

GRADES AND GRADE POINT AVERAGES AS PREDICTORS OF  
ATTRITION RATES AMONG JUNIOR COLLEGE STUDENTS

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A DISSERTATION  
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BY  
CLAYTON BELL, JR. B.A., M.ED.

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DENTON, TEXAS  
NOVEMBER 11, 1982

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The Graduate School  
Texas Woman's University  
Denton, Texas

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We hereby recommend that the Dissertation prepared under  
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Attrition Rates among Junior College Students

be accepted as fulfilling this part of the requirements for the Degree of \_\_\_\_\_  
Doctor of Philosophy

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## DEDICATION

To my Mother, Mrs. Betty Bagley of Ennis, Texas  
with much love and admiration.

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## CHAPTER I

### INTRODUCTION

Community junior college educators today face a multitude of issues. The most frequently encountered of these issues is the attrition rate among junior college students (Allen, 1980; Astin, 1975; Pascarella, Duby, Miller and Rasher, 1981).

Most high school students who anticipate going to college are concerned about the uncertainty of their performance level in a college curriculum. Prospective college students are not only concerned with grades and grade point averages but also in maintaining their performance level in order to successfully complete their academic program (Astin, 1978; Astin, 1971; Tinto, 1975; Yess, 1979).

The extent to which these grades and grade point averages (GPA) may contribute to retention or attrition rates is the most important phase of this investigation. Grades and grade point averages probably have become major factors of attrition and retention among junior college students. Community junior college planners and administrators increasingly must confront problems arising as a result of these variables (Astin, 1975; Tinto, 1975).

Though specific uses of attrition or retention studies vary, and several generalizations can be made, such studies can provide information about dropouts that can help an institution establish activities to encourage persistence. These studies can also document the number and percentage of students who leave for reasons not amenable to correction by the institution, but would enable the institution to predict attrition rates by applying trend analyses to the documented instances of students leaving programs before completion (Allen, 1981; Pascarella, Duby, Miller, and Rasher, 1981).

There are several reasons why community junior colleges should want to discover why students leave school before completing their programs. The most important is that attrition has a heavy impact on funding and institutional operations. There are also many benefits that can be gained by conducting an attrition study. A study of attrition can offer an institution a better understanding of why students leave, and in many cases, indicate corrective actions that might encourage students to remain (Allen, 1981; Astin, 1975; Astin, 1971; Tinto, 1975).

According to Tinto (1975), and Spady (1970), there is a definite interaction between the individuals and institutions that could cause differing individuals to



drop out from particular institutions. They suggest that colleges should have a better insight into the social and economical processes of the dropouts. For example, in one pilot attrition study, dropouts complained that dormitories were unsatisfactory. Armed with this knowledge, the institution was in a better position to provide an environment that would encourage student retention (Patrick, Meyers, and Dusen, 1979). Though other reasons do not always lend themselves as easily to corrective action, they can, at least, document why particular kinds of students drop out of programs (Astin, 1975). In another pilot study at a public college, students stated that they left because out-of-state tuition fees were too high. This information helped the institution predict what kinds of students would be likely to leave because of economic reasons (Patrick, Meyers, and Dusen, 1979).

#### Statement of the Problem

Many of the students who graduate from the four high schools of the Richardson Independent School District (RISD) enter their hometown college, Richland. It was interesting to find out why some of these Richardson alumni completed their courses of study at Richland College and some did not.

This study was concerned with investigating the possibility that grades and grade point averages earned in

high school along with other pre-enrollment factors may be highly accurate predictors of attrition or retention rates among Richland College students. This study was limited to those RISD students who enrolled at Richland College for the fall semester of the 1981--1982 school year. The study examines differences in grades, grade point averages, and other pre-enrollment factors between those students who did and those who did not re-enroll for the spring semester. Other variables examined are social, demographic, and economic factors.

