WHO BECOMES A COLLEGE DROPOUT? AN INVESTIGATION

ON THE POTENTIAL COLLEGE DROPOUTS

AND PERSISTERS

By

MOZAFFAREDIN VAEZI

Licentiate
University of Teheran
Teheran, Iran
1974

Master of Arts
University of Kansas
Lawrence, Kansas
1978

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF EDUCATION
May, 1981

WHO BECOMES A COLLEGE DROPOUT? AN INVESTIGATION

ON THE POTENTIAL COLLEGE DROPOUTS

AND PERSISTERS

Thesis Approved:

_____
Thesis Adviser

_____

_____

_____

_____

_____
Dean of the Graduate College

ii

1090842

ACKNOWLEDGMENTS

The author expresses his sincere appreciation to all people who have helped him achieve his personal goal. It is impossible to list them all and cite the help and encouragement that each has extended, but to each the author is forever grateful.

Dr. Thomas Karman, thesis adviser and the Chairman of the Advisory Committee, has guided the author through this study and beyond.

The members of the Advisory Committee have been extremely helpful. Dr. Robert Kamm for his constructive suggestions during this study and course works. Dr. William Adrian for his assistance in my academic progress. Dr. Dan Wesley for his interest, remarks, and assistance for this study. Also, my special thanks to Dr. Nancy Knox for her assistance.

The author would like to extend his appreciation to his parents, wife, and children for their encouragement, support, and patience.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

THE NATURE OF THE PROBLEM

Introduction

On Friday, January, 16, 1981, the O'Collegian, the Oklahoma State
University daily newspaper, under "Freshman Fallout" reported that
during the October 10, 1980, meeting the Board of Regents for OSU and
A & M colleges, university officials announced a thorough study on stu-
dent dropout. The study was to follow students from recruitment to job
placement.

Given the nature of higher education today, greater attention has
been given to the dropout problem. College enrollment of new students
in recent years has been declining, and the Carnegie Commission for
Enhancement of Teaching suggested that this decline will increase as the
1980's advance. Therefore study of the dropout problem, in order to
keep students in college, has become a vital issue. This study
attempted to deal with the problem of potential dropouts and tried to
explore differences of the potential dropouts, and the potential per-
sisters, in relation to a set of selected variables. The present
research has been built on Durkhiem's (1951) theory of suicide, which
was applied to the dropout problem by Spady (1971) and Tinto (1975).
The theory attempts to explain the process of dropping out via the
academic and social integration of the student with the college environ-
ment. Testing some psychological and attitudinal variables in relation

1

to the potential dropouts and the potential persisters was essential to enriching and applying the theory to the dropout problem, which was a responsibility of this study.

This study was focused on two-year community college students who were working toward associate degrees. Considerable study has been devoted to the problem of retention and loss of students in community colleges. These studies have dealt with repetition of some variables with no specific theory of explanation, and they have had contradictory results. This has caused one of the biggest problems, i.e., there is plenty of research evident in the area but little knowledge of the cause of the dropout problem.

The assumption has been that college withdrawal, like many other problems, can best be understood within the framework of a model in which varying background characteristics, personal attributes, and environmental influences interact to affect withdrawal behavior. The basic model for this study posited that withdrawal behavior is a function of additive main effects of student personal background, academic adjustment and social adjustment to college environment.

Based on the assumption and findings of other studies, this study tested some variables in relation to the potential dropouts and the potential persisters. It was hoped that the present study, through theory based research, would be one step toward a better understanding of the potential dropouts.

Background to the Problem

One of the biggest problems faced by college administrators and faculty members today is the college dropout. The reduction in

enrollment rates of the early 1970s in higher education throughout the United States caused massive cutbacks by colleges and universities in services, course offerings, faculty members, laboratory facilities, and programs. While administrators and faculties have relied upon marketing and recruitment to keep enrollment rates high, student attrition countered these efforts. One way to deal with this problem is to reduce the attrition rate. Investment of resources on retention control may be as effective as applying the same resources to recruitment efforts.

The following cases may show the importance of the problem. In a visit to St. Gregory's Junior College, the Dean of Academic Affairs stated that they lose between 45 to 50 percent of their students in the course of the freshman year. In 1977, a Pennsylvania State University study on student attrition showed that a 41 percent loss of students implied an annual loss of ten million dollars in tuition (Everett, 1977). Summerskill (1962) summed up the extent of dropouts in the United States by saying that American colleges lose, on the average, approximately half of their students in the four years from matricu-lation. Some 40 percent of college students graduate on schedule, and in addition, approximately 20 percent graduate at some college some day. These have been facts for several decades in this country's higher education.

In fact, the concern about attrition may be heightening as the 1980s progress. Cope and Hannah (1975) noted that approximately 60 percent of the entering freshman do not achieve the baccalaureate in four years and that 40 to 50 percent never earn a degree. In a period of threatened enrollment decline, a large attrition rate has attracted administrators' attention.

Thornton's (1966) study on junior colleges reported a 50 percent drop in Sophomore enrollments between 1963 and 1965, although a number of these students transferred to senior colleges for their second year. An Orange Coast Junior College study found that on the average only about 35 percent of the students eventually were graduated. The degree of concern over the problem of dropouts for community colleges is very high.

In 1970, a nation-wide survey of 671 community colleges conducted by Goodrich, Lezett, and Welsh, substantiated the problem of attrition of open admission and minority students. They found that the freshman attrition rate was 55 percent (for all freshman students) and 58 percent for minorities. Coupled with this is the fact that community colleges have committed themselves to an open-door policy. According to the open-door policy, all students without exception are welcome to enroll in a two-year community junior college. These colleges, with their open-door and low tuition policy, are entering into a critical period in their development. Community colleges are committed not only to provide post-secondary educational opportunities for adults whose interest, ages, abilities, and goals are varied and different to ascertain but also to provide service to their given communities.

From the students' point of view, in some cases the junior community colleges may be a choice of last resort. The low tuition and the open-door policies of these colleges have played and will continue to play an important role in attracting the students to junior colleges. Now, it is up to the community colleges to process and graduate its students. Therefore, the early departure of a student, whether voluntary or involuntary, indicates that the college may not have

functioned appropriately and may not have fulfilled the students's needs. As a result, it seems very vital that community colleges invest some resources to effective control of dropout from their institutions.

The Problem

The dropout has been the subject of various detailed studies for a great many years. Although these studies have considered many different factors, no effort has been made to utilize this knowledge to specify the potential dropouts or the potential persisters, in order to control the dropout problem. It was thought that a study on the potential dropout and the potential persisters would be important.

The problem of this study was (a) to examine the differences between the potential dropouts and the potential persisters in relation to a set of variables and (b) to examine the percentage of the potential dropout explained by the factors involved in the study model which was constructed based on the Tinto's theoretical model.

Purpose and Significance of the Study

The first interest of this study was to attempt to differentiate the potential dropout students and the potential persisters, for that would lay the foundation for further study on locating potential drop-outs. The second purpose was to further the knowledge about the potential dropout students and the potential persisters. In order to do that, it was the interest of the present study to examine systematic differences between the potential dropouts and the potential persisters in regard to curricular adjustment, maturity of goals and levels of aspirations, personal efficiency, study skill, mental health, personal

relation, sex, student satisfaction with institutional characteristics of college, age, and social integration.

It was believed that if we extend our knowledge about the potential dropout students, then we can take preventive action in controlling the actual dropout problem. This exploration would be conducted in a systematic manner as it was based on the Tinto model. The ten selected factors would be tested to the potential dropout factor. If the study proves the existence of systematic differences between the potential dropouts and the potential persisters in terms of the employed variables, then it will improve our knowledge about those who are apt to become actual dropouts. This, in turn, would improve our ability to cope with the problem within the limits of our capability. For example, if we prove there are significant differences between the two groups in terms of study skills, usage of time, or scheduling his study, then the problem may be improved by counseling or implementation of some developmental programs for the potential dropout students.

Variables of the Study

The variables are: sex, age, student satisfaction with college, curricular adjustment, maturity of goals and levels of aspiration, personal efficiency, study skill and practices, mental health, personal relation (with faculty and associate), social integration, potential dropout and potential persisters.

Limitations of the Study

In terms of limitations, the major goal of this study was to test the aforementioned variables in a two-year community college in the

the American Midwest. The following points were the major limitations
of this study:

1. First, this study was not a longitudinal research, because of
   limitations of time and other resources.

2. Second, this was a case study limited to a single institition.

3. Third, in order to be able to conduct this study, it was
   limited to ten selected variables.

4. Fourth, the size of the sample was restricted to 200 students.

Organization of Study

The present research has five chapters. Chapter I is the introduc-
tion, which includes background to the problem of attrition, problem,
purpose, and the limitations of the study. The second chapter produces
the review of the related literature, the theoretical model, and the
assumptions of the study. Chapter III deals with the instrumentation,
scaling, sampling, definition of the variables, hypotheses, collection
and treatment of data. Chapter IV presents the results of the study,
and Chapter V contains a summary, conclusions, and recommendations found
from the research.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The problem of the college dropout has been the subject of very many detailed studies for a great many years. As colleges and universities encountered potential enrollment declines, attention on the problem of attrition became more intensified. This chapter was designed to review the major studies in the area and has been divided into four sections.

In the first section, the literature was reviewed in relation to findings of various researchers in relation to factors associated with the characteristics of dropouts and persisters. This portion gives the reader a deeper understanding of the idea of who a probable dropout or a persister is.

The second section will view the potential dropout. This part was designed to narrow the review to the studies on the potential dropouts that are closely related to the purpose of the present study.

The third section will view the theoretical development in the area of retention. This portion was designed to explain the theoretical development of the present study.

The fourth section will formulate the study model in relation to the review of the theoretical conceptualizations. The study assumptions and the summary will conclude the present chapter.

8

Synopsis of Studies Related to Characteristics

of Dropouts and Persisters

Iffert (1955, p. 409) who is one of the early researchers in the area of retention reported that dropout rates from publicly controlled higher education was higher than privately controlled colleges. This was because a higher proportion of students who ranked in the upper tenth of their high school graduating class went to private institutions. He found the high school grade point average (GPA) was higher among persisters than dropouts. He also stated the weightiest factor for dropping out of college was academic difficulties in the first place and financial difficulties in the second place. Iffert concluded that taking a job, sex, lack of interest, and problems with health each explained five to ten percent of the total percentages of dropping out. He found that men had a higher attrition rate (61 percent) than women (59 percent).

Summerskill (1962, pp. 632-659) categorized factors associated with dropping out of higher education into biological, social, academic ability, motivation, adjustment, illness, injury, and financial factors. He found socioeconomic factors, motivation, and hometown size and location were carrying important weight in explaining dropout behavior, but biological factors such as sex and age were found to be unimportant; however, he noted that "older undergraduates may encounter more obstacles to graduation" (p. 631). Summerskill cautioned that students should be divided into academic failure and academic successes when including academic performance as a factor of attrition. He encouraged studies specially in the area of motivation in relation to dropout and added that the simple passing of time would probably affect attrition.

In other words, as times change, the goals of both institutions and students also change. Thus, several dropout factors may tend to change, and attrition studies may need to become a subject of reexamination.

Panos and Astin (1968, pp. 57-72) conducted a longititudinal study at the national level among 248 colleges and universities. They found dissatisfaction with college environment, time to reconsider goals, interests, financial problems, low grades, and sex were important factors for dropping out. Panos and Astin concluded a dropout student as one who had relatively low grades and no specific plan at the time of college entrance to take either graduate or professional work. In addition, they suggested that the dropout was relatively more likely to mention business, engineering, or secreterial work than the nondropout as his or her possible career occupation at the time of entrance to college. Last, the dropout was more likely than the nondropout to have been married when he started college; in relation to sex, they found that men drop out at a higher rate than women.

A review by Pervin (1966, pp. 40-42) noted that the reason for dropping out was found to be the problem of poor motivation and immaturity. In most cases, poor motivation was attributed to a general lack of interest, boredom, apathy, disliking the curriculum, getting nothing out of college, and lack of goals or choice of major. His study on student's satisfaction with college proved his hypothesis that "the greater the discrepancy between the way a student sees himself and his image of the college, the more are the chances that he will be dissatisfied with college, and consider dropping out" (p. 290). Pervin concluded that for both dropout and persister the prominant reason was

disappointing grades. The second reason was dissatisfaction with the university, either owing to some social aspect of the college, curriculum, faculty, etc., or to some other aspects. The third significant factor for dropping out was lack of direction.

Dorothy Knoel (1960, pp. 63, 81) in her "critical review of research" stated the major factors associated with student dropout were found to be biological, social, academic, motivational, health, and financial; however, the academic ability was unrelated to attrition since as many good students as poor ones withdrew from college, and academic difficulties accounted only 33 percent of dropouts.

Cope and Hannah (1975) summarized the reasons for dropping out as academic preparation, sex, financial problem, aptitude test score, goals, religious beliefs, high school or college size and location, psychological, and institutional characteristics. Their framework for review was designed to demonstrate the complexity of attrition in relation to several factors.

Cope and Hannah concluded from the review that a slight reliance can be placed on performance in high school as a significant predictor of persistence. They had stated

> . . . as long as high schools, colleges, students, and grading systems remain as variable as they are--and hopefully, will continue to be . . . little reliance can be placed on performance in high school as a predictor of graduation (p. 12).

And that low correlation between SAT scores and attrition proves the unimportance of using SAT scores as a predictor variable. In relation to sex, they noted different studies symbolizing the ambivalent nature of the findings - finally, they concluded:

> Although there is a tendency for most studies to find more men withdrawing than women, when an adequate follow-up including reentry and transfer is conducted, little or no

variation in the attrition rate for men and women is found.
Women tend to graduate on schedule more often than men, but
men are more likely to eventually complete degree
requirements (p. 14).

With respect to finance, although they reported conflicting findings,

their conclusion was that financing college was not a major problem in

persistence.

Cope and Hannah's (1975, pp. 27-28) conclusion about personal com-

mitment versus cost of education as a reason for withdrawal, reported

that private colleges in particular recognized the importance of cost.

Students could easily move from a private college to the public insti-

tution in order to reduce outlay, and this action does not represent

real dropout. They concluded in relation to personality that it reveals

a little importance on the attrition studies, but psychological stress

as an emotional problem is related to withdrawal; they also indicated

that withdrawal is probably indicative of more basic problems that

may not be a direct result of the academic environment. They further

suggested that studies should focus more on psychological discouragement

or a sense of being bored with college rather than on traditional

studies of students' state of mind, which suggest abnormality.

Cope and Hannah suggested that, at the time of entering college,

educational expectation may be an important variable to consider when

attempting to develop predictors of academic persistence. With respect

to major field study, they quoted a study by Medsker and Trent (1965).

Persistence was also found to be related to the major declared
by students at the point of college entrance. It was found
that the highest first year attrition group (25 percent) were
the declared terminal students, most of whom were in public
two-year institutions. Next in rank (22 percent) was the
group with the business major. Those with declared majors in
the natural sciences showed the greatest tendency to remain
in college, with only 9 percent failing to complete the first
year (p. 20).

Further, they concluded in relation to such variables as high school size, home residence, and distance to college; simply noted the ambiguous results; and stated that it was impossible to draw specific conclusions about these factors because of the lack of consistancy in the research findings (p. 23).

