide a partial explanation for these questions. It is not, however, within the purpose of this study to provide such explanations.

As seen in Table III when the mean differences of Group A, the persistence group and Group C, the transfer group are compared the Social Studies subtest again seems to discriminate between them as to scholastic achievement. With 184 degrees of freedom the statistical table indicates that at the .05 level of significance a t-value of 1.97 is required for significance. It thus appears that when the differences between the mean scores on all subtests are considered only the Social Studies score means differ significantly. Hypothesis number two is thus rejected at the .05

level as it applies to the Social Studies subtest. No other subtest means from the two groups differ to the degree that the differences can be attributed to factors other than chance.

TABLE III

MEAN SCORES AND T-VALUES OF THE MEAN DIFFERENCES
OF STUDENT GROUPS A AND C FROM THE SUB-
TEST RESULTS OF THE AMERICAN
COLLEGE TEST BATTERY

Subtest	Group A Mean	Group C Mean	T-Value
English	19.50	20.58	1.16
Mathematics	17.71	20.00	1.13
Social Studies	21.80	18.00	2.55*
Natural Science	19.02	21.11	1.18
Composite	18.90	19.76	.77

Degrees of Freedom = 184
*Significant at the .05 level

TABLE IV

MEAN SCORES AND T-VALUES OF THE MEAN DIFFERENCES
OF STUDENT GROUPS B AND C FROM THE SUB-
TEST RESULTS OF THE AMERICAN
COLLEGE TEST BATTERY

Subtest	Group B Mean	Group C Mean	T-Value
English	18.78	20.58	.58
Mathematics	16.74	20.00	2.01*
Social Studies	17.10	18.00	.60
Natural Science	18.55	21.11	1.60
Composite	16.96	19.76	1.88

Degrees of Freedom = 89
*Significant at the .05 level

An interesting fact immediately evident in Table IV is that the transfer group, Group C, performed much lower on the Social Studies subtest than on the other subtests whereas in the case of Group A (from Table III) the Social Studies score mean was the highest of all subtest score means. The differences between Group B and Group C score means on the Natural Science and Composite subtests approach significance, however, do not reach the 1.99 t-value required with 89 degrees of freedom. Only the Mathematics means score differences are significant. Hypothesis number two is rejected but only by the scores in Mathematics achievement. Although the means of the two groups are dissimilar in all test areas these differences may very well be attributed to chance or to factors not isolated by this procedure.

As the raw scores made by the three student groups on the American College Test Battery are reviewed the following facts are evident:

1. There is a significant difference between the mean scores of Groups A and B, and between Groups B and C on the Social Studies subtest of the American College Test Battery.
2. There is a significant difference between the mean scores of Groups B and C on the Mathematics subtest of the American College Test Battery.
3. None of the subtests of the American College Test Battery produced significant differences among all three student groups.

Analysis of Findings from Biographical Data

The data secured from the personnel records of the students of the three research groups are non-parametric. Information concerning each student could be categorized with a simple frequency tabulation system.

It seemed appropriate to select a statistical technique which would measure the significant differences between numbers of cases falling in a given category from each student group. For this purpose the Chi-Square Test was chosen. It was decided that the difference between group totals of students falling in each designated category must reach the .05 level of significance before being attributed to factors other than chance.

The groups were compared on eight different factors of their psychosocial background; sex, father's occupational level, marital status, parents' educational level, size of high school from which student graduated, extent of student's self-support, and degree of college training of brothers or sisters. Hypothesis number three stated that Groups A, B, and C are not significantly different as to the above biographical factors. To make an analysis of these data more meaningful hypothesis number three was interpreted as it related to each of the eight psychosocial factors separately.

To determine the degree of difference between the groups on each of the factors the Chi-Square Test was applied to the factor frequency totals from Groups A and B, from Groups A and C, and from Groups B and C.

It will be noted that the student group totals often vary from one table to the other. This is explained by the fact that each student did not always provide the complete biographical data requested in the cumulative folder. Since the data from each of these factors is discretely unrelated it was not felt necessary to eliminate all of a student's data when only a part was available. Biographical information related to the sex of the members of the three groups is shown in Table V.