### Research Questions

The following research questions were investigated as bases for this dissertation:

1. What pre-enrollment, institutional, and personal or demographic factors discriminate between dropouts and persisters who graduated from the Richardson Independent School District and who enrolled in Richland College during the 1981--1982 school year?
2. Is there a significant difference between persisters and dropouts of the Richardson Independent School District students enrolled at Richland College and their employment status?

### Significance of the Study

In an effort to maintain the highest educational quality possible, this study investigated whether grades and grade point averages of high school students were accurate indicators to be used in the prediction of attrition or retention rates among Richland College students who were graduates of the Richardson Independent School District. It examined other pre-enrollment variables as contributors to students' early withdrawal from school. This study can help administrators in identifying withdrawal-prone students before they drop out of their programs. According to Pascarella, Duby, Miller, and Rasher (1981), an understanding of secondary variables can strengthen a retention program. Relationships, interaction with the faculty, and the extent to which the institution is committed to the task of controlling attrition play large roles in whether a student will persist or drop out. These variables make a unique contribution to the student's academic performance (Astin, 1971; Tinto, 1975). This study attempted to investigate these secondary variables in order to show the multifaceted reasons students leave before completing their programs.

### Delimitations

Only those students who are graduates of the Richardson Independent School District and who were

enrolled at Richland College during the fall semester of the 1981--1982 school year were included in this study. There were 2,164 students enrolled at Richland College at the beginning of the 1981--1982 school year that were high school graduates of the Richardson Independent School District. It was predicted by the Dallas County Community College Research Center (1981) that 35% of the students would not re-enroll the second semester. The total number of dropouts or potential dropouts anticipated were 35% of 2,164, which equals 747 students ( $N=747$ ). A random sample of 200 ( $n=200$ ) of these dropouts were surveyed using the random table (C-XIV) as produced by Robert E. Sehring (1978). There was also a random sample of 200 students from the total number of persisters ( $N=1,417$ ).

### Implications

Grades and grade point averages as factors of attrition and retention rates of junior college students may be a problem for decision makers in these times when there are more demands for accountability along with limited financial resources. This study may be utilized as a guide for establishing a more objective and systematic procedure for dealing with such complex problems as attrition and retention rates among junior college students.

### Definitions of Terms

Grades: The marks indicating a degree of accomplishment in school. The marks used to delineate the degree of accomplishment of the students surveyed in this study are: (4-A), (3-B), (2-C), (1-D), and (0-F).

Richardson Independent School District High School Grade Point Averages (GPA): The mean of students' grades earned in high school as expressed by letters. A letter grade is awarded for each course completed. These grades are converted to numbers as follows: (4-A), (3-B), (2-C), (1-D), and (0-F).

Richland College Grade Point Average (GPA): The mean of students' grades earned in Richland College as expressed by letters. These grades are converted to numbers as follows: (4-A), (3-B), (2-C), (1-D) and (0-F).

Scholastic Aptitude Test (SAT): A test to measure a person's ability or capacity to learn. It measures a person's ability to learn with training and it is used to measure certain skills or knowledge.

Class Rank: A rank or scale used to measure students' ability to perform in comparison to other students of the same class.

Family Economic Status: Blue collar, white collar, and self employed.

Family Marital Status: Two parent family, one parent family and no family.

Service: A facility providing students assistance or benefits by employing students as part-time workers or aides to assist with financial obligations.

Objective: Something to work toward or strive for like a goal or desire.

Course: A complete body of prescribed studies constituting a curriculum or leading toward an advanced product such as a degree.

Satisfaction: The fulfillment or gratification of a desire, need, or appetite.

Hours Completed: The number of semester hours completed at Richland College.

Current Status: Part-time or full-time student at Richland College and present classification.

Personal or Demographic Data: Sex, age, race and ethnicity. The student's occupational area and whether or not job is related to courses enrolled in.

Dropout: Any student who previously enrolled at Richland College but is not enrolled at the time of the study.

Retention: Modifying the educational process so that potential dropouts will remain enrolled in the institution until their programs are completed.