Tinto (1975, p. 100) in his study, divided research on dropouts into three catetgories--personal characteristics, academic integration, and institutional characteristics. Tinto, whose review of the literature is very extensive in these areas, with respect to individual characteristics, reported that family background, indvidual ability, attitudinal differences, sex, past educational experience, and goal commitment were directly or indirectly related to dropout. In relations to family, socioeconomic status reported to be inversely related to dropout. In brief, it appears that the college persister is more likely to come from families in which parents are more educated and are more affluent. The student's educational performance at the college level was nearly twice as important in accounting for dropout as their family status. The attitudinal differences found to be associated with college persistence. "The dropouts tend to be more impulsive than persisters, lacking in any deep emotional commitment to education unable to profit as much from their past experience" (p. 101). The lack of flexibility in dealing with changing circumstances was also cited to be related to dropping out. With respect to sex of individual, he reported to be related to college with a higher rate of men finishing college degree than women. Educational past experience is indirectly or directly related to persistence. High school experience reported to be an important factor, because that affects the individual's aspirations,

expectations, and motivations for college education (p. 102). Tinto, in relation to individual goal commitment, concluded that it was a reflection of a multidimensional process of interactions between the individual family, and his prior experiences in schooling. He cited

> . . . more importantly, the impact of those background factors upon college persistence, especially that of the family, is largely mediated through their impact upon the development of an individual's educational and institutional commitment (p. 103).

With regard to college environment, Tinto reported persistence in college is not simply the function of the individual and the institutional environment. Tinto raised the argument of congruency among individual characteristics, academic system, and the social environment of college tended to be his underlying theory. In relation to academic integration, he stated it can be measured both by grade performance and student's intellectual development. Grade performance tends to be the most visible form of reward in the academic system of the college. Many studies have shown academic performance to be the single most important factor in predicting persistence in college. However, Tinto has distinguished between dropouts who are academic dismissal and those who are voluntary withdrawal, because the latter group often scored higher on various measures of ability and or grade performance than do the college persisters (p. 104). Tinto concluded that although the grade performance and intellectual development appear as separate components of a person's integration into the academic system, it is obvious that persons with high grades are likely to be high in intellectual development measure. Both are supposedly related in a direct manner to integration into the academic system of the college (p. 106).

With respect to social integration, Tinto (1975) stated social integration, like academic integration, involves notions of both levels of integration and degrees of congruency between the individual and his social enviroment. In this case, social integration occurs primarily through informal peer group associations, semi-formal extracurriculur activities, and interaction with faculties and administrative personnel within the college. Successful encounters in these areas result in varying degrees of social communication, friendship support, faculty support, the collective affiliation, each of which can be viewed as important social rewards that become part of the person's generalized evaluation of the costs and benefits of college attendance and that modify his educational institutional commitments. Finally, he reported, other things being equal, social integration should increase the likelihood that the person will remain in college (p. 107).

Some are concerned that social activities, like peer interaction, reduces academic performance, but Tinto concluded that depends on the type of person with whom the interaction occurs. Social activities through extracurricular activities appears, however, to have no adverse effects upon academic performance or persistence in college. Tinto cited studies by Bemis (1962), Goble (1957), and Spady (1971) which found that participation in extracurricular activities, for both sexes, was directly related to college persistence.

Finally, Tinto concluded a lack of well-established research on institutional characteristics. He criticized that existing research of being too simplistic to permit meaningful generalization. Common to this research has been not only the failure to include institutional characteristics, but also to ignore the fact that differences in

attrition rates between institutions result from the difference in the types of student admitted (p. 111). He noted that dropout rates from two-year is higher than the four-year colleges. This is because the lower level motivation and academic ability students enter the two-year colleges. Since the type of college is related with quality of the college found to influence persistence in college.

Pascarella, and Terenzini, (1977) studied one of the Tinto's theoretical elements--that high level of student-faculty interaction is related with persistence. The study was conducted at Syracuse University among 2,400 freshman students. They found that the greater faculty-student interaction, focusing on course related materials or intellectual development, the better the academic performance and the greater the chances of persistence in college. Later Pascarella and Terenzini in a follow-up study, emphasized informal student contact with faculty members and concluded that freshman attrition could also be reduced through the development of programs involving students in social and academic participation in order to increase integration into the college environment.

The study by Astin (1975, pp. 3-5) was a longititudinal research at national level, an original sample of 243,156 freshman students from 358 two-year and four-year colleges selected in fall of 1968. Because of financial problems, the sample was limited to a follow-up sample of 101,000. In 1972, 41,356 (41 percent) properly usable questionnaires were returned. The 1968 questionnaries contained 175 items covering factors such as age, sex, race, religion, and past achievements, as well as parents' income, education, occupation, student's educational and career plans, study habits, life goals, daily activities, reason for

choosing the college, sources of financial aid, and self-predictions about possible college outcome. The 1972 questionnaire covered variables about students' educational progress since entering college, number of years of undergraduate attendance, degrees earned, current degree plans, and a year-by-year record enrollment status, ways the student financed their undergraduate education, the place they lived each year since entering college and types of job held.

Astin's (1975, pp. 35-36) finding showed that high school grades was found the most important predictor of college attrition, study habit contributed significantly to the ability to estimate dropout proneness. With respect to family background, parental income and the educational level of parents were negatively associated with college attrition. Race--American Indians and Chicanos had highest dropout rate of 31 percent, Orientals the lowest rate of 19 percent, whites 24 percent, and blacks 29 percent. Religion--"Jewish" students were found least likely to dropout followed by those who checked "Catholic." The most dropout proneness were those whose parents were protestant, but who themselves indicated no religious preference (p. 115). Students' concern about financing their education carried substantial weight in the prediction model, but women were likely to let financial considerations influence their decision to remain in or to leave the college (p. 40).

In relation to educational aspirations and expectation about graduation, Astin (1975) concluded that the student's degree aspiration was related to college persistence. Students who aspired to get "a doctorate or professional degree" were found least likely to drop out of college, while students who aspired to "a bachelors degree" had the greatest chance of dropping out (pp. 37-38). With respect to expectation about

graduation, students who entered four-year colleges expecting "no chance" of dropping out--74.6 percent did persist, but 16 percent dropped out. Those who said "very good" chance to drop--33.5 percent did drop (p. 40).

Other characteristics such as smoking cigarettes, age, sex, job, college environment, and extracurricular activities were found related to attrition. Astin (1975, p. 44) suggested that "smoking may be a symptom of rebelliousness and nonconformity traits directly associated with college attrition." Age was associated with college attrition; particularly older women were more likely to drop out than the traditional student (17-19) years old. Having a part-time job and participation in extracurricular activities were related to persistence. Environmental circumnstance such as living in dormitory, faculty-student relation, types of institution, matching social background individual with other students, and any other kind of student participation in college were found related to completion of degree.

Finally, Astin (1975, p. 45) concluded dropout prone were those with poor academic records in high school, low aspirations, poor study habits, relatively uneducated parents, and small town background.

Another study by Astin (1977) a longititudinal research at national level was conducted between 1961 to 1970, among 248 colleges and universities. Data was collected on students' family backgrounds, school achievements, and educational aspirations. Astin showed that entering freshman characteristics produced only a modest prediction in persistence. He stated, by far the most potent predictor was the student's average grade in high school; then, Astin stereotyped the persister as a student with high grades, high aspirations, affluent

affluent parents, and the ability to postpone gratification (p. 108).
The potential dropout was defined as an independent, pleasure-oriented,
individual with low aspirations, poor grades, and planning to marry
while in college. He substantiated it with his early study and with a
research by Bayer (1969). Also indicated was that the most important
environmental characteristic associated with college persistence was
living in a dormitory during the freshman year. Attending a public or
private two-year college substantially reduces the student's chance of
persisting; Astin attributed this statement to the lack of residential
facilities in the two-year colleges. In conclusion, he stated that all
forms of college involvement--e.g. research, honors programs, and social
fraternities, a campus part-time job, and extracurricular activities
were positively related to persistence. However, the single variable
most strongly associated with staying in college was the student's
undergraduate grade point average (p. 109).

Pantages and Creedon (1978), in a review of the literature, looked
at demographic factors (such as age, sex, SES, hometown size and loca-
tion, and type of high school, as well as academic factors--high school
GPA and class rank, SAT score, first semester college grade, curricular
adjustment and study habits) and motivational factors (such as goal
committment, reasons for attending college, educational interest,
parental and peer-group influence, personality factors, the college
environment and financial factors (pp. 57-81).

Pantages and Creedons' review suggested that age was not a primary
factor related to attrition; the same was true about sex. Sex was a
significant variable in determining persistence or attrition, but it
became more significant as scholastic, environmental, institutional,

and longitudinal factors were taken into account (p. 58). They concluded that SES variables were of limited value in predicting attrition. Location of a student's home in relation to college had no significant bearing on the student's chances of gradution, however they suggested this conclusion pertained only to four-year college institutions, not to junior community colleges. This variable was an area that needed further study and was not shown in any study (p. 61). On academic performance, they suggested that the majority of studies have found that GPA and rank in high school differentiated potential dropout from persisters (p. 62).

With respect to curricular adjustment, Pantages and Creedon (1978, p. 67) cited Slater (1957) that he hypothesized that attrition was influenced by curricular goals and vocational objectives of the student when he or she selected a college. The probability of dropping out was greater when the decision to attend college was made by a person other than the student or when the student was indifferent to the curriculum at the college. They also cited Iffert (1957) that the decision to attend college made by someone other than the student was rarely found to be as a major reason for withdrawing. However, those students low on commitment were more likely to drop out than those students who made their own decision. But a student's indifference was found to be a function of low commitment which, in turn, contributes to attrition (p. 67). Finally, they concluded that dropouts were more dissatisfied with their major field of study than were nondropouts. And that has been the popular belief that changing majors was indicative of educational uncertainty, and that such uncertainty was conducive to dropping out (69).

Pantages and Creedon (1978, p. 65), in relation to motivational factors, reported that by far the most prominent factor determining attrition and persistence. However, they stated that it is extremely difficult to determine which motivational factors were predictive of persistence or how to measure these motives accurately once they are known. In relation to study habits, they reported this was the more obvious factor that affected the probability of student persistence or dropping out.

Mehra (1973) conducted research on "Retention and Withdrawal of University Students" in Canada. This longitudinal study was conducted between 1964-1970 and found the following factors in relation to persisters and dropouts. Men and women drop for different reasons, men mostly due to financial and academic difficulties and women due to marriage and loss of motivation. Forced withdrawals and academic dismissals occurred mostly due to poor academic achievement while academic withdrawals were substantially due to loss of motivation and disenchantment with the college experience. The variable academic ability and sex appeared to be the primary predictors of university success versus attrition in Mehra's study. Academic ability was found to be a useful predictor for mens' persistence and marriage a good predictor for womens' dropout.

Zaccaria and Creaser (1971) conducted research on "Factors Related to Persistence in an Urban Commuter University." This research was a longitudinal and single institutional study. The authors investigated differences in ability, personality characteristics, and social status between students who graduated within five years of matriculation and those who discontinued their studies at the relatively new commuter

campus of the University of Illinois at Chicago circle during 1963-1968
(p. 286). They found that graduates did not differ from achieving with-
drawals (subjects who withdrew in good academic standing, obtaining a
GPA of 3.0 or more) on ACT composite score and high school percentile
rank (HSPR). Similarly, the nonachieving withdrawals did not differ
from the failure (subjects who were dismissed for failure to meet aca-
demic standards) on the measure of ability and high school achievement.
However, they found that both groups (graduates and achieving with-
drawals) had significantly higher ACT scores and high school percentile
ranks at the .05 level of confidence than groups of the failure and
nonachieving withdrawals. No difference of the result was found between
males and females (p. 289). In relation to social status: male,
nonachieving withdrawal group represented a lower level of social status
than other groups; women did not show any difference in the four groups.
Thus, the authors concluded maybe a lower social status men were more
likely to drop out of college when confronted with failure more than
other groups (p. 290). With respect to Edwards Personality Preference
Schedule (EPPS) score, their findings showed no difference for all
groups. But after controlling for GPA, they found that persisters
differed with the dropouts in relation to personality needs. The
students who withdrew in good academic conditions seemed to conform
less to college rules and regulations and expectation of others. The
male who withdrew appeared to be more assertive and the female seemed
to have greater heterosexual concerns in comparison to male and female
students who persisted to graduation (p. 290).

Finally, Zaccaria and Creaser (1971), with respect to their major
contribution to attrition problem, stated that:

Analysis of the sample showed that 75 percent of students who discontinued university attendance (withdrawals and failures) had cumulative grade point averages below 3.0 (C). When scholastic standing was controlled, however, the effect of personality variables upon persistence could be seen more clearly. The results of the present study suggested that research relating to attrition among college students should take into consideration the intellectual and personal attributes of the entering students within the environmental context (p. 290).

Regarding Peng and Fetters (1978) this was a multi-institutional research based on longitudinal data, a sample of 4,539 students from four-year institutions and 1,378 students from two-year colleges were drawn from the National Longitudinal data. The study examined factors such as socioeconomic, sex, race, high school curriculum, high school achievement, academic ability, educational aspiration, work, scholarship recipients, loan recipients, and college achievement.

Peng and Fetters (1978) found that four-year college persisters differ from withdrawals in most of the variables except for sex and loan recipients. Persisters had higher SES, aspiration, ability, and achievement than withdrawals. Comparison between the two-year and four-year college students showed that they differ in backgrounds. The persisters from two-year colleges, on the average, had lower SES, aspiration, percentile rank, and academic ability than withdrawals from four-year colleges. With respect to types of colleges, they concluded, in the highly selective institution, withdrawal was primarily a function of poor grades and lower aspirations, while the process in the less selective institutions sex and race were found to be playing an important role.

In a survey, Kowalski (1977) studied 250 persisting students and 250 nonpersisting students. His Chi-square analysis showed that the following factors were related to persistence in college: father's

educational level, medical or personal problems at home, student's satisfaction with college, and student's evaluation of the attitude of the faculty and/or their academic adviser. Kowalski also found a number of personal and academic characteristics were related to persistence, e.g., plans about educational goals, study habits, participation in class discussion, interest in school work, class attendance, library use, lack of basic academic skills, becoming bored, satisfaction with college, parental pressures, the student's perception of the ability of the college to help him/her in developing better career plans and well-rounded people (p. 76). Finally, he concluded that "students with academic and personal problems can be identified as potential dropouts. A positive personal relationship with a student's adviser and faculty members influence his or her chance to remain in college" (p. 77).

Feldman and Newcomb (1970) looked at the problem of the dropouts and persisters on the basis of the theory of "congruence" or "fit" between college and the needs of the student. They suggested that by measuring the correlation between various measures of students' needs and the environmental pressure, the degree of congruence between the students and the environment can be discovered. They suggested that attrition then was a function of the lack of congruence between the needs, intellectual development, and interest of the students and the demands, constraints, and rewards of a given institution (p. 89). Bogen (1978) also suggested the theory of "congruence" or "fit" should be completely observed in order to improve the performance of the faculty and the student.

Nicoli (1970) found that student's depression played a significant

role in a student's perception of withdrawal from college. Bucklin and Bucklin (1970) stated nonpersisting students tended not to have the ability to stick with a given task, appeared to be less satisfied with a routine, were less sure of the role they would play in the future, seemed to be less able to distinguish the important from unimportant, and were less effective and diligent in carrying out daily activities. The college dropout tended to be a careless test taker, often was lacking in the ability to adapt to the college environment, had a serious deficit of self-disicipline, and had a family that did not support his education endeavors. He tended to be rigidly opinioned, inflexible, nonacademically oriented, and distrustful of adult authority. He preferred social activity to studying, had ill-defined goals, and was uncertain of his occupational choice and college major. Bucklin and Bucklin reported that persisters had a higher SAT score and verbal score, a higher grade point average in high school, and finished in the upper ranks of their high school class.