TABLE V
 NUMBER OF STUDENTS IN EACH SEX FROM GROUPS A
 B AND C AND THE RESULTANT CHI-SQUARES
 FROM THE DIFFERENCES

Group	A	B	C
Males	36	13	6
Females	108	34	29
Chi-Square	.02 (A-B)	.007 (A-C)	.015(B-C)

Table V seems to indicate differences in sex distribution far below the required level of significance. Thus hypothesis number three as it applies to the sex ratio of Groups A, B, and C is not rejected.

Two of the original variables to be considered in this study were the marital status of subjects and their parents. When data was gathered from the personnel records, however, the number of married subjects or divorced parents was so small that it would have been impossible to make a meaningful comparison of these variables among the three groups. Only six of Group A, one of Group B, and three of Group C were married. Therefore, no attempt was made to analyze the relationship of this factor to persistence. When the marital status of the parents was considered the records revealed only four non-married parents among all groups. It seems reasonable to assume that this number is not accurate since in many cases this space in the cumulative folder was left blank with no response made.

One of the most discriminating factors among the three groups was the father's occupational level. In order to rank a particular occupation mentioned as followed by each father, it was necessary that a syste-

matic method of categorization be chosen. One of the most uncomplicated yet frequently used methods is the nine-level system used by the United States Department of Labor. The nine levels include: professional, administrative and related occupations, clerical and sales or service, skilled, semi-skilled and unskilled. To provide a rather simple but effective classification procedure they were combined into the following three groups: professional, administrative and related occupations; clerical, sales, service and skilled; and semi-skilled and unskilled occupations.

The stated occupations of the fathers were tabulated into one of these three general groups. By means of the Chi-Square Test the total number in each of the occupation categories within one group was compared to the three occupational categories within each of the other two groups. Table VI illustrates the results of the test.

TABLE VI

NUMBER OF STUDENTS FROM EACH GROUP ACCORDING TO
FATHER'S OCCUPATION AND THE RESULTANT
CHI-SQUARE FROM THE DIFFERENCES

Group	A	B	C
Professional, Administrative And Related	90	24	20
Clerical, Sales, Service and Skilled	31	15	11
Semi-skilled and Unskilled	23	1	0
Chi-Square	8.36*(A-B)	7.49*(A-C)	.13 (B-C)

Degrees of Freedom = 2

*Significant at .05 level

With two degrees of freedom a Chi-Square value of 5.99 is required for significance in the difference among the occupation category totals of the three groups. The 8.36 Chi-Square of the A-B comparison obviously exceeds this value and thus indicates a rejection of hypothesis number three as it relates to occupational level of fathers in Groups A and B. It would seem that the students of these two groups do differ significantly as pertaining to the occupational level of their fathers. Although in both groups approximately sixty percent of the total number had fathers in the professional, administrative and related category Group A shows a much greater degree of distribution throughout the three categories.

From Table VI it can also be seen that Group A and C differ significantly as to father's occupation. From a comparison of the distribution of occupations throughout the three categories it can be seen that Group A and Group C distributions are similar in nature with approximately sixty-five percent in the first or highest category, twenty-five percent in the second category, and from none to twenty-five percent in the third category. Since this similarity exists between Group A and Group C as to father's occupation it would be expected that Group C differences might exceed the required level of 8.99 as indicated. Thus hypothesis number three is again rejected as it relates to the occupational level factor between Groups A and C.

The Chi-Square of B-C comparison indicates a probability of greater than five chances out of one hundred that the difference of .13 could occur by chance alone. Hypothesis number three is not rejected by an analysis of these data.

A summary of the findings concerning the difference between the three groups as to their fathers' occupational level reveals that Groups A and B and Groups A and C differ significantly at the .05 level but that Groups B and C do not differ significantly at this level.

In order to study the highest educational level attained by either parent as a factor in college persistence or withdrawal each parent's level of education was assigned to one of the following categories; completion of at least some college work, completion of some or all of senior high school work, and completion of junior high school or less. The category totals from each student group were compared by the Chi-Square Test to the category totals from each of the other two student groups. The results are presented in Table VII.