Attrition Rates: The percentage of students who leave the institution before completing their programs.

## CHAPTER II

### REVIEW OF LITERATURE

The review of literature consists of five major sections and a concluding statement. The first section examines general concepts of attrition and retention. The second section canvasses the social aspects of attrition or retention. The third section investigates academics as a major factor of attrition or retention. The fourth section surveys the economic factors as they relate to attrition and retention. The fifth section examines demographic factors of attrition or retention. The concluding statement is last.

#### General Concepts of Attrition and Retention

Community junior college educators and administrators have a ponderous responsibility for being knowledgeable about their students. They should have a thorough understanding of the students' aspirations, modes of learning, goals, and how to assist potential dropouts in overcoming many obstacles that preclude them from completing their programs (Astin, 1971; Astin, 1975; Richards and Casey, 1979; Zwering, 1974). Most of the research that has been completed in predicting withdrawal or in understanding

reasons for discontinuance has been quantitative and not very valuable, because such research considers only a limited number of variables. It is usually easily quantified, such as high school grade point average, college entrance test scores, parent's income, socioeconomic class background, participation in school activities, and the like. In addition, the reasons for discontinuance are usually coupled, overlapping, or often have nothing to do with the student. In some instances, discontinuance may not be recognized by the student at all. Changed vocational choice, poor choice of institution in the first place, meeting a loved one, to be with friends, dissatisfaction with the college, fulfilling less than degree expectations, and other multifaceted issues are involved in withdrawal. There is no dropout personality, only individual personalities interacting with different campus environments at various times in their mutual and changing lives (Astin, 1975; Cope, 1975; Pantages and Creedon, 1978; Patrick, Meyers, and Dusen, 1979; Tinto, 1975). In an effort to draw conclusions about the amount of impact that certain variables have on attrition, and to increase our knowledge about the dropout process, Munro's model looks at the academic and social integration of students into an institution and their individual interaction with the various factors that are primary determinants of persistence in college. Multiple variables operate concurrently

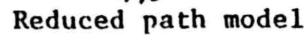


to cause a student not to persist (Munro, 1981). On page twelve is a copy of Munro's model.

The P's in Munro's model represent Path Coefficient and the R's represent true correlation. The path coefficients for the variables in this model were calculated by  $\sqrt{1-R^2}$ . The R's of Munro's model are those parts of the regression equations in which particular variables are dependent variables. The squares of these path coefficients indicate variance of those variables. This model is set up so as to distinguish between "true" correlation, which implies causation, and correlations which claim to be true but are not (Munro, 1981).

This model does not support Tinto's hypothesis that integration into the academic domain of the college directly affects goal commitment and integration into the social domain affects institutional commitment. In Munro's model, educational aspirations of both parents and students have a greater affect on goal commitment than does academic integration. Institutional commitment is strongly affected by academic integration (Munro, 1981).

Tinto, in one of his studies on attrition, showed the importance of three sets of variables with his conceptual model. Tinto's model exemplifies attrition as a longitudinal process involving a composite of socio-psychological interactions between individuals and



14 - persistence in institution  
15 - persistence in higher education

(From "Dropouts from Higher Education: Path Analysis of a National Sample," by Hazard Barbara Munro, American Educational Research Journal, Volume 18, No. 2, page 139, Hartford CT. Summer, 1981.)

institutional environments. Tinto's theory suggests that:

Students bring to college such characteristics as family background (e.g., socioeconomic status, parental values), personal attributes (e.g., sex, race, academic ability, and personality traits), and experiences (e.g., precollege social and academic achievement). Each of these traits is presumed to influence not only college performance, but also initial levels of goal and institutional commitment. These characteristics and commitments, in turn, interact with various features of a particular college or university's environment and lead to certain levels of integration into the academic and social systems of the institution.<sup>1</sup>