Another study by Bucklin and Bucklin (1970) and Ikenberry (1961) found nonpersisting students had lower secondary school grades and significant lower test scores in the reading area and academic ability. The values of nonpersisting students tended to be different from those of persisting students. The nonpersisting students appeared to have the goal of immediate reward and sought immediate payoff for his energies, whereas the persisting student was less interested in immediate gratification and could postpone gratification for some time.

The following section was devoted to studies on potential dropouts. This part was designed to narrow the review to the studies on potential dropout. Those were closely related to the purpose of the present study.

Potential Dropout

In 1968, 23 community colleges in northern California agreed to form a consortium for research on the community colleges. The first problem this consortium addressed was the community colleges' enrollment and attrition. When they found a 52 percent attrition rate between the year 1959-1966, the decision was made to find ways of experimentally reducing the rate of attrition. That was given the highest priority by this search group. Their study, involving the cooperation of all 23 community colleges, collected data on 75,000 entering freshman in these colleges during the years of 1968, 1969, and 1970. After three years, they reported the students who were prone to drop from school had the following characteristics:

--The potential dropout was likely to be black

--The potential dropout was likely to have lower academic performance

--The potential dropout showed a lesser sense of the importance of college

--The potential dropout was likely to come from a family that was less affluent and was most likely to express greater concern over matters of finance and employment

--The potential dropout was less likely to have had parental encouragement for attending college

--The potential dropout's academic ability was a key factor in predicting attrition. When grouped by sex, low abiltiy male was three times more likely to withdraw than low ability females (Kester, p. 43).

A study by Cope and Hannah (1975) showed that one-third of dropouts were due to academic reasons and one-third to financial reasons. The remaining one-third was attributed to motivational factors. Astin (1975) who has conducted a longitudinal and multi-institutional study examined a variety of variables such as parental income and education,

financial aid, and students boredom. Controlling for other variables, family income showed a clear relationship to dropping out. Students from families who earned less than $4,000.00 annually have a drop out rate of 31 percent, while those who earn more than $4,000.00 have only a 14 percent drop out rate. Astin noted that the most frequent reasons for dropping out for both male and female were being bored with college courses (men, 36 percent; women, 25 percent) and financial difficulties (men, 29 percent; women, 27 percent) (p. 14). Astin's study showed that academic performance was the major factor in college attrition of both "men and women", "white and negroes."

As it was discussed before, Astin (1978) defined the potential dropout as a student who was an independent, pleasure-oriented individual with low aspirations, poor grades, and planning to marry while in college. Astin substantiated his definition with his earlier study and with a research by Bayer (1969). Pantages and Creedon (1978) defined the leavers as those who have lower high school GPA, lower first semester grades, and the lower study habits. Kowalski (1977) defined the potential dropout as those "students with academic and personal problems can be identified as potential dropouts" (p. 77). Chickening and Hannah (1969) noted the ten frequently mentioned reasons by the students who were considering withdrawal from college were: (1) academic underachievement, (2) difficulty with educational plan and purposes, (3) vocational plan, (4) religious beliefs, (5) attitudes and values, (6) financial problems, (7) plans concerning life in general, (8) college rules and regulations, (9) limited offerings in college programs, and (10) educational opportunities elsewhere.

It appeared that the primary factor in differentiating the

potential dropouts and the potential persisters was academic perfor-
mance, measureable by GPA. As it was stated in the previous pages,
several researchers including Astin found GPA as a major factor in
relation to dropouts. Astin (1978) stated that "practically every
student with an average grade of C- or lower drops out" (p. 15). This
is to be expected, however, as students with GPA's below C are usually
not permitted to graduate. "The association is also strong among
students with passing grades. The dropout rate for students with B
average is nearly twice that for students with A averages" (Astin, 1975,
pp. 15-17). This clearly supports the argument that grades
substantially motivate students to stay in college.

In a recent review of the literature, Pantages and Creedon (1978)
cited studies by Rose and Elton (1966) which supported that, based on
GPA, a four way analysis of persisters and nonpersisters can be used
instead of the usual two-group analysis: (1) academically successful
persisters GPA > 2.00, (2) unsuccessful persisters, GPA < 2.00, (3)
successful dropouts GPA > 2.00, and (4) unsuccesful dropouts GPA < 2.00.
There are studies which used and recommended this type of groupings of
students (Bean and Covert, 1973; Hackman and Dysinger, 1970; Hanson and
Taylor, 1970; Tinto, 1975; Vaughan, 1968). Prediger's (1965) findings
showed statistically significant differences in dropout rates among
these four groups, ranging from .005 to .05. These findings were
generally supported by the others such as Johansson and Rossman (1973)
and Rose and Elton (1966).

The following section was devoted to the theoretical development in
the area of retention. In order to explain. the theoretical development
of the present study.

Toward A Theoretical Framework

This section of the review of the literature was designed to review various approaches and conceptualizations of different scholars in the area of retention. In the previous section it was indicated that as early as the 1960s researchers such as Iffert (1955), McNeely (1939), and Summerskill (1962) viewed the problem in relation to single factors such as biological, social, and academic. Apparently no complicated theoretical framework was used.

In the late 1960s, scholars like Feldman and Newcomb viewed the problem differently. They developed a theory of "fit" or "congruence," fit between the needs of the student and the college. These scholars viewed attrition or dropout as a function of the congruence between the needs, intellectual development, and interest of the students and the demands, constraints, and rewards of a given institution (Feldman and Newcomb, 1969, p. 289). The fit or congruence included the psychological and other background characteristics of the student.

Feldman and Newcomb (1969) believed that motivation is a function of a given institution. A student's characteristics may encourage withdrawal from one institution or discourage it with another one. Researchers such as Astin, Cope and Hannah, and Gerald Bogen conducted several studies on the "college fit" theory. The studies by Cope and Hannah, and Astin was reviewed in section one of the review of the literature.

Cope and Hannah (1975) considered attrition as an interaction between an individual and institution (p. 9). A student who is likely to drop out of an unstructured and progressive liberal arts college may remain in a traditionalistic religious college or vice versa.

Bogen (1978) suggested that the theory of "congruence" or "fit" should be completely observed in order to improve the performance of faculty and students and to reduce the rate of attrition. The students and the faculty members are remarkably diverse with respect to values, orientation, vitality, and motivation. Differences of a faculty member is a function of age and experience as they relate to their profession. For example, young faculty are more likely to respond favorably to comments from a student whereas the older, more experienced faculty are more likely to respond more favorably to supervision from the departmental chairperson (p. 51). Differences in students are functions of behavior, values, expectation and needs (p. 52). Bogen refers to a great deal of research, and states that students are not only widely divergent in their academic skills, they are so in their abilities, motivations with respect to collegiate experience, expectations and needs. This diversity may expand to the student population. For example, the phenomenon of the adult learner is now being increased (e.g., the present study sample represented that 15 percent of the students were over 31 years of age and seven percent over 40 and less than 60 years of age in a two-year community college working toward associate degree). When this diverse population of students enters the colleges, however, it meets conformity rather than diveristy. "Should we be surprised at high attrition rates and transfer rates when such diversity meets such singularity?" (p. 53).

Astin (1975) suggested that, in general, persistence is enhanced if the student attends an institution in which the social backgrounds of the other students match his or her own social background. Such interactions are most apparent with town size, religion, and race of the

student (p. 55). Finally the college fit theory appreciated by Chikering and McCormick, who stated that the greater the degree to which a student's values, goals and attitudes correspond with those of a given college, the more likely it is that the student will persist at that college. It can be concluded that the diverse institutions of higher education provide safe havens or an appropriate sense of well-being to diverse students.

In 1975, a theoretical model for the study of dropouts was established by Spady and developed by Tinto based on Durkhiem's theory of suicide (Figure 1 depicts the Tinto model.) According to Durkhiem's theory, suicide occurs when the individual is insufficiently integrated into the fabric of society. Specifically, the likelihood of suicide increases when two types of integration are lacking, namely insufficient moral (values) integration and insufficient collective affiliations.

Spady (1970) viewed the college as a social system with its own values and social structure. Spady treated a dropout from that social system in a manner analogous to that of suicide in a wider society. If the dropout is viewed in the light of Durkhiem's theory, study needs to be done to determine the extent to which the student is integrated into the two domains, first the academic domain and the structural environmental domain of the college. Once the student may be able to achieve integration into one domain of the college, he or she may still leave the college because of poor integration in the other domain. For example, a person may perform well in the academic sphere and still drop out because of poor integration into the social sphere such a person might well be called a voluntary dropout. Research on the problem of the dropout should consider both situations and must attempt to understand

Personal Factors   Academic System

Social System
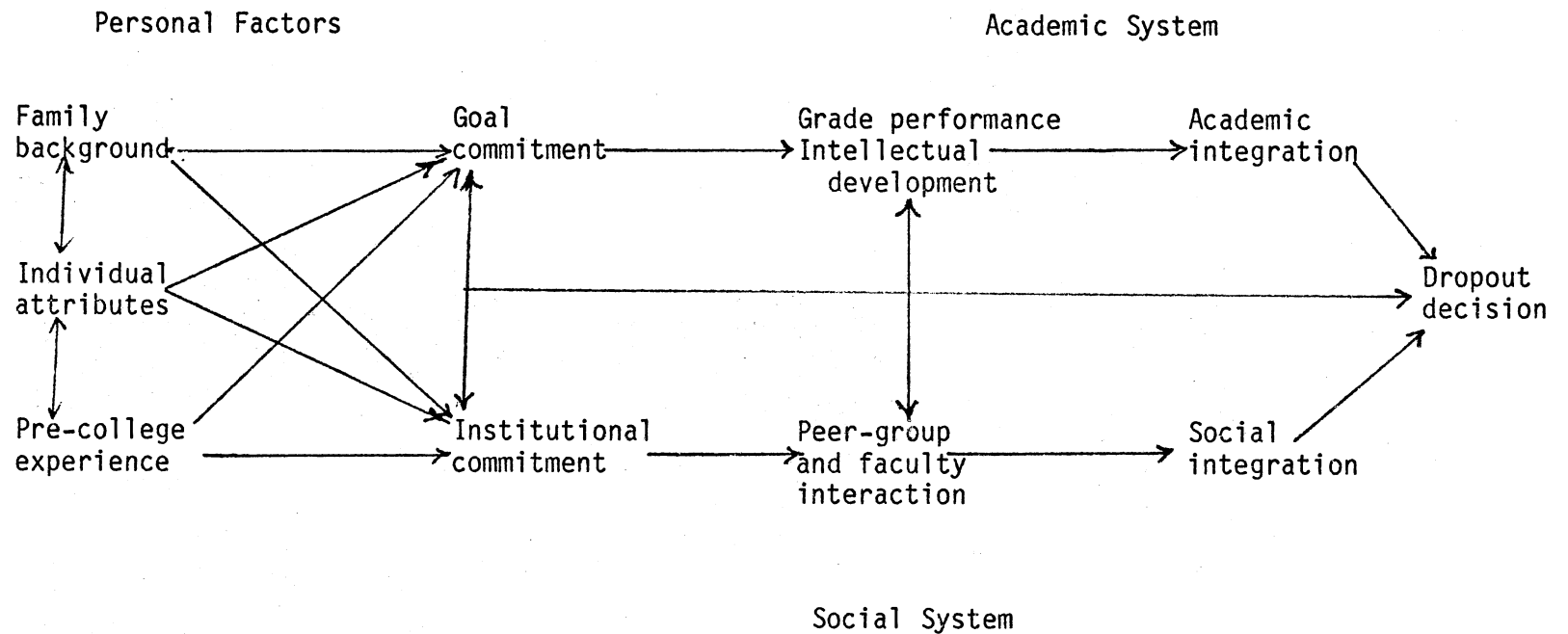
Source: Review of Educational Research, 45, No. 1 (1975), 95.

Figure 1. Tinto Model

the problem of these two domains.

However, there is a shortcoming in Durkhiem's theory of suicide, for the theory assumes all individuals are at the same level of psychological disposition. For example, if two persons have the same problem, one possibly might commit suicide while the other did not, perhaps because of one's psychological flexibility. In order to apply this theory to the problem of dropouts, the personality domain should be added, as was mentioned by Tinto.

Tinto (1975) categorized dropout characteristics into three domains. First were the individual characteristics such as family backgrounds, past educational experiences, and psychological factors. Second was the academic domain, which has to do with student integration into the academic system of the institution (factors like academic performance, curricular adjustment, and intellectual integration). The third was the social domain, which has factors like social integration, peer group and faculty interaction, extracurricular activities.

Tinto's conceptual model involved a sequential causal affect on the three domains which result in an explanantion of dropout behavior. Dropout behavior can be explained as a degree of interaction among the factors involved in the three domains. This conceptual model seems to be comprehensive, not only because it embraces the fit and congruency theory but also because it explains "why" a student is integrated into the institutional system or not, on the basis of individual characteristics.

Based on the Tinto model, the study model was built to explain the potential dropout behavior. It includes the variables considered in the study.

The model is presented schematically in Figure 2 and assumes that varying biological characteristics (age and sex) may have direct or indirect affect (via academic adjustment and social environment) on the dropout scale. Similarly, the academic adjustment and social adjustment directly influence the dropout scale.

Assumptions

The assumption has been made that a variety of personal characteristics, academic adjustment, and social environmental variables interact with each other and make a student's persistence possible in college. Personal factors are like age and sex; academic adjustment factors are curricular adjustment, maturity of goals and levels of aspirations, personal efficiency, study skill, and mental health; and social environmental factors are student satisfaction with college, personal relation with faculty and associate, and institutional integration.

The following major assumptions were made for the purpose of differentiating potential persisters and the potential dropouts.

A_1 Age. For undergraduate students (working toward associate degree), age fluctuates between 17 to 25 years. The younger undergraduates may encounter some obstacles toward graduation, therefore their probability of dropping out is more.

A_2 Sex. Females were found to be more tolerant when they confront academic problems, therefore females were assumed to be more prone to persist than male students.

A_3 Curricular adjustment. Students who have positive feelings toward college in general and the field of study in particular are more prone to persist than the other students.

A_4 Maturity of goals and levels of aspirations. Students who are determined toward their educational goals and use enough efforts to reach it, are more prone to persist than the others.
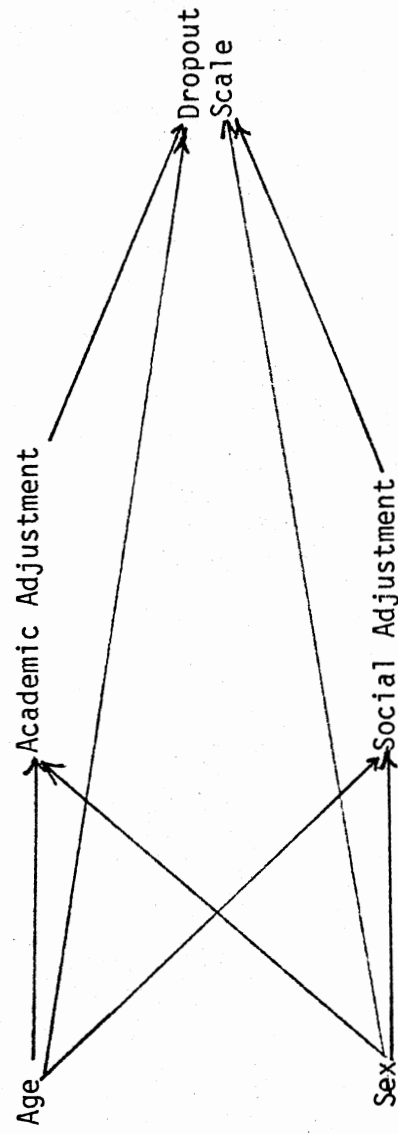
Figure 2. The Study Model

A_5 Personal efficiency. Students who plan and execute their educational schedules efficiently are more prone to persist than the others.