TABLE VII

NUMBER OF STUDENTS IN THE THREE GROUPS DISTRIBUTED
ACCORDING TO PARENTS' EDUCATIONAL LEVEL AND
THE CHI-SQUARES FROM THE DIFFERENCES

Group	A	B	C
Some College Work	81	26	18
Some or all High School	42	11	10
Junior High School or Less	6	1	2
Chi-Square	.40 (A-B)	1.26 (A-C)	1.03 (B-C)

Degrees of Freedom = 2
*Significant at .05 level

There seems to be a similar distribution of numbers of parents having attained each level of education between Groups A and B. A slightly smaller difference proportionately occurs at the higher level than at the two lower levels. This difference is not sufficiently great, however, to reach a significant level and as hypothesis number three is considered in the light of these data a failure to reject it is clearly indicated.

The Chi-Square of 1.26 from A-C comparisons is not sufficiently high to exceed the 5.99 necessary for significance. As in the comparison of parental education between Groups A and B the difference is not sufficient to reject hypothesis number three. The fact that the Chi-Square from this analysis is considerably greater than that indicated from A-B analysis can perhaps be attributed to the fact that Group C has two-thirds of its subjects in the two lower categories.

It does not appear from Table XI that any of the comparisons; A-B, A-C, or B-C produce a significant difference. Evidently the educational level of students' parents is not a significant factor in the persistence record of the students. From this evidence it can be assumed that hypothesis number three is not rejected by the data from the level of education of subjects' parents.

To analyze the data from the sixth biographical factor, the size of high school from which subjects graduate, it was necessary to formulate a system of size classification since the personnel record only identifies the high school by name. From a knowledge of Oklahoma schools gained through the writer's several years of experience as an administrator in the public schools of Oklahoma and from a study of the school size classification employed by the Oklahoma Athletic Association a categorical

grouping system was developed which seemed to be in accord with the consensus of what comprises a small, a medium-sized, and a large high school. The most recent, complete and accurate document available containing a statement of the sizes of Oklahoma high schools is the Oklahoma Education Directory (47, pp. 26-77) which includes a complete listing of all schools and school districts and the number of teachers employed by each school during the school year 1963 and 1964. Since this publication, an official document of the State Department of Education of Oklahoma, classifies the size of public schools by numbers of teachers employed rather than total enrollment it was decided that this criteria should be used for classifying the size of high schools in this study. In approximately five percent of the total number of subject cases the students had graduated from out-of-state high schools. To obtain information concerning these students it was necessary to communicate directly with the high school from which each student graduated.

After a consideration of the previously mentioned criteria for high school classification it was determined that, for the purpose of this study, the high schools employing less than twenty-five teachers would be referred to as small high schools. High schools with from twenty-five to sixty teachers would be referred to as middle-sized high schools. Those employing more than sixty teachers would be referred to as large high schools.

Each student from the three subject groups was assigned to one of these high school size categories. The total from each category was then computed. The three category totals for each group was compared to the three category totals from each of the other two groups by means of the Chi-Square Test. The results of this treatment are indicated in Table VIII.

TABLE VIII

THE NUMBER OF STUDENTS FROM THE THREE GROUPS GRADUATING
FROM SMALL, MEDIUM-SIZED, OR LARGE HIGH SCHOOLS
AND THE CHI-SQUARES FROM THE DIFFERENCES

Group	A	B	C
Large	50	17	9
Medium-Sized	44	10	11
Small	53	13	15
Chi-Squares	5.53 (A-B)	.91 (A-C)	2.57 (B-C)

Degrees of Freedom = 2

*Significant at .05 level

After analyzing the relationships of the high school size totals in each group it can be seen that in Group A seventy-three percent of the students are from small or medium-sized high schools whereas in Group B only fifty-one percent are from the medium-sized and small high schools. It would seem that a rather sizeable difference does exist between the two groups as to this factor. The Chi-Square of 5.53 is slightly below the required level, however, and rejects hypothesis number three as it relates to the size of high school from which the subjects have graduated.

Although the Chi-Square of .91 between Group A and Group C high school distributions obviously is not significant an interesting fact can be noted from Table VIII. In the case of both groups there are more students who graduated from small high schools than graduated from large ones. It would seem that there are possibly more small high schools in Oklahoma than large ones.

The results of the B-C comparisons bear out the fact that none of the groups are significantly different as to the size of high schools from which their numbers have graduated. Thus an analysis of this data has failed to reject hypothesis number three.