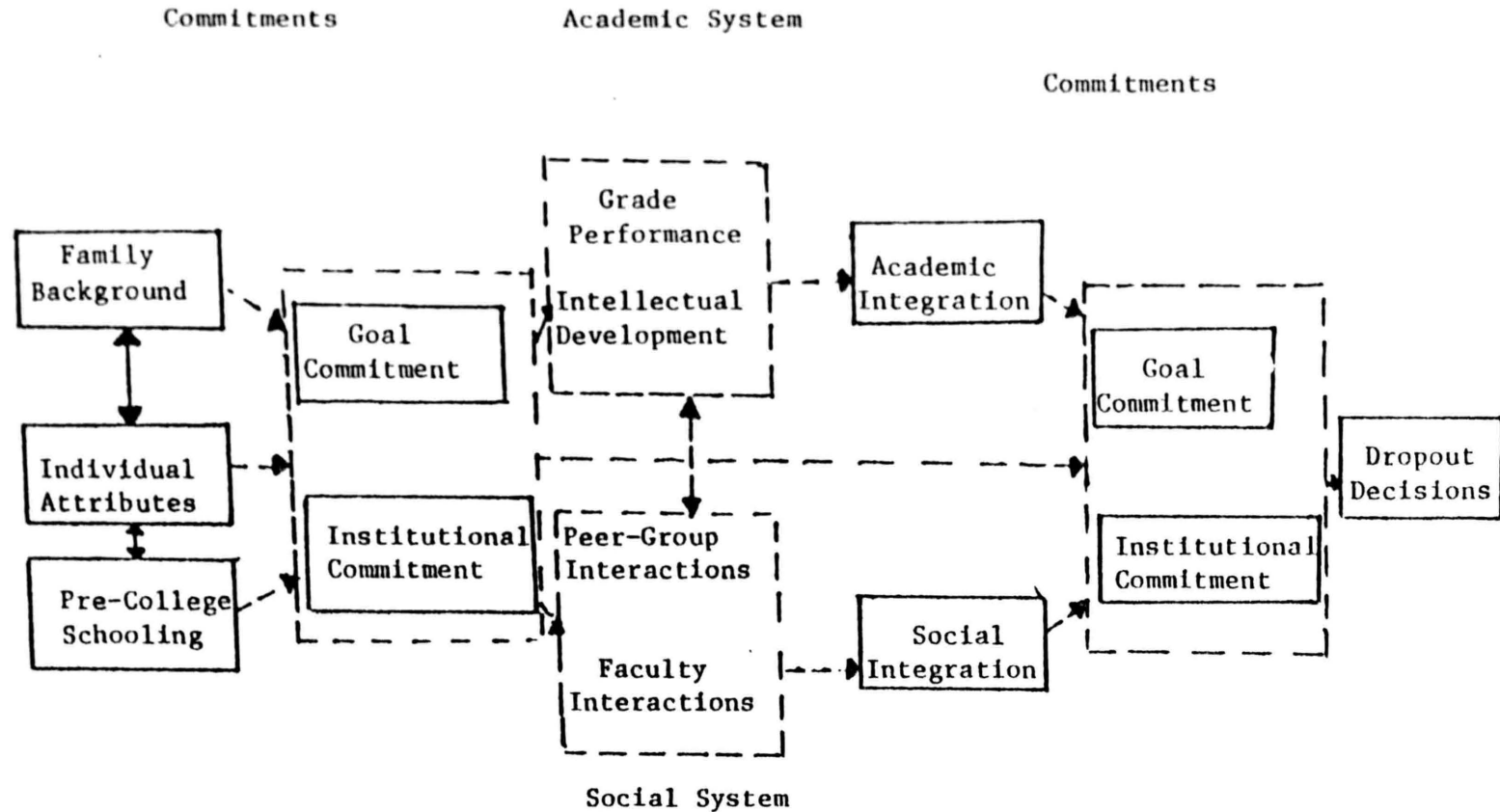
According to Tinto (1975), with all other things being equivalent, the greater the degree of integration of a student into the college system, the greater will be his commitment to the institution and to the goal of completing his program. On page fourteen is a copy of Tinto's conceptual model.