A_6 Study skills. Students who are more willing and ready with an alert and active attitude may persist more than the others.

A_7 Mental health. Students who are emotionally in stable position and prevent their worries from interferring in the study assumed to be more prone to stay

A_8 Personal relations. Students who have the ability to get along with instructors, classmates and peers are more prone to persist than the others.

A_9 Student satisfaction with college. Students who feel satisfied with college assumed to be more prone to persist than the others.

A_{10} Institutional integration. Students who feel of being more a part of the college are more prone to persist than the others.

Summary

In this chapter, the literature was reviewed in relation to characteristics of the dropouts and the persisters, in order to shed some insight to recognize who a potential dropout or a potential persister might be. The review found that the academic factors fall in the first place as far as the characteristics of the dropouts and the persisters were concerned. The second place might be captured the factors such as student motivation, psychology, satisfaction with college and commitment to complete college. The third rank order distinguishing factors were found to be family background, precollege experience, and study habit.

In the section on the theoretical framework, studies since the 1950s to the present were reviewed through the conceptual orders. Three distinguished frameworks were noticeable. The 1950's studies looked at

the problem of retention through single factors, the late 1960's "congruence" theory was utilized by Feldman and Newcomb. Finally, in 1975 Spady (1970) and Tinto (1975) established a theoretical framework based on Durkheim's suicide theory to study student attrition. This theory was found to be more comprehensive since it not only considered the congruency level of student-college relationships but also explained why one fit into one system and not the other, on the basis of individual characteristics. The Tinto model was utilized as the base model for the present study.

Finally, after review of the research findings assumptions were made to form hypothetical bases of the study. This concluded the second chapter; the third chapter will be about the methodological aspects of the study.

CHAPTER III

METHODS AND ANALYTICAL TECHNIQUES

In order to achieve the goals of the present study, the following objectives were to be achieved primarily:

1. Test the differences between potential dropouts and potential persisters were tested by the following variables:

   a. curricular adjustment,

   b. maturity of goals and levels of aspirations,

   c. personal efficiency,

   d. mental health,

   e. study skill,

   f. personal relations with faculty and associates,

   g. sex,

   h. age,

   i. student satisfaction with college, and

   j. institutional integration.

2. The extent of explanation of the dropout scale by the variables, involved in the study model.

Pursuing these objectives entailed examining the differences between the dependent and independent variables via usage of the Statistical Analysis Systems (SAS) and Statistical Package for the Social Science (SPSS) as the ways of data analysis. The instrumentation, sample design, and the methods required will be discussed in this chapter.

The Instruments

Basically four instruments were used in order to collect the necessary information for present study. (1) The college inventory of academic adjustment, (2) student satisfaction with college, (3) institutional integration, and (4) items related to dropout students characteristics, derived from the past study. Later these items were used to construct the dropout scale.

College Inventory of Academic Adjustment

Six of the independent variables (i.e., curricular adjustment, maturity of goals and levels of aspiration, personal efficiency, study skills, mental health, and personal relation with faculty and associates) were measured by the college inventory of academic adjustment questionnaire (see Appendix A).

This 90-item instrument was designed and tested by Dr. Henry Borow and published by the Counseling Psychologist Press, Inc. of California. The level of measurement for this instrument, because of its additive nature was assumed to be interval level.

Validity of the college inventory of the academic adjustment was based on the application of the two following research techniques:

1. item analysis, and

2. agreement of judges on placement of items. A panel of twenty-one professional workers was used by Borow to evaluate which of the six diagnostic categories each item should be assigned to. For eighty-six of the ninety items, majority agreement was found among the judges concerning the diagnostic category which best subsumed the given item. The finding suggests that there

was strong agreement among the judges regarding the placement of individual items (Borow, 1960, p. 5).

Reliability was based on (1) "split-half reliability coefficient for the composite inventory was computed for separate sample of 155 men and 130 women students. The correlated reliability coefficient was .92 for men and .90 for women" (Borow, 1960, p. 12). (2) "Test-retest reliability of inventory was computed on a sample of 130 women students" (p. 12). The reliability coefficients are presented in Table I.

TABLE I

TEST-RETEST COEFFICIENT OF THE COLLEGE
INVENTORY OF ACEDEMIC ADJUSTMENT
INSTRUMENT[*]

Variables	r
1. Curricular adjustment	.88
2. Maturity of goals and levels of aspirations	.81
3. Personal efficiency	.89
4. Study skills and practices	.86
5. Mental health	.87
6. Personal relation	.83
Composite Inventory	.98

[*]Done by Dr. Borow.

Based on the collected data through the college inventory of academic adjustment, one scale was constructed for the purposes of the data analysis. This scale was named academic adjustment scale.

Academic Adjustment Scale. This scale was a composite of the
following five components. (1) Curricular adjustment, (2) study skill,
(3) personal efficiency, (4) mental health, and (5) maturity of goals
and levels of aspirations.

The logical reasons for constructing this scale were based upon two
facts. First, the components were derived from the questionnaire that
originally had been built to measure student adjustment to different
aspects of the college. The second reason was that the factor analysis
conducted by this study revealed a common factor which was approximately
equal for each of the five components. The result of factor analysis is
presented in Table II.

TABLE II

ACADEMIC ADJUSTMENT SCALE BY ROTATED FACTOR
VALUES

Items	Factor
1. Curricular adjustment	.77[*]
2. Maturity of goals and levels of aspiration	.83
3. Personal efficiency	.75
4. Study skills	.84
5. Mental health	.83

[*]Retained scale components for data analysis. Done by present study

Student Satisfaction With College

This instrument measures almost all aspects of the college from the

students' point of view. The questionnaire has 13 items (see Appendix
A) that were adopted from the Western Institute Commission for Higher
Education (WICHE) questionnaire. This questionnaire was modified.
Originally it had one item measuring student's perception on college
living accomodations; this item was deleted because the college of the
study lacked that facility. Originally respondents could select one of
four response options. In order to make this instrument consistant with
the response form of the other instruments used in this study, a fifth
response was added to the questionnaire.

The validity of this instrument was based on three reasons. First,
it was used in a past study by Dr. Zambrano (1978) and also the
questionnaire was originally constructed by WICHE. Second, each item
simply asks a question on the student's satisfaction with different
aspects of college. Therefore, the instrument enjoys face validity.
Third, the factor analysis of the instrument by present study revealed
there was internal consistancy of the items (Table III).

The factor analysis procedure helped determine which items in a
set or scale were, in fact, measuring the same things. Furthermore, by
numerical values it tells how much different items in a given scale
relate to each other. Factor analysis, then, was a method for determin-
ing the number and nature of the underlying variables among larger num-
bers of measure, by extracting common factor variance from sets or scale
of measure (Kerlinger, 1973). By statistically assigning a numeric to
the various scale items, those items with the highest values may be
retained as measures of the same information, particularly if the factor
loading can be reduced to three or less factor differences. Factor
analysis for the student satisfaction with college yielded the following

results (Table III).

TABLE III

STUDENT SATISFACTION WITH COLLEGE BY UNROTATED FACTOR PATTERN VALUES

Items	Factor
1. Counseling Services	.56[*]
2. Academic Advisement Service	.61
3. Library Service	.43
4. School Rules and Regulation	.53
5. Cultural Opportunities	.71
6. Social Opportunities	.64
7. Recreational Facilities	.64
8. Location of College	.47
9. Grading Systems	.60
10. Course Content Field of Specialization	.67
11. Quality of Teaching in the Field of Specialization	.68
12. Contact With Teachers	.57

[*]Retained scale items for data analysis

The factor loadings presented in Table III represented the unidimensionality and internal consistency of the satisfaction instrument.

Institution Integration

This one item Likert type question simply asks the degree that the student felt as being part of the college (see p. 99, item number 10). It was recommended by the thesis committee and is used by this author.

Social Adjustment Scale

From a composite of student satisfaction with college, insti-
tutional integration item, and personal relation with faculty and
associate which was derived from the college inventory of academic
adjustment, the social adjustment scale was constructed for the purpose
of the data analysis.

The logical argument for constructing this scale was based upon two
reasons. First, the three components of the scale enjoys the content
validity, because if a student is not adjusted to the social domain of
the college, he or she generally is dissatisfied, does not have good
feelings toward college, and cannot have a good relationship with
faculty and associates. The second reason was the empirical findings of
the factor analysis conducted by this study that revealed approximately
equal loading for each of the three components. The result of the
factor analysis is presented in Table IV.

TABLE IV

SOCIAL ADJUSTMENT SCALE BY ROTATED FACTOR MATRIX

Items	Factor
1. Student satisfaction with college	.82[*]
2. Student social integration with college	.71
3. Personal relations	.61

[*]Retained scale components for data analysis.

Items Related to Dropout Characteristics or

"Dropout Scale"

A ten item questionnaire was formed based on the past research findings (see pp. 98-99, GPA plus the nine following items). This questionnaire was administered to the sample population for constructing the dropout scale. This scale was constructed for the purposes of data analysis, to differentiate between the potential dropouts and the potential persisters. These two groups considered to be the dependent variable of the study for the test of significance.

Factor analysis technique was used for the test of internal consistency of the items. All of the ten items with the exception of two items were used in the final data analysis system (SAS). The two deleted items were shown to be poorly related as the scale items for differentiating the two groups. Factor of the remaining eight items generally produced high loadings with the lowest being .55 and the highest .76. Table V contains a listing of the stated scale items and the corresponding factor loadings. The original factor loading represents the loading before the deletion of the two items and the final is after that process.

The dropout scale has a range from a low of 18 to a high of 40. The subjects were categorized into three different groups for the purpose of analysis. One-third of the sample who scored between 19 to 27 were named the potential dropouts. Sixty-five of the subjects (the second third of the sample) who scored between 28 to 33 were named the middle group. This group was excluded from the analysis in order to created a gap between the low and the high groups and to study better the differences of the two extreme groups. The last third of the

sample or the high group scored from 34 to 40 on the dropout scale.

This group was named the potential persisters.

TABLE V

DROPOUT SCALE BY UNROTATED FACTOR PATTERN VALUES

Items	Original	Final
1. GPA	.61	.60*
2. Courses are irrelevenant to my goal	.52	.55
3. College studies are too time consuming	.48	.50
4. College studies are too boring	.67	.70
5. Courses are too difficult	.59	.62
6. I am satified with course	.74	.76
7. Not enough money to finance	.22	
8. I want to go back to work	.08	
9. I don't like school	.66	.66
10. I want to leave school	.68	.67

*Retained scale items for data analysis.

Sample Design

Data for this study were collected from students of a two-year community college in the midwest United States. The method of stratified random sampling was used to choose two hundred students. The sample was formed of students who were working toward an associate degree in the fall of 1980. One hundred of these students had a grade point average of lower than B, and the other hundred had a grade point average higher than B.

Two hundred questionnaires were sent to the sample population by the Institutional Research office of the college. One hundred seventy-one responses were returned which represented 85.5 percent of the total sample. Only two of the responses were unusable.

Definition of the Variables and the Terms

Potential Dropout

Potential dropout was defined as a student who was enrolled in college have diagnosed one or more characteristics of dropping out. Based on the review of the literature, a dropout student was the one who had one or more of the following problems:

--had received low grades,

--was bored with college,

--felt college course were irrelevant to his goals, or

--felt studies were time consuming.

Potential Persisters

Potential persisters may be defined as students who enrolled in college and did not have the characteristics of the potential dropouts. They were academically successful, were not bored, and had good feelings toward their college.

Curricular Adjustment

Curricular adjustment was defined as the degree of the student's satisfaction with college in general and with a chosen curriculum in particular (1960, p. 2).

Maturity of Goal and Levels of Aspiration

Maturity of goals and levels of aspiration was defined as the level of the student's commitment to his or her decisions, and the level of effort the student uses to reach his or her goals. The three aspects of student adjustment are: (1) the student's educational goals, (2) student's desire for education, and (3) student's efforts to achieve them (Borow, 1960, p. 2).

Personal Efficiency

Personal efficiency was defined as how efficient the student was in planning his or her schedules and how effective he or she was in executing them. The purpose here was to know whether the student was able to make profitable use of time (Borow, 1969, p. 2).

Study Skills and Practices

Study skills and practices dealt with the student's study characteristics at home and in the classroom, and with the conditions under which the student attempted to learn. Did the student enter the study situation with a readiness to learn and with an alert and active attitude that facilitated absorption of materials? It also considered the student's professed mastery of his or her study techniques (Borow, 1969 p. 2).

Mental Health

This concept referred to the degree of the student's emotional adjustment to the college environment. It considered the extent the student believed himself beset by recurring worries and emotional upsets

which interfere with an outward, efficient attack upon the real prob-
lems. The student reported for example whether he tended to give up
easily when facing difficult problems and whether he experienced
examination jitters (Borow, 1960, p. 3).

Personal Relations (With Faculty and Peers)

Personal relations referred to the student's ability to get along
with instructors, classmates, and peers as reflected principally in the
student's attitude toward them (Borow, 1960, p. 3).

Social Integration

Social integration involved the notion of both the levels of
integration and the degrees of congruency between the individual and his
social environment as perceived by the student.

Satisfaction with College

Student satisfaction was defined as the student's perception toward
his attending college.

Academic Adjustment

Academic adjustment was defined as the level of the student's
intellectual development and the level of academic environment of the
college as percieved by the student.

Social Adjustment

Social adjustment was defined as the level congruency between the
student's social involvement and the level of social environment of the

college as percieved by the student.

Hypotheses of the Study

The following hypotheses were formulated to be tested.

H_1 There will be no significant differences between the potential dropouts and the potential persisters when data are analyzed according to the age of the subjects.

H_2 There will be no significant differences between the potential dropouts and the potential persister when data are analyzed according to the sex of the subjects.

H_3 There will be no significant differences between the potential dropouts and the potential persisters when data are analyzed according to the degree of curricular adjustment of the subjects as measured by the college inventory of academic adjustment questionnaire.

H_4 There will be no significant differences between the potential dropouts and the potential persisters when data are analyzed according to maturity of goals and levels of aspiration of the subjects as measured by the college inventory of academic adjustment.

H_5 There will be no significant differences between the potential dropouts and the potential persisters when data are analyzed according to personal efficiency of the subjects as measured by the college inventory.

H_6 There will be no significant differences between the potential dropouts and the potential persisters when data are analyzed according to study skills of the subjects as measured by the college inventory of academic adjustment.

H_7 There will be no significant differences between the potential dropouts and the potential persisters when data are analyzed according to mental health of the subjects as measured by the college inventory of academic adjustment.

H_8 There will be no significant differences between the potential dropouts and the potential persisters when data are analyzed according to personal relations of the subjects as measured by the college inventory of academic adjustment.