When checking the personnel records for information concerning the amount of self-support maintained by each student while in college it was necessary to develop a criteria for categorizing each subject. It was not possible to establish a definite amount of self-realized income as a standard since the records were not sufficiently specific to use this method. It was noted, however, that students were required by the record form to list part-time or full-time jobs held. In addition they were asked to note the percent of their total support supplied by themselves. From these data the subjects were classified by degree of self-support into the following categories: (1) those who indicated they were completely self-supporting by listing one hundred percent as the degree of self-support; (2) those who mentioned part-time or full-time jobs held or indicated less than one hundred percent of total support or who mentioned both conditions; and (3) those who indicated no jobs held or no degree of self-support.

The total number in each category from each of the student groups was compared with the total number in the same category from the other two groups. These comparisons were made with the Chi-Square Test to determine if a significant difference existed between the category total of one group and the category total of another. Table IX illustrates the results of these tests.

TABLE IX
 THE NUMBER OF STUDENTS FROM EACH GROUP INDICATING
 SOME DEGREE OF FINANCIAL SELF-SUPPORT AND
 THE CHI-SQUARES FROM THE DIFFERENCES

Group	A	B	C
No Support	75	25	19
Partial Support	60	16	12
Complete Self-Support	4	6	4
Chi-Squares	3.16 (A-B)	1.22 (A-C)	.07 (B-C)
		Degrees of Freedom = 2	
		*Significant at .05 level	

From Table IX it can be seen that Group B's ratio of self-supporting students to the other two categories is almost twice as large as the corresponding ratio from Group A. This difference, however, must be considered as attributable to chance since the Chi-Square of 3.16 is not great enough to indicate significance in the difference. Group B's self-supporters equal one-half of the total number of self-supporters from Group A, a much larger ratio than is found between Group A and Group B totals in the other two categories. These differences, although clearly evident, are not large enough to result in a rejection of hypothesis number three.

Group C seems to contain a larger percent of self-supporting students than Group A. Group C's self-supporters total thirteen percent of the overall totals whereas Group A's self-supporters comprise only eight percent of the overall total of Group A students. Nevertheless, as in the comparison of Group A with Group B, the differences are not significant and hypothesis number three is not rejected.

Groups B and C are obviously much more similar in category distributions than were either Groups A and B or Groups A and C. Thus as is indicated the Chi-Square is small. It can be stated with reasonable confidence that none of the three groups differ significantly as to the degree of self support provided by the student members. Hypothesis number three, is therefore, not rejected as it relates to the degree of self-support provided by the students for their college education.

The last factor from the biographical data deals with the presence of brothers or sisters in the student's family who have attended college. No attempt was made to tabulate either the number of brothers or sisters attending college or the length of attendance beyond one year. In the case of each subject if there were other children of the family having attended at least one year of college a "yes" was tabulated. If none had attended college a "no" was tabulated. The relationship between total "yes" tabulations and total "no" tabulations in each group was compared with the total "yes" tabulations and the total "no" tabulations in each of the other two groups by means of the Chi-Square test. The results are recorded in Table X.

At first glance Group A seems to possess a much greater percentage of "yes" responses over "no" responses than does Group B. However, the actual percentages of differences are only fifty-one percent for Group A and thirty-six percent for Group B. The relatively small size of Group B as compared to Group A tends to reduce the percentage of difference. The 1.63 does not reach the required level of 3.84 and, therefore, fails to reject hypothesis number three.

TABLE X

THE NUMBER OF STUDENTS FROM EACH GROUP HAVING
BROTHERS AND SISTERS WHO HAVE ATTENDED
COLLEGE AND THE CHI-SQUARES
FROM THE DIFFERENCES

Group	A	B	C
Yes	94	24	19
No	53	21	18
Chi-Square	1.63 (A-B)	1.97 (A-C)	.02 (B-C)

Degrees of Freedom = 1
*Significant at .05 level

Group C seems to contain almost as many students with brothers and sisters who have college experience as students without brothers and sisters possessing college experience. The indicated Chi-Square of 1.97 is well below the necessary level for significance. The difference between the two groups as to this biographical factor is not great enough to result in a rejection of hypothesis number three.