If junior colleges recognize variables affecting dropouts early enough, they can prove beneficial in identifying withdrawal-prone students and make recommendations for intervention strategies aimed at retaining probable withdrawals (Astin, 1971; Pascarella, Duby, Miller, and Rasher, 1981; Tinto, 1975).

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1v. Tinto, "Dropouts from Higher Education: A Theoretical Synthesis of Recent Research." Review of Educational Research, Volume 45, 1975, p. 96.

TABLE 2



A Conceptual Schema for Drop out from College.

(From "Dropouts from Higher Education; a Theoretical Synthesis of Recent Research", by Vincent Tinto, Review of Educational Research, 1975, 45, p.55.) Copyright 1975 by the American Education Research Association (Reprinted by Permission.)

### Social Factors of Attrition and Retention

Many social scientists have found that certain personal attitudes and configurations of conduct correlate with the characteristics of various socioeconomic groups. Studies in America have yielded information that different types of socioeconomic groups possess certain specific beliefs, values, and behavior patterns which make them different from other groups (Monroe, 1975).

The most effective forces among community college students that generate change come from peer groups and extra curricular activities. Peer groups can influence students to adopt the ways of the groups. The decision to take a course or not to take it, to study or not to study, is often made through the pressure of group attitudes except for the few "loners" or "social isolates" (Monroe, 1975).

The family generally is considered the most influential factor in the development of one's personality even if genetic factors are not included. In providing information and motivating attitudes for attending college the family is most influential. A composite of all studies reviewed on students' education or careers showed approximately two-thirds of the students reported parental influence in their decision about what to do (Monroe, 1975).

According to Lenning, Beal, and Sauer (1980), cognitive dissonance gives insight into and about a person's environmental interactions. This theory is concerned with the individual perceptions and understandings of themselves, their social environments, and their positions and situations within different environments. This means that individuals who have a strong perception of personal needs that are not being met by the institution will be more likely to attempt to remedy the discrepancy, and in many cases dropping out will result.

Every individual has a broad and complex system of cognitive elements with varying patterns that cross pairs of elements. The addition of influencing variables simulate the remaining variables (Lenning, Beal, and Sauer, 1980). Pantages and Creedon (1978), conclude that student-college congruence is a major factor of retention.

Students' interactions with other students in many college environments are important factors that could cause early withdrawal. Students' lack of integration into the social systems of an institution can increase the probability that certain individuals will leave certain institutions to pursue alternative avenues (Astin, 1974; Astin, 1972; Cope, 1976; Tinto, 1975).

According to Tinto (1975) many institutions are made up of both social and academic provinces. It is very significant for an institution to distinguish between the normative and structural unification in the academic province and the normative and structural unification in the social province of that institution. It is important for an institution to distinguish between these provinces because students may be able to perform adequately in the academics and still drop out because they cannot integrate into the social life of the institution (Tinto, 1975). Institutions should encourage students to have a functional relationship between the two provinces. There should not be excessive emphasis put on the integration of students into one domain of the institution without due consideration given to the integration of students into the other domain of the institution (Tinto, 1975).

An institution must embody more than background characteristics of individuals, such as ethnicity, race, sex, and abilities when conducting an attrition study. The institution should also consider expectational and motivational attributes of students such as those determined by careers and educational expectations including levels of motivation for academic achievements (Astin, 1975; Astin, 1971; Chickering, 1969; Cope, 1979; Tinto, 1975). Institutions should be knowledgeable about students'