H_9 There will be no significant differences between the potential dropouts and the potential persisters when data are analyzed according to degree of satisfaction of

the subjects as measured by the student satisfaction questionnaire adopted from WICHE.

H_{10} There will be no significant differences between the potential dropouts and the potential persisters when data are analyzed according to the institutional integration of the subjects as measured by the institutional integration item.

Finally, the second part of the present study was to test the study model based on Tinto's theoritical model and was expected to test the following objectives.

1. The levels of variation in dropout scale by sex, age, academic and social adjustment factors.

2. The accuracy of the Tinto model.

3. Which domain (social or academic) influences the student's adjustment process.

Analytical Techniques

In order to assess the differences between the potential dropouts and the potential persisters, the Chi-square test will be used as an analytical technique. The following part of this chapter will discuss some of the utilities of this test in relation to test the study of the hypotheses.

Chi-square Test

The great advantages of this test is that it involves no assumptions about the form of the original distributions from which the observation came (Siegel, 1956) states:

When the data of research consists of frequencies in discrete categories, the Chi-square test may be used to determine the significance of differences between two independent groups. The hypotheses under test is usually that two groups differ with respect to some characteristics and therefore with

respect to the relative frequency with which group member fall in several categories (p. 104).

Siegel further suggests that Chi-square test should be used when the data are in discrete categories and when the expected frequencies are sufficiently large.

According to Blalock (1960), the Chi-square test is a very general test which can be used whenever one wishes to evaluate whether or not frequencies which have been empirically obtained differ significantly from those which would be expected under a certain set of theoretical assumptions. Therefore the Chi-square enables one to test the differences between the potential dropouts and the potential persisters in relation to the variables of the study.

In order to test the study model and assess the degree of explanation of the dropout scale by the variables involved in the model. Multiple Regression technique was used for that purpose.

Mutiple Regression Technique

Multiple regression is a statistical technique which enables us to analyze the relationship between a dependent variable (Y) and a set of independent or predictor variables (X).

> Multiple regression may be viewed either as a descriptive tool by which the linear dependence of one variable on others is summarized and decomposed, or as an inferential tool by which the relationships in the population are evaluated from the examination of sample data. Although these two aspects of the statistical techniques are closely related, it is convenient to treat each separately, at least on conceptual level (Nie et al., 1975, p. 321).

Nie stated the most important uses of the technique as a descriptive tool are (1) to find the best linear prediction equation and evaluate its prediction accuracy, (2) to control for a specific variable

evaluate its prediction accuracy, (2) to control for a specific variable or set of variables, and (3) to find structural relations to provide explanations for seemingly complex multivariate relationships, such as is done in path analysis (p. 321). This technique seems to be appropriate as an analytical tool for analyzing the theoretical model of the study.

Since the theoritical model based on Tinto's theoritical framework claims a casual relationship among the factors involved; the utility of the multiple regression provides a suitable analytical technique for testing the study model.

Cramer's V

Cramer's V was used as a measure of association. The Cramer's V is a measure of association which fluctuates between zero (0) and +1. If the value of Cramer's V is zero, it means no relationship exists; when the value of Cramer's V is equal to +1 the variables are perfectly related.

Summary

Chapter III discussed the measurement tools, their validities and reliabilities. Methods of constructing different scales such as the dropout scale, the academic adjustment scale, and the social adjustment scale were explained. The population of the study was identified, the variables and terms were defined, and hypotheses were made. Finally the Chi-square test was chosen as an analytical technique in order to assess the differences between potential dropout and potential persisters. Multiple Regression was felt to be an appropriate technique for

analyzing the model.

In Chapter IV, the study findings will be reported and analyzed for the purpose of developing recommendations and implementations.

CHAPTER IV

ANALYSIS OF THE DATA

Introduction

The purpose of the research was to assess the differences between the potential dropouts and the potential persisters and to examine the study model in order to explain the levels of variation of the potential dropout by the variables involved in this study.

The differences of the two groups were examined in relation to curricular adjustment, maturity of goal and level of aspiration, personal efficiency, study skill, mental health, personal relation (variables which were measured by the college inventory of academic adjustment, see Appendix A), student satisfaction, institutional integration, sex, and age (variables which were measured by the study instrument, see Appendix A)

This chapter was designed to report the analysis of the data in two separate phases: (1) evaluation of the hypothesis on differences between the two groups and (2) test the study model.

Testing the Hypotheses

This section of the chapter deals with the statistical testing of

the hypotheses. Each hypothesis is stated in terms of the null[1] and the alternative hypothesis, tested and discussed in relation to the following variables.

Age

The students represented a fairly wide age range from 17 to 59 years, although 66.2 percent were between 17 to 25 while the rest were between 26 to 59. The students were classified into two age groups, 17-25 and 26 and more.

H_0: There will be no significant differences between the proportions of the potential dropouts and the potential persisters when data are analyzed according to the age of the subjects.

H_1: A greater proportion of students who are younger than 25 years of age are more likely to be a potential dropouts.

Since the findings presented in Table VI did not support the null hypothesis, it was rejected in favor of the alternative hypothesis. It was found that students who are younger than 25 years of age are more likely to be potential dropouts than those who are older than 25 years of age. However, one should be cautioned that this conclusion, because of the value of Cramer's V as a measure of association, is a little low.

Sex

The sample students were 59.22 percent female and 40.7 percent were male students.

H_0: There will be no significant differences between the proportions of the potential dropouts and the potential persisters when data are analyzed according to sex of the subjects.

H_2: A greater proportion of students who are female are less likely to be potential dropouts.

---

[1]The null hypotheses will be rejected at the significance level of $P \geq 0.05$.

TABLE VI

COMPARISON OF POTENTIAL DROPOUTS AND POTENTIAL
PERSISTERS BY AGE

Age	Potential Dropouts		Potential Persisters		Totals	
	No.	%	No.	%	No.	%
25 years and less	39	37.5	31	29.8	70	67.3
26 years and more	11	10.6	23	22.1	34	32.7
Totals	· 50	48.1	54	51.9	104	100.0

x^2 = 5.0, df = 1, p = 0.02, Cramer's V = 0.21

Findings presented in Table VII supported the null hypothesis of no difference, so the decision was made to reject the alternative hypothesis in favor of the null hypothesis. It was found that there was no significant differences between the potential dropouts and the potential persisters based on the sex of the subjects.

Curricular Adjustment

In order to use the Chi-square test of significance, the students in the sample were categorized[2] into high and low groups according to their curricular adjustment scores.

H_0:   There will be no significant differences between the proportions of potential dropouts and the potential persisters when the data are analyzed according to curricular adjustment scores of the subjects.

---

[2]The scores of all variables were categorized into high and low by the median score of the subjects on each particular variable.

TABLE VII

COMPARISON OF POTENTIAL DROPOUTS AND POTENTIAL PERSISTERS BY SEX

Sex	Potential Dropouts		Potential Persisters		Totals	
	No.	%	No.	%	No.	%
Male	25	24.3	17	16.5	42	40.8
Female	25	24.2	36	35	61	59.2
Totals	50	48.5	53	51.5	103	100.0

$\chi^2 = 3.42$, df = 1, p = 0.06, Cramer's V = 0.17

H3: A greater proportion of students who are less adjusted to the curriculum of their study are more likely to be potential dropouts than those who are more adjusted to their curriculum of study.

The statistical findings presented in Table VIII did not support the null hypothesis, so the null hypothesis of no significant differences was rejected in favor of the alternative hypothesis.

Findings presented in Table VIII revealed that of 53 potential persisters, 43 (79.6%) had high score on curriculum adjustment, while of the 50 potential dropouts, only 9 (18%) had a high score on curricular adjustment. Therefore, it was concluded that the students who are less adjusted to their particular curriculum were more likely to be potential dropouts than those who are more adjusted to their curriculum.

Maturity of Goals and Levels of Aspirations

In order to use Chi-square test of significance, the students were divided into low and high groups on the basis of their maturity of goals and level of aspiration scores.

TABLE VIII

COMPARISON OF POTENTIAL DROUPOUT AND POTENTIAL
PERSISTERS BY CURRICULAR ADJUSTMENT

Curricular	Potential Dropouts		Potential Persisters		Totals	
Adjustment	No.	%	No.	%	No.	%
Low	41	39.4	11	10.6	52	50.0
High	9	8.4	43	41.3	52	50.0
Totals	50.	48.1	54	51.9	104	100.0

χ^2 = 39.44, df = 1, p = 0.0001, Cramer's V = 0.62

H_0: There will be no significant differences between the proportions of potential dropouts and the potential persisters when the data are analyzed according to maturity of goals and levels of aspiration scores of the subjects.

H_4: A greater proportion of students who have a high score on maturity of goals and levels of aspirations, are more likely to be potential persisters than those who have low scores.

Since the findings presented in Table IX did not support the null hypothesis, the null hypothesis of no difference was rejected in favor of the alternative hypothesis. Findings presented in in Table IX also revealed that of 54 potential persisters, 38 (70.1%) had high score on maturity of goals and levels of aspirations. On the other hand, of 50 potential dropouts, only 14 (28%) had a high score on the same variable. Therefore, it was concluded that students who scored high on maturity of goals and levels of aspirations are more likely to be potential persisters than those who scored low.

TABLE IX

COMPARISON OF POTENTIAL DROPOUTS AND POTENTIAL PERSISTERS
BY MATURITY OF GOALS AND LEVELS OF ASPIRATIONS SCORE

Maturity of Goals and Levels of Aspiration	Potential Dropouts		Potential Persisters		Totals	
	No.	%	No.	%	No.	%
Low	36	34.6	16	15.4	52	50.0
High	·14	13.5	38	36.5	52	50.0
Totals	50	48.1	54	51.9	104	100.0

x^2 = 18.64, df = 1, p = 0.0001, Cramer's V = 0.42

Personal Efficiency

In order to apply the Chi-square test of significance, the respondents were categorized into low and high groups on their personal efficiency scores.

H_0: There will be no significant differences between the proportions of the potential dropouts and the potential persisters when data are analyzed according to personal efficiency of the subjects.

H_5: A greater proportion of students who have high score on personal efficiency are more likely to be potential persisters than those who have low scores on the same variable.

Since the statistical findings presented in Table X did not support the null hypothesis, the decision was to reject the null hypothesis of no difference in favor of the alternative hypothesis.

Findings presented in Table X also indicated that of 54 potential persisters, 38 (70%) had high scores on personal efficiency, while of 50 potential dropouts, only 15 (30%) had high scores on personal

efficiency. Therefore, it was found that students who had a high score on personal efficiency were more likely to be potential persisters than those who had a low score.

TABLE X

COMPARISON OF POTENTIAL DROPOUTS AND POTENTIAL
PERSISTERS BY PERSONAL EFFICIENCY SCORES

Personal Efficiency	Potential Dropouts		Potential Persisters		Totals	
	No.	%	No.	%	No.	%
Low	35	33.6	16	54.4	51	49.0
High	15	14.5	38	36.5	53	51.0
Totals	50	48.1	54	51.9	104	100.0

χ^2 = 17.47, df = 1, p = 0.0001, Cramer's V = .40

Study Skill

Students were categorized into high and low groups, on the basis of their score on the study skill factors, for the purpose of applying the Chi-square test of significance for comparison between the two groups.

H_0: There will be no significant differences between the proportions of the potential dropouts and potential persisters when the data are analyzed according to the study skill of the subjects.

H_6: A greater proportion of students who have a high score on study skill are more likely to be potential persisters than those who have a low score.

Since the findings presented in Table XI did not support the null hypothesis, the decision was to reject the null hypothesis of no difference in favor of the alternative hypothesis.

TABLE XI

COMPARISON OF POTENTIAL DROPOUTS AND POTENTIAL
PERSISTERS BY STUDY SKILL

| Study | Potential Dropouts | | Potential Persisters | | Totals | |
Skill	No.	%	No.	%	No.	%
Low	36	35.3	17	16.7	53	52.0
High	13	12.7	36	35.3	49	48.0
Totals	49	48.0	53	52.0	102	100.0

χ^2 = 17.47, df = 1, p = 0.0001, Cramer's V = .41

Data presented in Table XI also suggested that of 53 potential persisters, 36 (68%) had a high score on study skill, while of 49 potential dropouts, only 13 (26%) had a high score on study skill. Therefore, it was found that the students who scored high on study skill were more likely to be potential persisters than those who scored low.

Mental Health

The students' scores on mental health was categorized into high and low categories, in order to use Chi-square test of significance.

H$_0$: There will be no significant differences between the proportions of the potential dropouts and the potential persisters when data are analyzed according to health scores.

H$_7$: A greater proportion of students who have a high score on mental health are more likely to be potential persisters than those who scored low.

Since the statistical findings in Table XII did not support the null hypothesis, the null hypothesis of no difference was rejected in favor of the alternative hypothesis.

TABLE XII

COMPARISON OF POTENTIAL DROPOUTS AND POTENTIAL
PERSISTERS BY MENTAL HEALTH

Mental Health	Potential Dropouts		Potential Persisters		Totals	
	No.	%	No.	%	No.	%
Low	34	33.3	16	15.7	50	49.0
High	15	14.7	37	36.3	52	51.0
Totals	49	48.0	53	52.0	102	100.0

x^2 = 23.15, df = 1, p = 0.0001, Cramer's V = .47

An analysis of the findings presented in Table XII also revealed that of 53 potential persisters, 37 (70%) had a high score on mental health, while of 49 potential dropouts, only 15 (31%) had a high score on mental health. Therefore, it was concluded that students who had a high score on mental health are more likely to be potential persisters than those who had a low score.

Personal Relations (With Faculty and Associate)

In order to use the Chi-square test the students were divided into
high and low groups on the basis of their score on the personal
relations factor.

H_0: There will be no significant differences between the propor-
tions of the potential dropouts and the potential persisters
when the data are analyzed according to personal relations
score.

H_8: A greater proportion of students who have a high score on
personal relations are more likely to be potential persisters
than those who have a low score on the same variable.

The statistical findings presented in Table XIII did not support
the null hypothesis, the null hypothesis of no difference was rejected
in favor of the alternative hypothesis.

TABLE XIII

COMPARISON OF POTENTIAL DROPOUTS AND POTENTIAL
PERSISTERS BY PERSONAL RELATIONS

Personal Relations	Potential Dropouts		Potential Persisters		Totals	
	No.	%	No.	%	No.	%
Low	35	34.0	13	13.0	48	47.0
High	14	14.0	41	39.0	55	53.0
Totals	49	48.0	54	52.0	103	100.0

$x^2 = 23.15$, df = 1, p = 0.0001, Cramer's V = 0.47

Based on data presented in Table XIII, it was found that of 54

potential persisters, 41 (76%) have a high score on personal relations, while of 45 potential dropouts, only 14 (29%) scored high on the same variable. Therefore, students who scored high on personal relations score were more likely to be potential persisters than those who scored low.

Student Satisfaction (With Institutional Characteristics as Perceived by Students)

For the purpose of applying Chi-square test of significance the students were categorized into high and low groups on the basis of their score on student's satisfaction score.

H_0: There will be no significant differences between the proportions of the potential dropouts and the potential persisters when the data are analyzed according to student satisfaction scores of the subjects.

H_9: A greater proportion of students who have high score on the student satisfaction test are more likely to be potential persisters than those who have low scores.

The findings presented in Table XIV did not support the null hypothesis of no difference. Therefore, it was rejected in favor of the alternative hypothesis.