With the analysis of the differences between Group B and C totals of "yes" and "no" categories the testing of college experience among brothers or sisters of the subjects as a discriminating factor between the two groups is complete. It is clear that none of the category differences is significant. Hypothesis number three is, therefore, not rejected as it applies to college attendance among brothers or sisters of the subjects under study.

The Questionnaire Data

As questionnaire returns were received from students of the three groups they were selected out and filed according to the group to which they belonged. After the four-months period mentioned in Chapter II had elapsed it was assumed that all questionnaires which could be expected had been received.

Since the total number of anticipated respondents in each group was rather small it was determined on the basis of previous study of questionnaire procedure that at least forty percent of the students from each group should complete and return questionnaires before the responses could be accepted as representative of the feelings of the entire subject sample. It became evident after the mailings of the first follow-up letter and questionnaire to twenty-five percent of the students that the total number of responses might not be adequate. After the four-month period had terminated a count of the returned questionnaires indicated that by groups the percentages of responses were as follows: Group A, seventeen percent; Group B, seven percent; Group C, nine percent. None of the group returns was sufficiently large to be considered representative of the feelings of the members of that group concerning the factors in college success. No further steps were taken, therefore, to analyze the group responses as to their differences from group to group.

The reasons for the relatively low percentage of returns are not readily evident. The procedure which is considered appropriate and necessary for securing adequate returns was followed systematically. The writer feels that perhaps maturity level of the subjects was a causal factor in the inadequate response. It is possible that older college

students might be more willing to respond. Another factor may be the nature of the technique itself. Mailed material often is destroyed before receiving close attention even by more mature individuals than college sophomores. The somewhat disorganized environment of the college dormitory and the busy schedule of the college student are not necessarily conducive to systematic response to each item of material received by mail. Since the accompanying letter of explanation with each questionnaire made clear the purpose and value of the instrument some students may have intended to respond but were not sufficiently motivated to allot time from study and social activity to complete and return the questionnaire.

If the technique was a limiting factor in the potential success of this phase of the study other procedures might have resulted in higher percentages of returns. The writer feels that if time and expense had not been important factors in the selection of methods the counseling interview might have been used. A random sample containing a large percentage of each group might have been selected. Each of the members of the sample would have been interviewed to secure orally the type of responses requested in the questionnaire. When direct contact with the subject by telephone and face-to-face method was made a greater percentage might have been willing to express feelings concerning the question of college success factors.

Although, as has already been stated, the percentage of return was not high enough to indicate adequate representation the responses received were interesting and informative. For the purpose of indicating the feelings of some college sophomores and without any attempt to analyze

the feelings statistically they have been included in this chapter. The following statements are taken from the returns of Group A.

"The reason I enrolled in Education at O.S.U. is because my husband is enrolled here and is working on his Master's Degree, and I would like to have some education."

"Perhaps because of my feelings about what comprises a good teacher and my sincere interest in children I have chosen education as my major field of study."

"I chose education because I love children and want to work with them."

"I'm in a class that I shouldn't take until I have had six hours before it, so I'm about to flunk."

"As an enrolling freshman I was not counseled individually but rather in a group. Consequently, I enrolled in some courses I feel were unnecessary."

"I'm discouraged by the fact that there is not much prestige connected with education."

"Teaching is a career that mixes well with marriage."

"I don't see why I should take so many upper division courses when I need geography, arithmetic, and such if I am to teach primary children."

"My home and family encouraged me to go to O.S.U. and go into Education."

"One thing bothers me about the entire system. No matter what a sorority girl or fraternity boy make in class they generally get top grades, and the rest have to suffer."

"I found the first course to be rather interesting, although the main credit for that should probably go to the professor."

"The reason I came to Oklahoma State was that my aunt and uncle said it was a good school, and I had always wanted to go to Oklahoma State."

"I'm afraid I'm not going to be able to come back next semester because of financial reasons."

"I have not developed good study habits which at times is a disadvantage to me."

"All of the instructors I have had since reentering college have been excellent."

"My advisor was ill-prepared and unformed."

Students in Group B expressed varied and interesting feelings about factors effecting their college success. The following are some of these responses.

"A high school counselor encouraged me to enroll in education."