educational expectations and whether they involve specific institutional components which will predispose certain students toward attending particular institutions (Cope, 1979; Lenning, Beal, Sauer, 1980; Tinto, 1975). Pantages and Creedon (1978), concluded that educational interests or choices in areas of pursuit among their students do not make a statistically significant difference at their particular institution. Alvin Zander (1977), Director, Research Center for Group Dynamics, Institute for Social Research, University of Michigan, concluded from a study made in 1969 that more than two-thirds of the college students interviewed by him came to class for some reason other than course content. Many teachers and administrators of junior college students readily agreed with Dr. Zander's conclusions that many students participate in educational activities to make friends, to get away from the house for awhile, or to learn something about their latent talents as well as to acquire information or to learn new skills. Some students enter college with no intention of completing the program. They merely go to satisfy parental wishes, to marry, or to avoid employment. For them, dropping out is an expression of an original plan (Cope, 1975; Hannah and McCormick, 1970). In a study done by Bianchi and Bean (1980), it was concluded that social immaturity was associated with low achievement and



voluntary withdrawal. Students' ability to make adjustments necessary for success in a college environment depends upon their socialization and maturity. Lack of maturity is a common factor among dropouts. According to Bianchi and Bean (1980), factors responsible for the decision to drop out are extremely complex and varied. However, discontent resulting from student-college interaction could be only part of the answer. It may be that there is not a personality measure that can make a definite prediction of such an amorphous criterion. According to this study, voluntary withdrawal is still an unsolved problem.

### Counseling Services

Most of the literature reviewed in this study recommends enlarging the role and scope of the counseling services as a means of increasing persistence. Counseling services should commence at the time of registration. Dissatisfaction with the college in many instances can be corrected by offering proper counseling and guidance before undesirable habits are formulated (Pantages and Creedon, 1978). According to Lenning, Beal, and Sauer (1980) the critical period for counseling services for beginning students is during their first six months of enrollment. From a recent study on counseling services completed at Stanford University, students who used academic counseling

support services dropped out at a lesser rate than the students who did not use the services. It was also reported that those individuals who used the psychiatric counseling services had a greater attrition rate than the students who used the academic counseling (Lenning, Beal, and Sauer, 1980).

Counseling has served as a base for many retention programs. However, students must be motivated to take part in the program. There should be differential counseling designs or approaches to deal with varying psychological syndromes of students that have a tendency to drop out. There should be opportunity programs such as: achievement motivation training, high-anxiety, focus-of-control counseling, and groups to improve the self-concept of students (Lenning, Beal and Sauer, 1980).

Peer counseling for commuter students was found to be a most effective tool in the counseling services as reported by Lenning, Beal, and Sauer, (1980). Peer counseling can be a powerful succor in the process of student development. The time faculties spend establishing helping relationships among students is called "outreach" time. This time encompasses anything from having a snack with an individual or group of students to a game of tennis or other school interaction activities. In addition, peer counselors can provide tutorial services

to freshmen on certain assignments or courses (Boyce, 1982). Peer counseling for nontraditional students is a pawn that can be used by colleges to boost their holding power. A good counseling program can be individual or group counseling, or both. However, sessions must be held in locations that are easily accessible to students. The main purpose of counseling services must be to establish within the students a "someone cares" atmosphere. Counselors should request students to come by for counseling and initiate an outreach program for those students who do not take advantage of their offer. Counselors should direct sessions that explore life goals, abilities, and interests. If these simple procedures are followed, according to Lenning, Beal, and Sauer (1980), there should be a lower attrition rate, enrollment should be higher, and the grades and grade point averages of the students should be higher. Pantages and Creedon (1978) found in their study on attrition that peer counseling is relatively low cost to the college and can be quite effective in reducing attrition. With peer counseling the institution is able to be in contact with those who are thinking about dropping out without projecting an image of an official interceder.

Monroe (1976) concluded that junior colleges enroll an unusual number of students who are "undecided"

and "vaguely decided". Decisions about their careers should be made soon or a portion of their college time will be wasted. Disappointment, failure, and dropping out are, in many cases, the result of lack of choice or the wrong choice in the beginning. There are many factious variables working for or against the student in his career decision making, such as inadequate information, faulty self-appraisal, peer influences, status values, family pressures, and conflict with present or future needs. It is very difficult for beginning college students to make proper career choices without adequate guidance (Monroe, 1976).