Further analysis revealed that of 53 potential persisters, 40 (76%) had a high score on the student satisfaction test, and of 49 potential dropouts, only 10 (20%) had a high score on student satisfaction test. Therefore, students who had a high score on the student satisfaction test are more likely to be potential persisters than those who had a low low score on the same test.

Institutional Integration

In order to utilize the Chi-square test of significance, the

the students were divided into high and low groups on the basis of their score on institutional integration.

TABLE XIV

COMPARISON OF POTENTIAL DROPOUTS AND POTENTIAL PERSISTERS BY STUDENT SATISFACTION

Student Satisfaction	Potential Dropouts		Potential Persisters		Totals	
	No.	%	No.	%	No.	%
Low	39	38.0	13	13	52	61.0
High	10	10.0	40	39.0	50	49.0
Totals	49	48.0	53	52.0	102	100.0

$\chi2$ = 30.98, df = 1, p = 0.0001, Cramer's V = .55

H_0: There will be no significant difference between the proportions of potential dropouts and potential persisters when the data are analyzed according to the institutional integration scores of the subjects.

H_{10}: A greater proportion of students who have a high score on the institutional integration test are more likely to be potential persisters than those who have a low score.

Since the statistical findings presented in Table XV did not support the null hypothesis, the null hypothesis of no signicant difference was rejected in favor of the alternative hypothesis. Of 54 potential persisters, 30 (56%) had a high score on institutional integration test while of 48 potential dropouts only 10 (9.8%) had a high score on the same test. Students who scored high on institutional integration were more likely to be potential persisters than those who had a low score on

the same factor.

TABLE XV

COMPARISON OF POTENTIAL DROPOUTS AND POTENTIAL
PERSISTERS BY INSTITUTIONAL INTEGRATION

Institutional Integration	Potential Dropouts		Potential Persisters		Totals	
	No.	%	No.	%	No.	%
Low	38	37.0	24	24.0	62	61.0
High	10	10.0	30	29.0	40	39.0
Totals	48	47.0	54	53.0	102	100.0

x^2 = 12.85, df = 1, p = 0.0003, Cramer's V = .35

Test of the Model

This section of the data analysis deals with testing the study model.

According to the Tinto model, dropout is likely to occur when an individual is insufficiently intregrated into the fabric of the college. Specifically, the likelihood of dropping out increases when two types of integration are lacking, namely integration into both the social and the academic environment of the college.

Although the individual may be able to achieve integration into one domain, he may still leave the college. On the one hand, a student may perform well in the academic sphere and still be a dropout because of poor integration into the social sphere. On the other hand, he may do

perfectly well in the social environment, but poor academic adjustment may lead him to dropout.

The study model that was constructed on the basis of the Tinto's theoretical model (see Figure 3) was expected to test the following objectives:

1. The levels of variations in dropout scale by sex, age, academic and social adjustment factors.

2. The accuracy of the Tinto model.

3. Which domain (social or academic) has the greater influence on the student's adjustment process.
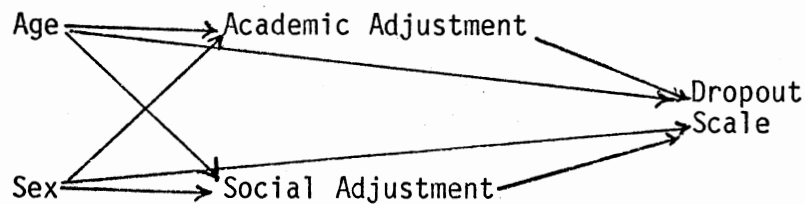
Figure 3.   The Study Model

In order to test the model, multiple regression was used as an analytical technique.   Table XVI is used to present the levels of variation in the dropout scale by sex, age, and academic and social adjustment.

The statistical findings presented in Table XVI showed that sex and age together explain only seven percent of the total variations in the dropout scale which is considerably low.   However, the greatest share of variation on the dropout scale remains to social and academic adjustment.

Social adjustment explains 38 percent of the total variations and academic adjustment 30 percent.

TABLE XVI

EXPLAINED VARIATION ON DROPOUT SCALE BY AGE, SEX,
SOCIAL AND ACADEMIC ADJUSTMENT

Variables	$^1R^2$	^2B	$^3\beta$
Sex	.02	0.62	0.00
Age	.05	0.32	0.06
Academic Adjustment	.30	0.80	0.38
Social Adjustment	.38	0.13	0.32

$^1R^2$ is the coefficient of determination shows percent of variations in dependent variable by the independent variables.

^2B is unstandardized regression coefficient.

^{3}Beta (β) is standardized regression coefficient.

Therefore, social and the academic adjustments were found to be important factors in explaining dropout scale. These findings tended to validate the Tinto model in explaining dropout process through social and academic integrations.

The next part of testing the model, to test whether social adjustment influences the academic adjustment in one way or the other. The findings of this part are presented in Tables XVII and XVIII.

Analysis of data presented in Table XVII showed that 20 percent of social adjustment was explained by academic adjustment. Age and sex did

not contribute greatly to an explanation of social adjustment.

TABLE XVII

EXPLAINED VARIATION ON SOCIAL ADJUSTMENT BY SEX,
AGE, AND ACADEMIC ADJUSTMENT

Variables	R^2	B	β
Sex	.01	.61	.00
Age	.02	-.14	-.00
Academic Adjustment	.20	.22	.45

TABLE XVIII

EXPLAINED VARIATION ON ACADEMIC ADJUSTMENT BY
SEX, AGE, AND SOCIAL ADJUSTMENT

Variables	R^2	B	β
Sex	.05	8.34	0.17
Age	.10	0.41	0.17
Social Adjustment	.27	0.84	0.42

An analysis of the data presented in Table XVIII revealed that 27 percent of academic adjustment was explained by social adjustment. Sex shared only five percent, and age explained ten percent of variation on academic adjustment.

It can be seen that, according to the findings in Tables XVII and XVIII, social and academic adjustment were co-related, and social adjustment influenced academic adjustment by a margin of seven percent.

Since sex did not contribute significantly the ability to explain variations on either social or academic adjustment, and also because not have a direct effect on the dropout scale, it can be omitted from the model. But age explains ten percent of the total variations on academic adjustment, which may suggest that the students over 25 years of age may be better integrated into the academic domain of the college.

In light of the findings, the model might be reshaped into the form presented in Figure 4.

Age $R^2 = .10$ Academic Adjustment

$R^2 = .27$ $R^2 = .30$ Dropout Scale

Social Adjustment $R^2 = .38$
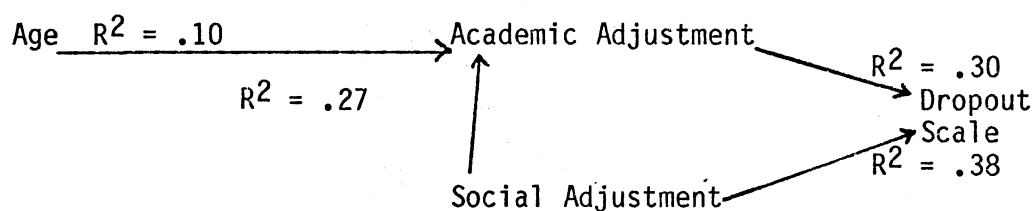
Figure 4. Study Model After Testing

Finally, the statistical findings included in Figure 4 should be viewed under the following limitations. First, the findings are based on a single sample, because of limitations of time and other resources. Second, study was conducted at a single institution.

Summary of the Findings

The main findings of the study may be summarized in two parts.

First, a summary of the hypotheses is as follows:

1. Students who were classified as potential persisters through the dropout scale were more likely to be over 25 years of age (Table VI).

2. No relationship was found between potential dropouts and potential persisters based on the sex of respondents (Table VII).

3. Students who were classified as potential persister through the dropout scale were more likely to be more well adjusted to their curriculum of study (Table VIII).

4. Students who were classified as potential persisters were more likely to have higher scores on maturity of goals and lvels of aspiration than potential dropouts (Table IX).

5. Students who were classfied as potential persisters were more likely to have higher scores on personal efficiency than potential dropouts (Table X).

6. Students who were classified as potential persisters were more likely to have high scores on study skill than potential dropouts (Table XI).

7. Students who were classified as potential persisters were more likely to have high scores on mental health than potential dropouts (Table XII).

8. Students who were classified as potential persisters were more likely to have higher scores on personal relations (with faculty and associates) than potential dropouts (Table XIII).

9. Students who were classified as potential persisters were more likely to have higher scores on satisfaction with college than

potential dropouts (Table XIV).

10. Students who were classified as potential persisters were more likely to have higher scores on level of integration to college than potential dropouts (Table XV).

Second, testing the Tinto model yielded the following results. Sex was found to be an unimportant explanatory variable in relation to the dropout scale. Age contributed only ten percent to the explanation of academic adjustment (Table XVIII), which suggested that students included in the study who were over 25 years of age were somewhat more apt to be better adjusted to the academic domain of the college. In contrast, social and academic adjustment were found to be very important variables in explaining the dropout scale. Social adjustment was found to explain 38 percent and academic adjustment 30 percent of the dropout scale (Table XVI). The findings may suggest that a student who is adjusted to the social and academic doamins of the college has a lesser probability of becoming a dropout.

The statistical findings presented in Table XVI supported the Tinto model's explanation of the dropout process through academic and social adjustment. Therefore, the validity of the Tinto model was accepted.

The findings presented in Table XVII revealed that academic adjustment explained 20 percent of the total variation on social adjustment. On the other hand, Table XVIII showed social adjustment explained 27 percent of the variations on academic adjustment. Therefore, within all of the limitations of the present study, one may concluded that social adjustment can influence academic adjustment by a little margin of 7 percent.

CHAPTER V

SUMMARY AND CONCLUSIONS

In the previous sections, attention was focused on the basic ideas
underlying the research, the methods and procedures for carrying out the
research, and the quantitative findings. This section will be used to
discuss the findings, and recommendations.

Summary and Discussions

The research assumed a dual responsibility. One concern was to
differentiate between the potential dropouts and the potential
persisters and to test a set of variables in relation to the two groups.
The second concern was to construct and test the study model based on
the Tinto model. Pursuing these objectives entailed the following
systematic steps.

Data for this study was collected from students of a two-year
community college in the American Midwest. The study questionnaire (see
Appendix A) was administered to 200 randomly chosen (though stratified
random sample) students who were working toward an associate degree.
One hundred of these students were chosen from among those who had grade
point averages lower than a B and the other 100 were chosen from those
who had a grade point average of B or higher. The criterion of GPA was
felt insufficient for classifying potential dropouts and potential per-
sisters. Therefore, a dropout scale was constructed based on possible

characteristics of dropouts.

For a systematic differentiation of the potential dropouts and the potential persisters, a "dropout scale" was constructed from a combination of the student's academic performance (GPA), feelings toward college, financial problems, perception of relevancy of college education to the student's goal, and the student's interest in leaving college for a job.

Items dealing with financial problems and interest toward a job were omitted from the scale because of low factor loadings. It was interpreted that maybe the students in the sample college were financially well-supported and did not have to worry about jobs and financing their education.

Scores on the dropout scale ranged from 18-40; it was assumed the closer the score to 18 indicated the greater dropout proneness of the student while the closer to score 40 indicated the greater persistence proneness.

On the basis of the dropout scale, the respondents were divided into three groups. Those who scored 18-27 formed approximately one-third of the sample and were categorized as the low group called "the potential dropouts". The middle group scored from 28-33 and formed the second one-third of the sample. For the sake of the validity of comparison, this group was omitted from the analysis in order to create a gap between the low and high groups. The high group, those who scored from 34-40, formed the last one-third of the sample and was named "the potential persisters".

The two groups, namely the potential dropouts and the potential persisters, were compared on the basis of the following variables

focused on the students perceptions: age, sex, curricular adjustment, maturity of goals and levels of aspirations, personal efficiency, study skill, mental health, personal relations, student satisfaction and institutional integration. They yielded the following results and discussions.

It was assumed that students who were younger than 25 years of age were more prone to drop out from college than those who are older than 25 years of age. The empirical findings supported this hypothesis. However, the Cramer's V as a chosen measure of association was a little low. Therefore, caution should be used in relating age as a function of attrition.

This finding was inconsistent with Astin's (1975) findings which reported that older students, particularly older women, are more likely to drop out than traditional aged students. On the other hand, a number of researchers do not agree with Astin's conclusion (Summerskill, 1962 and Goble, 1957). They concluded that the rate of attrition was not a function of age.

A second presumption was that female students tend to have more flexibility in confrontation with academic difficulties. Therefore, women were expected to stay in college more than male students. The empirical findings rejected this hypothesis. Thus, it was concluded that sex is not a function in relation to attrition.

This finding was inconsistent with Panos and Astin's (1968) findings which reported significant differences in attrition rate by sex. Iffert's (1958) study showed that men have a higher attrition rate (61 percent) than women (59 percent). On the other hand, a review of the literature by Pantages and Creedon (1978) found that sex was not

a significant variable related to college persistence or attrition. However, Pantages and Creedon concluded that sex becomes important when it is combined with other variables, such as scholastic and institutional factors.

The third presumption was that students who are better adjusted to their curriculum are more likely to persist in college than students who are less adjusted to their curriculum. The statistical findings supported this assumption.

This finding was consistent with Demitroff's (1974) finding which reported that dropouts were more dissatisfied with their major field of study than were persisters. On the other hand, the study by Panos and Astin (1968) found that declaring a major before enrolling in college did not predict completion of four successive years in college.

The fourth presumption was that students who have greater maturity of goals and levels of aspirations are more likely to persist than those who have low maturity of goals and low levels of aspirations. The empirical findings supported this hypothesis.

This finding was consistent with Astin's (1975) study which found that students who aspire to "get a doctorate or professional degree" had the least chance of becoming dropouts while those who aspired only to achieve a bachelor's degree had the greatest chance of dropping out. Astin's finding was confirmed by both Cope and Hannah (1975) and Panos Astin (1968).

It was assumed that students who had high personal efficiency in terms of scheduling their study would be more likely to be persisters than those who had low personal efficiency. The statistical findings supported this hypothesis.

No study was found which was related to personal efficiency. However, it seems that personal efficiency, in terms of scheduling daily educational affirs, is very important for the students' academic success and for the students' retention in college. Students who show poor academic performance should be checked with respect to their study schedule and recommendations ought to be made, in order to control the attrition problem.

It was assumed that students who have high study skills are more likely to persist than those who have low study skills. The findings supported this hypothesis.

As far as the present review of the literature is concerned, no study was found which dealt with study skills in relation to dropouts or persisters. However, some studies on study habits were evident in relation to dropouts. Stone and Rayan (1964) showed that students who reported spending more time studying during their senior year in high school persisted in greater numbers through the freshman year. Such students had fewer academic adjustment problems in transition from high school to college. Astin (1975) found that those students who did not drop out estimated that they spent more time studying per week than the average student. Astin concluded that study habits effected significantly whether a student would drop out.

Since the literature indicated that study habits were an important function of the attrition problem and the findings of the present study supported this importance of study skill, students demonstrating low academic performance should be helped to improve their methods of learning by introducing new improved methods of reading comprehension and writing.

The assumption was that students who score high on mental health dimension would be more likely to persist than those students who scored low. This hypothesis was supported by the study findings. Mental health in this study was meant to reflect the extent that the student believed himself beset by recurring worries and emotional upsets which interfered with his educational performance.