"As bad as I hate to admit it the Union life, searching for my friends was my downfall. So many others like me had their entertainment during the day and skipped classes."

"I got married during my freshman year and it became necessary for me to transfer to Central State."

"When enrolled as a freshman my advisor was advising between eight and ten students at one time. Therefore, many students like me enrolled in unnecessary classes or overloaded themselves."

"Receiving a P.T.A. scholarship in my senior year in high school encouraged me to enroll in the area of education. I have had to transfer to Central State College."

The following statements are representative of those responses from the questionnaires returned by Group C.

"I greatly admired one of my high school teachers and decided to be that kind of person."

"My faculty advisors at O.S.U. commanded my respect."

"I wonder at times if I have what it takes to be a good teacher."

"A teacher is always in the public eye, must please so many people."

"The pay scale for teachers is too low."

"I have always enjoyed working with youngsters."

"I have an aunt and uncle who teach school and observing them made me want to teach school."

The preceding statements were selected from returned questionnaires and represent those feelings which seemed to be expressed most frequently by the respondents.

Summary of Findings

When Groups A, B, and C were compared on their scholastic performance, the first semester grade point mean differences between Groups A and B, between B and C, and between A and C were significant. Hypothesis number one was rejected at the .01 level.

Hypothesis number two stated that there was no significant difference between the three groups as to their performance on the American College Test Battery. Results from this test indicated that Groups A and B were significantly different in their performance scores on the Social Studies subtest of the American College Test. Groups A and B did not differ significantly on any of the other subtest results of the American College Test. When Groups A and C were compared there was also a significant difference between the two groups as to the Social Studies subtest scores. None of the other Group A and B subtest scores differed significantly. The Mathematics subtest seemed to be the only one which significantly distinguished between Groups B and C. Thus hypothesis number two was rejected as it relates to Groups A and B and A and C results on the Social Studies section of the American College Test. It was also rejected in relation to Group B and C results on the Mathematics subtest.

As to the similarity of certain biographical factors between Groups A, B, and C, only the occupational level of the students' fathers was a significant factor. The occupational level of fathers of Group A students differed significantly from that of fathers of Group B. The occupational level of fathers of subjects from Group A also differed significantly from fathers of subjects from Group C. The occupational level of fathers of students from Group B was higher than that of fathers of students from Group A but not higher than that of fathers of students from Group C. The three groups did not differ significantly as to size of high school from which subjects graduated, their sex distribution, the degree to which they were self-supporting financially, their parents' educational level of attainment, and the college experience of brothers or sisters of the subjects. Hypothesis number three was rejected only as it related to the occupational level of the subjects' fathers.

Returns from the questionnaire were not sufficiently adequate to provide a representative indication of the feelings of subjects about incidents or situations which had influenced their college success or failure. No statistical analysis was made of this data. Hypothesis number four, therefore, could not be tested.

CHAPTER V

INTERPRETATIONS OF RESULTS

It was the intent of this study to determine if any significant differences could be noted between three groups of sophomore students in the College of Education at Oklahoma State University. These groups were composed of students who began as first semester freshmen and remained until the beginning of the sophomore year, those who began as first semester freshmen but did not remain enrolled until the beginning of the sophomore year, and those who were not enrolled for the beginning of the freshman year but transferred into the College of Education between the beginning of the first semester of the freshman year and the beginning of the sophomore year. The first group, the persistence group; the second group, the withdrawal group; and the third group, the transfer group comprised the sample for this study.

Conclusions

When academic grade point for the first semester of the freshman year in college is studied as an indicator of scholastic performance it would seem that both the persistence group and the transfer group made significantly higher grades during this period than did the withdrawal group. Likewise, the difference between the grade point of the persisting students and the grade point of transfer students was significantly

different with the persisting group making the higher grade point average. It would seem that the transfer group performed better scholastically than the withdrawal group but not as good as the persisting group.

From the treatment of the differences in psychological test scores made by students of the three groups it is indicated that the Social Studies and Mathematics subtests distinguish between the groups. They do not perform significantly different on the English or Natural Sciences subtests. Whereas students from each of the groups scored differently to a significant degree on the Social Studies subtest only the students from the withdrawal and transfer groups made significantly different scores on the subtest in Mathematics achievement.