This finding was consistent with studies by Cope and Hannah (1975) and Wright (1973) which found that psychological stress was related to withdrawal. Cope and Hannah suggested that studies should focus more on psychological discouragement or on a sense of being bored with college rather than on traditional studies of the students state of mind, which suggests abnormality.

It was hypothesized that students who scored high on personal relations with faculty and associates would be more likely to persist than those who have low personal relations. This hypothesis was supported by the findings.

This finding was consistent with Tinto's review of the literature and with his theoretical framework. Tinto (1975) suggested that interaction with faculty increases the student's academic integration and therefore his institutional commitment. In support of this, a number of studies found that the frequency of informal contact with faculty was positively related to students' academic achievement and intellectual gain (Centra, 1971; Wilson and Gaff, 1975; and Panos and Astin, 1968). Studies by Gamson and Bidwel (1966) argued that student and faculty interaction appeared to be more significantly related to dropouts in the students' major field of study than outside of his major department. A study by Pascarella and Terenzini (1977) showed that frequency of

student-faculty interaction outside of the classroom was related positively to academic performance.

Also, peer support in the collegiate social system has been found to be associated with persistence in college by Astin (1975) and Spady (1971). Usually, college dropouts perceived themselves as having less social interaction than do persisters. This has been found to be more true for women than men in the studies reviewed by Cope and Hannah (1975).

The ninth presumption was that students who have high satisfaction with college are more likely to persist than those who are dissatisfied. The empirical findings supported this hypothesis.

This finding was congruent with Tinto's (1975) theoretical framework. Tinto (1975) linked dropping out from higher education with the simultaneous interaction process between the general characteristics of the individual and either the academic or social environment of an institution. Pervin's study (1967) on satisfaction of students with college proved his hypothesis that the greater the discrepancy between the way a student sees himself and his image of the college, the greater are the chances that he will be dissatisfied with college and consider dropping out. He concluded that the educational quality, social life, student living, and working conditions were important dimensions of college student satisfaction.

Finally, it was hypothesized that students who scored high on institutional integration would be more likely to persist in college than those who scored low on institutional integration. The empirical findings supported this hypothesis.

This finding was consistent with findings of Astin (1975), Panos

and Astin (1968), and Spady (1971). They reported that persistence in college was directly related to a positive relationship between dominant value orientation of the individual and the dominant institutional environment characteristics. Other studies contended that social integration, in terms of friendship support in college, was directly related to persistence (Centra and Rock, 1971).

The second responsibility of this study was to test the study model. This model, which was constructed based on the Tinto model posited that dropout occurs when an individual is insufficiently integrated into the fabric of college. The likelihood of dropping out increases when two types of integrations are lacking, namely integrations into both the social and the academic environment of the college.

The study model was expected to test the following objectives:

1. The levels of variations in dropout scale by
   sex, age, academic and social adjustment factors.

2. The accuracy of the Tinto model.

3. Which domain (social or academic) has the greater influence
   on the student's adjustment process.

Sex was found to be an unimportant explanatory variable in relation to the dropout scale, and age explained only 10 percent of academic adjustment. However, social and academic adjustment were found to be very important factors in explaining dropout scale. Social adjustment was found to explain 38 percent and academic adjustment 30 percent of dropout scale.

This statistical finding supported the Tinto model's explanation of the dropout process through academic and social adjustment. Therefore,

the validity of the Tinto model was accepted.

It was also found that academic adjustment explained 20 percent of the total variations on social adjustment. On the other hand, social adjustment explains 27 percent of the total variations on academic adjustment. Therefore, one can conclude that the social adjustment may influence academic adjustment in college.

In this study, the social adjustment scale, as it was explained in Chapter III, was a composite of the student's personal relation mainly with faculty and associates, the student's satisfaction with college, and the degree to which the student was integrated into the institution. The academic adjustment scale was a composite of the student's curricular adjustment, student's maturity of goals and levels of aspirations, personal efficiency, study skills, and the mental health as measured by the college inventory of academic adjustment.

It was found that the social adjustment can influence the academic adjustment by a margin of seven percent. One explanation is that since the faculty-student interaction was one of the components of the social adjustment scale, it may be concluded that faculty-student interaction helps the intellectual development and stimulates more integration of the student into the academic climate of the college.

A number of studies supported this position. Studies by Pascarella and Terenzini (1977) and Wilson and Gaff (1975) reported that students intellectual development was directly related to student-faculty interaction. Or, this might be a confirmation of Mayhew's (1969) statement that

> Every student should have a relationship with an adult professional person which is sustained over a long enough period of time so that the adult can serve as an appropriate role model, parent surrogate, and friend with whom the student can test

his emerging notions of reality. This relationship is
probably the most important single experience students
required (p. 83).

Conclusions and Recommendations

The following possible suggestions may be concluded from this
study.

In the summer before students begin their first semester of college
education, a careful evaluation of students should be made in relation
to their academic and personal background, their educational plan, and
their degree of commitment toward his or her education. Special
attention should be given to those who are showing fuzzy remarks in
relation to their educational plan and commitments toward their goals.

Complete information on each major field, e.g., the history, a
concise review of the content of the major, the approximate intellectual
efforts needed for completion of the degree, the probable market demand,
--should be provided for all potential students and especially for those
who are uncertain as to electing their respective majors.

In order to help students (especially those who are weak academi-
cally) develop their study skills and personal efficiency in relation
to scheduling their school work, improved methods should be introduced
to them by counselors and academic advisers. Students should be
encouraged to spend more time studying their school work.

To help students improve their academic competence, the college
should make tutorial services available to students who have lower aca-
demic performance. Creation of small learning groups with a mixture of
high and low GPA students might be very helpful.

The faculty members should be encouraged to be more involved in the

students' academic development. Their office hours should be scheduled according to the students' convencience. Special attention to and interaction with the potential dropouts must be entrusted to the faculty members.

Introductory courses on student orientation, motivation, and information are important. The students should be oriented to the various components of the university and their roles and function in student development. In light of the importance of personal contact, the number of the counselors may be very important in reducing dropout rates. Future studies may correlate the number of counselors and advisers with attrition rates.

An annual attrition study for every single institutions is highly recommended. In the past, research has been done on a nationwide and multi-institutional basis. Since studies on human beings tend to be culture-bound, it may be invalid to mix data from different types of institutions, e.g., two-year and four-year, private with public, rural college and urban college, and so forth. In spite of some commanalities among institutions of higher education, each has its own characteristics that should be studied within its own walls.

It also seems to be more fruitful if we aim our studies on the potential dropouts rather than on the actual dropouts. Let us be involved with solving problems of those still in college before they become dropouts. Astin once beautifully stated, "Let's close the barn door before the horses run away."

Finally, the finding of this study should be viewed under the following limitations:

1. This study was not a longitudinal research, because of

limitations of time and other resources.

2. Classification of the students into potential dropouts and potential persisters was based on the constructed dropout scale. The scale items were derived from the past research findings.

3. This study was a case study limited to a single institution and a sample of two hundred students.

BIBLIOGRAPHY

Astin, A. W. College Dropout: A National Profile. ACT Research
     Reports. Washington, D.C.: American Council on Education, 1971.

Astin, A. W. Four Critical Years. San Francisco: Jossey-Bass, 1977.

Astin, A. W. "Personal and Environmental Factors Associated With
     College Dropouts Among High Aptitude Students." Journal of
     Educational Psychology, 55 (1965), 219-227.

Astin, A. W. Predicting Academic Performance in College. New York:
     The Free Press, 1971.

Astin, A. W. Preventing Students From Dropping Out. San Francisco:
     Jossey-Bass, 1975.

Astin, A. W. "Students Persistence: Some Stay, Some Don't--Why?"
     College and University Journal, 48 (1973), 298-306.

Barger, B. and E. Hall. "Time of Dropout as Variable in the Study of
     College Attrition." College and University Journal, 41 (1965),
     84-88.

Baumgart, N. L. and J. N. Johnstone. "Attrition at an Australian
     University--A Case Study." Journal of Higher Education, 48 (1977),
     553-570.

Bayer, A. E. "The College Dropout: Factors Affecting Senior College
     Completion." Sociology of Education, 41 (1968), 305-316.

Bean, A. G. and R. W. Covert. "Prediction of College Persistence,
     Withdrawal, and Academic Dismissal: A Discrimanant Analysis."
     Educational and Psychological Measurement, 33 (1973), 407-411.

Blalock, H. M. Social Statistics. New York: McGraw-Hill Book Co.,
     Inc., 1960.

Blanchfield, W. C. "College Dropout Identification: A Case Study."
     Journal of Experimental Education, 40, 2 (1971), 1-4.

Bogen, G. "Performance and Vitality as a Function of Student-Faculty
     Fit." New Direction for Institutional Research, 20 (1978).

Borow, H. Manual for the College Inventory of Academic Adjustment.
     Stanford, CA: Stanford University, 1960.

Bragg, E. W. "A Study of Student Withdrawal at 'W. U.'" Journal of Educational Psychology, 47 (1956), 199-202.

Bucklin, R. W. and M. L. Bucklin. "The Psychological Characteristics of the College Persister and Leaver." ERIC Review, August, 1970.

Carnegie Council on Studies in Higher Education. Three Thousand Futures. New York: McGraw-Hill, 1972.

Centra, John A. "How Students Perceive Their College Environments." College Board Review, 79 (1971), 11-13.

Chase, C. T. "The College Dropout: His High School Prologue." Bulletin of the National Association of Secondary School Principle, 54 (1970), 66-71.

Chickering, A. W. and W. Hannah. "The Process of Withdrawal." Liberal Education, 55 (1969), 551-558.

Cope, R. "Sex Related Factors and Attrition Among College Women." Journal of the National Association of Women Deans and Counselors, 31 (1970, 118-124).

Cope, R. and W. Hannah. Revolving College Doors, the Causes and Consequences of Dropping Out, Stopping Out and Transferring. New York: John Wiley and Sons, 1975.

The Daily O'Collegian (January 16, 1981).

Demitroff, J. F. "Student Persistence." College and University Journal, 49 (1974), 553-567.

Demos, G. D. "Analysis of College Dropouts--Some Manifest and Covert Reasons." Personal and Guidance Journal, 46 (1968), 681-684.

Durkheim, E. Suicide. Translated by John A. Spaulding and George Simpson. Glencoe, Illinois: The Free Press of Glencoe, 1951.

Eckland, B. K. "A Source of Error in College Attrition Studies." Sociology of Education, 34 (1964), 60-72.

Eckland, B. K. "College Dropouts Who Came Back." Harvard Educational Review, 34 (1964a), 402-420.

Eckland, B. K. "Social Class and College Graduation: Some Misconceptions Corrected." American Journal of Sociology, 70 (1965), 36-50.

Everett, L. C. "An Analysis of Student Attrition at Penn State University." (Unpublished study at Pennsylvania State University, 1977.)

Fransworth, D.S. "We're Wasting Brainpower." National Education Association Journal, 48, 3 (1959), 42-44.

Feldman, K. and T. Newcomb. The Impact of College on Students. San Francisco: Jossey-Bass, 1969.

Frank, A. C. and B. A. Kirk. "Differences in Outcomes for Users and Nonusers of University Counseling Psychiatric Services." Journal of Counseling Psychology, 22 (1975), 252-258.

Freedman, M. B. "The Passage Through College." Journal of Social Issues, 12 (1956), 13-28.

Fullmer, D. W. "Success and Perseverance of University Students." Journal of Higher Education, 27 (1956), 445-447.

Gekowski, N. and S. Schwartz. "Student Mortality and Related Factors." Journal of Educational Research, 54 (1961), 192-194.

Goble, R. I. A Study of Dropout Problem at Miami University. (Unpublished doctoral dissertation, Miami University, 1957.)

Goodrich, A. L., L. W. Lezotle, and J. A. Welsh. "Minorities in Two-Year Colleges: A Survey." Community College Journal, 43 (December-January, 1973), 28-31.

Hackman, J. R. and W. S. Dysinger. "Commitment to College a Factor in Student Attrition." Sociology of Education, 43 (1970), 311-324.

Hanson, G. and R. Taylor. "Interaction of Ability and Personality: Another Look at the Dropout Problem in an Institute of Technology." Journal of Counseling Psychology, 17 (1970), 540-545.

Heist, P., T. R. McConnell, F. Matsler, and P. Williams. "Personality and Scholarship." Science, 133 (1961), 362-367.

Holland, J. L. "Undergraduate Origins of American Scientist." Science, 126, (1957), 433-437.

Ikenberry, S. O. "Factors in College Persistence." Journal of Counseling Psychology, 8 (Winter, 1961), 322-329.

Irvine, D. W. "Graduation and Withdrawal: An Eight-Year Follow-Up." College and University Journal, 40, 1 (1965), 32-40.

Irvine, D. W. "Multiple Prediction of College Graduation From Pre-Admission Data." Journal of Experimental Education, 35 (1966), 84-89.

Johansson, C. B. and J. E. Rossman. "Persistence at a Liberal Arts College: A Replicated, Five-Year Longitudinal Study." Journal of Counseling Psychology, 20 (1973), 1-9.

Johnson, G. B. "A Proposed Technique for the Analysis of Dropouts at a State College." Journal of Educational Research, 47 (1954), 381-387.

Kerlinger, F. N. Foundation of Behavioral Research. 2nd Ed. New York: Holt, Rinehart and Winston, Inc., 1973.

Knoel, D. N. "A Critical Review of Research on College Dropout." In A. Pervin et al., The College Dropout and Utilization of Talent. Princeton, NJ: Princeton University Press, 1966.

Kowalski, C. The Impact of College on Persisting and Nonpersisting Students. New York: Philosophical Library, Inc., 1977.

Lins, L. J. and H. Pitt. "The Staying Power and Rate of Progress of University of Wisconsin Freshmen." College and University Journal, 29 (1953), 86-99.

Mayhew, L. Contemporary College Students and Curriculum. High Wycomb, England and Michigan: 1974.

McConnell, T. R. and P. Heist. "Do Students Make the College?" College and University Journal, 34 (1959), 442-452.

Medsker, L. L. and J. W. Trent. The Influence of Different Types of Public Higher Institution on College Attendance From Socioeconomic Level. Berkeley, CA: Center for Research and Development in Higher Education, University of California, 1967.

Medsker, L. L. and Trent, J. W. Beyond High School: A Psycho-sociological Study of 10,000 High School Graduates. Berkeley, CA: Center for Research and Development in Higher Education, University of California, 1967.

Mehra, N. Retention and Withdrawal of University: A Study of Academic Performance of Freshman Class. Alberto, Canada: Office of Institutional Research, University of Alberto, December, 1973.

Mercer, M. "A Study of Student Mortality in a Home Economics College." Journal of Educational Research, 34 (1941), 531-537.

Monroe, R. C. Profile of Community College. San Francisco: Jossey-Bass, 1973.

Morrisey, P. J. "Attrition in Probationary Freshman." Journal of College Student Personnel, 12 (1971), 279-285.

Nelson, A. G. "College Characteristics Associated With Freshman Attrition." Personnel and Guidance Journal, 44 (1966), 1046-1050.

Nicoli, A. M. An Investigation of Harvard Dropouts, Final Report. Washington, D. C.: U. S. Office of Education, June, 1970.

Noel, L. Reducing the Dropout Rate, New Directions for Student Services. San Francisco: Jossey-Bass, 1978.