Biographical data from the records of students of the three groups under study provide evidence that the occupational level of the student's father appears to be a factor in the persistence or withdrawal of freshmen in the College of Education at Oklahoma State University. Fathers of withdrawing students had higher occupational levels than fathers of persisting students to a significant degree. Likewise transfer group fathers had significantly higher occupational levels than persisting group fathers. The rather interesting direction of these differences will receive further considerations in the topic on Recommendations.

From the treatment of the differences in psychological test scores made by the students of the three groups it is indicated that the Social Studies and Mathematics subtests make the greatest distinction among the groups. They do not perform significantly different on other academic field subtests. Whereas all three group scores are significantly different in Social Studies the withdrawal group and the transfer group scores only are different in Mathematics achievement.

Implications

Certain inferences can be made with reasonable confidence from the results of this study. It would seem that some of the factors considered did exert an influence on the degree of persistence of the subjects under study.

From the analysis of first semester freshmen grades it appears that they are a possible factor in the first year persistence success of the members of the three groups.

It is indicated that perhaps the degree of educational achievements in certain subject matter areas, not necessarily all, was also an influence in the persistence record of the subjects. It would seem that proficiency in the fields of Mathematics and Social Studies was significantly related to college success.

The level of the father's occupation was evidently related to college success in terms of withdrawal or persistence during the freshmen year. Such a relationship is implied when the occupational level is determined in terms of a socio-economic classification.

Recommendations

As the results of this research study are reviewed it becomes apparent that much further, more extensive investigation is needed to identify factors related to college dropout and persistence. Although the findings of this study are helpful and tend to support the results of other research they are of limited value if they do not contribute to a greater incentive for continued investigation.

This research study supported the view that first semester grade point is related to college persistence. There are many factors that may be contributing to this indicator of scholastic performance. Some of these are: amount of time given to study; method of preparation for class participation; previous familiarity of students with teaching methods employed; and many others. It is possible, since the first semester of the freshman year is a period of adjustment, that second semester grades only might indicate a somewhat different relationship between persisting students, dropouts, and transfer students as to grade point. An extensive study of the possible influence of some of these factors would seem to be advisable.

Though an appropriate psychological test for predicting scholastic achievement the American College Test does not purport to measure certain scholastic aptitudes which may influence college success. Reference was made previously to the possibility that the reading skill factors in the Social Studies subtest were discriminating to some degree among the study groups. Further study should be undertaken to compare dropouts and persistors as to their performance on psychological tests specifically designed to identify reading skill.

The factor variables selected from the biographical history of the students comprise only a very few of the numerous ones which should be considered. Time necessitated the elimination of many originally considered in this study. From seven years of experience in the field of vocational counseling for high school students the writer has noted that the way a student perceives college seems to give some indication of the likelihood of his success in college. A study of the relationship between

student perceptual systems and college persistence might yield interesting and informative results. The rather interesting nature of the data in this study related to occupational level of father and college persistence should give added impetus to the awareness of the need for further investigation in this area. The framework of our American culture constantly strengthens the concepts that high vocational and social status of parents tends to facilitate the educational, social, and personal adjustments necessary for college success. The data from Table IX and X, however, seem to indicate the possibility of influences within the family life of the higher level occupational groups which do not always increase the likelihood of their children succeeding in college. A comparative study of the attitude-value structure of students with fathers of upper level occupational attainment might provide insight into some of the possible reasons for the results cited above.

Although the questionnaire technique did not prove satisfactory in this study this writer feels that some of the causal factors related to dropout can be identified from non-structured student responses. If this Critical Incidents Technique were utilized in conjunction with counseling interview instead of the written questionnaire it is possible that results might be adequate and sufficiently representative to justify analysis and meaningful conclusions.

The critical problem of college attrition is one that will evidently continue to present itself to college administrators in the years ahead. As many colleges and universities tend to adjust their curriculum and instructional programs to the needs and preparation background of students from a variety of academic potentiality levels these institutions will

find necessary a much greater concern for the social, emotional, and educational adjustment of the individual student. Thus continuous research designed to identify personality characteristics, cultural values, and individual behavior patterns which relate to college success can be justified. Not only can it be justified but it can be accepted as a necessity if, in terms of economic prudence, the cost of a college education is worthwhile.

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