Panos, R. J. and A. W. Astin. "Attrition Among College Students." American Educational Research Journal, 5 (1968), 57-72.

Pantages, T. J. and C. F. Creedon. "Studies of College Attrition: 1950-1975." Review of Educational Research, 48, 1 (1978), 49-101.

Pascarella, E. and P. Terenzini. "Patterns of Student-Faculty Informal Interaction Beyond the Classroom and Voluntary Freshman Attrition." Journal of Higher Education, 48 (1978), 540-552.

Peng, S. S. and W. B. Fetters. "Variables Involved in Withdrawal During the First Two Years of College: Preliminary Findings From the National Longitudinal Study of the High School Class of 1972." Journal of Educational Research, 15 (1978), 361-372.

Robin, B. and P. Johnson. "Identifying Potential Dropouts With Class Lists." Improving College and University Teaching, 17 (1969), 178-179.

Rose, H. A. and C. F. Elton. "Another Look at the College Dropout." Journal of Counseling Psychology, 13 (1966), 241-245.

Rossman, J. E. and B. A. Kirk. "Factors Related to Persistence and Withdrawal Among University Students." Journal of Counseling Psychology, 17 (1970), 56-62.

Schein, L. A. "Institutional Characteristics and Student Attitudes." College Student Survey, 3 (1969), 67-69.

Selby, J. E. "Relationships Existing Among Race, Student Financial Aid, and Persistence in College." Journal of College Student Personnel, 14, 1 (1973), 38-40.

Sendecor, G. W. and W. G. Cochran. Statistical Methods. Sixth Ed. Ames: Iowa State University Press, 1978.

Sexton, V. S. "Factors Contributing to Attrition in College Populations: Twenty-five Years of Research." Journal of General Psychology, 72, 2 (1965), 301-326.

Siegel, S. Non-parametric Statistics for the Behavioral Science. New York: McGraw-Hill Book Company, 1956.

Slater, M. "Perception: A Context for the Consideration of Persistence and Attrition Among College Men." Personnel and Guidance Journal, 35 (1957), 435-440.

Spady, W. "Dropouts From Higher Education: An Interdisciplinary Review and Synthesis." Interchange, 1 (1970), 64-85.

Spady, W. "Dropouts From Higher Education: Toward an Empirical Model." Interchange, 2 (1971), 38-62.

Stern, G. G. People in Context. New York: John Wiley and Sons, 1970.

Stone, L. A. and G. E. Ryan. "High School Habits and College Freshman Attrition." Personnel and Guidance Journal, 43 (1964), 188-189.

Summerskill, J. "Dropouts From College." In N. Sanford, The American College--A Psychological and Social Interpretation of the Higher Learning. New York: John Wiley and Sons, 1962.

Summerskill, J. and C. D. Darling. "Sex Differences in Adjustment to College." Journal of Education Psychology, 46 (1955), 355-361.

Tinto, V. "Dropout From Higher Education: A Theoretical Synthesis of Recent Research." Review of Educational Research, 45 (1975), 89-1250.

Vaizey, J. "The Costs of Wastage." Universities Quarterly , 25, 2 (Spring, 1971), 139-145.

Vaughan, R. "College Dropouts: Dismissed vs. Withdrew." Personnel and Guidance Journal, 46 (1968), 685-689.

Waller, C. "Research Related to College Persistence." College and University Journal, 40 (1964), 281-294.

Zaccaria, L. and J. Creaser. "Factors Related to Persistence in an Urban Commuter University." Journal of College Student Personnel, 12 (1971), 286-291.

Zambrano, C. D. "A Study of Dropouts, Repeaters, and Associated Cost in Venezuelan Teacher Colleges." (Unpublished doctoral dissertation, Oklahoma State University, 1975.)

APPENDIX

THE QUESTIONNAIRE

THE COLLEGE INVENTORY OF

ACADEMIC ADJUSTMENT

Major Field _____

Sex _____

Age _____

Directions

It is known that high mental ability does not
necessarily guarantee success in college. Many persons who,
in comparison with their fellow students, are no better than
average in aptitude for college work, earn academic records
which are distinctly above the average. Many intellectually
superior students, on the other hand, make inferior records.
Such inconsistencies are often traceable to certain attitudes,
habits, and activities which influence scholarship. It is the
purpose of this blank to discover what part these special
factors are playing in your adjustment to college.

On the pages that follow, you will find a series of
questions about yourself. Consider each question thought-
fully and answer it as honestly as you can. If your answer to
any question is "Yes," draw a circle around the word "Yes"
at the left. If your answer is "No," draw a circle around the
"No." If you are not sure about the answer to any question,
that is, if you cannot truly answer "Yes," or "No," then draw
a circle around the "Un" which is an abbreviation for
"Undecided." Be certain that you answer every question.

Strictly speaking this is not a test. There are not
right or wrong answers The most helpful results are obtained
by responding frankly and accurately to each question. Try
to give as true a picture of yourself as you possibly can.
Your responses will naturally be held in confidence.

I

Yes No Un 1. Did you give careful consideration to your choice of curriculum when you entered college?

Yes No Un 2. Are you interested in a number of vocational careers so that you cannot focus your effort and attention upon the course of study you have tentatively selected?

Yes No Un 3. Have you often thought seriously of changing your curriculum?

Yes No Un 4. Did you find the transition from high school to college a difficult and upsetting experience?

Yes No Un 5. Is studying usually enjoyable to you?

Yes No Un 6. Have you found good reasons for knowing the material in each of your courses?

Yes No Un 7. Are you forced to take courses which you dislike or in which you have little interest?

Yes No Un 8. Do you believe that your courses are too unrelated to each other?

Yes No Un 9. Do you feel that too much work is required of you in many courses?

Yes No Un 10. Do you feel that the college regulations are too rigid and arbitrary?

Yes No Un 11. Do you honestly like your college work?

Yes No Un 12. Do you sometimes think it a waste of time for you to continue your college education?

II

Yes No Un 13. Do you feel that you have sound motives for being in college?

Yes No Un 14. Have you set certain definite goals for yourself which you hope to achieve during your college career?

Yes No Un 15. Do you generally strive to attain the highest grades of which you are capable?

Yes No Un 16. Do you feel that you lack a proper sense of proportion in dealing with your daily problems and responsibilities?

Yes No Un 17. Are you restless at the delay in starting your life work?

Yes No Un 18. Are you guilty of not taking things seriously enough?

Yes No Un 19. Do your interests change rapidly?

Yes No Un 20. Are you attending college largely on the insistence of your family?

Yes No Un 21. Are problems of family relations or marriage more important to you at present than your studies?

Yes No Un 22. Have you tried to work out for yourself a satisfactory life plan?

Yes No Un 23. Do you have a keen desire for success?

Yes No Un 24. Are you troubled by the feeling that you do not know where you belong in the world?

Yes No Un 25. Are you sometimes indifferent or apathetic about matters which have considerable importance for your personal welfare?

Yes No Un 26. Do you fail to see the value of the daily things that you do?

III

Yes No Un 27. Do you customarily anticipate and plan your work for the next several days?

Yes No Un 28. Do you feel that you possess some irregular habits which make it difficult for you to carry out your daily college routine?

Yes No Un 29. Do you experience difficulty in scheduling time for study, going to bed, getting up, etc.?

Yes No Un 30. Do you find that you try to seize every opportunity to leave town and return home for a few days?

Yes No Un 31. Do you sometimes oversleep so that you miss classes?

Yes No Un 32. Does your college performance suffer owing to too many outside interests or activities?

Yes No Un 33. Do you usually attend the movies more than once a week?

Yes No Un 34. Are you guilty of wasting valuable time so that you interfere with the mastery of your courses?

Yes No Un 35. Do you feel that you are devoting an adequate amount of time to outside study?

Yes No Un 36. Do you often come to class without having prepared your assignment?

Yes No Un 37. Is it usually easy for a friend to persuade you to go to a show, go out on a date, or otherwise seek recreation when you have previously decided to study?

Yes No Un 38. Can you get your work done without constant urging by professors, parents, and others?

Yes No Un 39. Do you have to wait for a mood to strike you before attempting to study?

Yes No Un 40. Do you use odd times to review what you have learned, such as time between classes?

Yes No Un 41. Are you always able to get your class assignments completed by the specified date?

Yes No Un 42. Do you plan your work systematically so that your learning of course material is facilitated?

IV

Yes No Un 43. When you sit down to study do you customarily plan the amount of work you are to accomplish during that study session?

Yes No Un 44. Does it take you some time to get settled when you sit down to study?

Yes No Un 45. Do you often dawdle over your books?

Yes No Un 46. Do you frequently have the feeling when you have finished studying that you have accomplished very little?

Yes No Un 47. Do you sometimes study with the radio going on or with other persons talking in the same room?

Yes No Un 48. Are you easily distracted from your studies?

Yes No Un 49. Do you sometimes doze off or let your mind wander during a class period?

Yes No Un 50. Do you extend your preparation for an examination over several days?

Yes No Un 51. Do you study late into the night or even all night before an important examination?

Yes No Un 52. Do you often waste time preparing for an examination by studying and reviewing nonessential details or irrelevant materials?

Yes No Un 53. Are you usually successful in understanding what the questions are driving at when taking an examination?

Yes No Un 54. Are your textbooks generally hard to understand?

Yes No Un 55. Do you experience trouble in outlining or note-taking?

Yes No Un 56. Do you experience trouble in using the library?

Yes No Un 57. Do you usually try to select out the main points of the reading assignment for further study?

Yes No Un 58. As you read an assignment, do you frequently take time out to recite to yourself what you have just read and to ask yourself questions about it?

Yes No Un 59. Do you have difficulty remembering what you have just read when you complete a reading assignment?

Yes No Un 60. Is your rate of reading so slow that you have difficulty preparing all your assignments?

Yes No Un 61. Do you have trouble picking out the important points in a study assignment?

Yes No Un 62. Do you have to reread material several times because the words do not have much meaning the first time you go over them?

Yes No Un 63. Do you frequently have long drawn-out but wasteful study sessions?

V

Yes No Un 64. Do you experience many pleasant or unpleasant moods?

Yes No Un 65. Does some particularly useless thought keep coming into your mind to bother you?

Yes No Un 66. Do you sometimes feel that you allow your thoughts to dwell too much upon your home and family?

Yes No Un 67. Do you daydream frequently?

Yes No Un 68. Does your mind often wander so badly that you lose track of what you are doing?

Yes No Un 69. Are you bothered constantly by some worry or concern so that you cannot concentrate on your work?

Yes No Un 70. Are you often in a state of excitement?

Yes No Un 71. Are you often bothered by the feeling that no one understands you?

Yes No Un 72. Do you often feel just miserable?

Yes No Un 73. Do you have a tendency to give up easily when you meet difficult problems?

Yes No Un 74. Do you get nervous and upset during examinations so that you cannot do your best?

Yes No Un 75. Are you worried by your failure to get ahead?

Yes No Un 76. Do you sometimes feel that you are not doing anything well?

Yes No Un 77. Do you consider yourself a well-adjusted person in college?

VI

Yes No Un 78. Do you find that your professors are honest and straightforward in their dealings with you?

Yes No Un 79. Do you hesitate to ask your instructor to explain points that are not clear to you?

Yes No Un 80. Do you feel that some of your professors hold a "grudge" against you?

Yes No Un 81. Do you think that some of the women instructors in this college show favoritism toward boys in their classes?

Yes No Un 82. Do you feel that some of your professors think that they are superior to their students?

Yes No Un 83. Do you find that some of your professors apparently take delight in making you feel embarrassed before the class?

Yes No Un 84. Are you often frightened by the way some of your professors call on you in class?

Yes No Un 85. Do you find that some of your professors make you feel as if you did not care whether you learned anything in their classes or not?

Yes No Un 86. Have you been the recognized leader (president, captain, chairman) of a group within the last five years?

Yes No Un 87. Do you greatly dislike being told how you should do things?

Yes No Un 88. Are people sometimes successful in taking advantage of you?

Yes No Un 89. Does discipline by others make you discontented?

Yes No Un 90. Does your personality contribute to your success in college work?

IMPORTANT: Look over this inventory to make certain you have answered every question.

Please check the appropriate box describing your college degree of satisfaction with the following aspects of your college.

Degree of Satisfaction	Not Satisfied				Highly Satisfied
1. Counseling Services	1	2	3	4	5
2. Academic Advisement Service	1	2	3	4	5
3. Library Services	1	2	3	4	5
4. School Rules and Regulations	1	2	3	4	5
6. Cultural Opportunities	1	2	3	4	5
7. Social Opportunities	1	2	3	4	5
8. Recreational Facilities	1	2	3	4	5
9. Location of College	1	2	3	4	5
10. Living Accommodations	1	2	3	4	5
11. Grading Systems	1	2	3	4	5
12. Course Content Field of Specialization	1	2	3	4	5
13. Quality of Teaching in the Field of Specialization	1	2	3	4	5
14. Contact with Teachers	1	2	3	4	5

Items Used for the Construction of the Dropout Scale

Which of the following cumulative grade point average is yours? Please
check the appropriate box describing your GPA.

1-1.99 ____ (1)		3-3.49 ____ (4)	
2-2.49 ____ (2)		3.50-4.00 ____ (5)	
2.5-2.99 ____ (3)			

Please check appropriate box describing your feelings toward college
education.

1. Courses are irrelevant
   to my goal.

   Irrelevant   Relevant

   ‾‾1‾‾2‾‾3‾‾4‾‾5‾‾

2. College studies are too
   time consuming.

   Strongly   Strongly
   Agree   Disagree

   ‾‾1‾‾2‾‾3‾‾4‾‾5‾‾

3. College studies are
   too boring.

   Strongly   Strongly
   Agree   Disagree

   ‾‾1‾‾2‾‾3‾‾4‾‾5‾‾

4. Courses are too difficult.

   Strongly   Strongly
   Agree   Disagree

   ‾‾1‾‾2‾‾3‾‾4‾‾5‾‾

5. I am satisfied with courses.

   Dissatisfied   Satisfied

   ‾‾1‾‾2‾‾3‾‾4‾‾5‾‾

6. Not enough money to
   finance studies in college.

   Strongly   Strongly
   Agree   Disagree

   ‾‾1‾‾2‾‾3‾‾4‾‾5‾‾

7. I want to go back to work.

Strongly Agree   Strongly Disagree

<u> 1 2 3 4 5 </u>

8. I don't like school.

Strongly Agree   Strongly Disagree

<u> 1 2 3 4 5 </u>

9. I want to leave school.

Strongly Agree   Strongly Disagree

<u> 1 2 3 4 5 </u>

Institutional Integration Item

10. Do you feel you are part of this college?

Not at All   Very Much

<u> 1 2 3 4 5 </u>

ट

VITA

Mozaffaredin Vaezi

Candidate for the Degree of

Doctor of Education

Thesis: WHO BECOMES A POTENTIAL DROPOUT? AN INVESTIGATION ON THE POTENTIAL COLLEGE DROPOUTS AND PERSISTERS

Major Field: Higher Education Administration

Biographical:

   Personal Data: Born in Zanjan, Iran, July 11, 1947, the son of Mr. and Mrs. Hossien Vaezi.

   Education: Graduated from Pahlavi High School, Teheran, Iran in in 1967; received the Licentiate in Political Science from the University of Teheran in 1974; received the Master of Arts in Political Science from the University of Kansas in 1978; completed requirements for the Doctor of Education degree at Oklahoma State University in May, 1981.