### Student Involvement

Several studies have concluded that extracurricular activities can improve the social lives of college students and thereby enhance their persistence (Astin, 1975; Pantages and Creedon, 1978). The key to greater retention is student involvement in the college's extracurricular activities (Astin, 1975).

The social life of the college should include activities such as: athletics, dating, participation in academic affairs, and student government. Part-time employment on the campus is another way of getting students involved in the life of the institution and

subsequently enhancing their persistence (Astin, 1975). Students tend to attach value to different activities of the school and spend a great deal of time participating in them (Demitroff, 1974). According to Sexton (1975), dropouts come from the two extremes, those who participate religiously in extracurricular activities and those who do not participate at all.

In a study reported by Pantages and Creedon (1978), it was found that participation in extracurricular activities does not have a great impact on attrition rates among college students. Sexton (1965) concluded that extracurricular activities play a major role in a student's socialization and thereby enhance persistence. Tinto (1975) concluded that excessive social interaction can lead to poor academic performance and eventual academic withdrawal. However, in some cases social interaction lends itself to a process of mutual assistance if the friendship ties are persons respected by all parties.

Students, faculty, and administrative personnel should play major roles in the socialization process (Tinto, 1975). According to Tinto (1975, p. 105), "Extracurricular activities may provide both social and academic rewards that heighten the person's commitment to the institution and therefore reduce the probability of his dropping out from college." The end results of any

interaction according to Tinto, will eventually vary with sex and the environment in which it occurs. Interaction of students with faculty according to Tinto (1975), is most valuable in the student's major area of concentration. Oftentimes, according to Tinto (1975), student-faculty interaction in the major area may be more of a factor among men than among women.

Lenning, Beal, and Sauer (1980) report that a well-designed advisory council can improve faculty-student interaction and thereby enhance student retention. It is the opinion of some faculty members that personal interaction was beyond the scope of their responsibilities to students. Lenning, Beal, and Sauer (1980) report a study in which 29 percent of the persisters enrolled at Pennsylvania State University were involved in some type of extracurricular activity as compared to 42 percent for those who dropped out. On the other hand, some studies have established no such relationship; these factors can create over involvement in extracurricular activities and result in causing students not to persist. Dissatisfaction, on the other hand, with social interaction and faculty-student interactions are major factors of attrition rates among college students, especially students beginning college or transferring from other institutions (Lenning, Beal, and Sauer, 1980).

### Academic Factors of Attrition and Retention

In most schools today, performances of students are systematically evaluated by teachers. Teachers use these assessments to reinforce past performances of the students and to motivate the students to perform well in the future. Many times teachers use these evaluations of students' past performances to determine their expectations of the students. These expectations are important because they influence how the teacher interacts with the students, which in turn can affect the student's subsequent academic performance (Ryan and Levine, 1981). According to Chansky (1964), a sizable portion of a student's grade can be explained in terms of congruence of his values with those of the teacher.

### Relevance of Grades and Grade Point Averages

Many faculties and students oppose what they see as an overemphasis on grading, but attempts to deemphasize grades have proven to be generally unpopular. The problem here for any given institution is that grades represent a kind of currency to be used later on in pursuing more advanced training or even employment. If this currency is adulterated or otherwise altered, it tends to lose value. Unless most institutions simultaneously change their grading systems, it remains very difficult for any institution to do it unilaterally. Under these conditions,

it is much easier to change the manner in which grades are awarded than the total grading system itself.

The results of a current study suggest that the major limitation of the traditional grading systems are the negative effects that low grades have on motivation, persistence, and career progress. Can institutions find ways to minimize the number of low grades given and reduce their negative impact without compromising academic standards? One approach to this problem is to move from the relative grading system to an absolute system where all students could, in theory, get good grades. A few colleges have experimented with this approach by substituting a series of qualifying or proficiency examinations for traditional classroom examinations.

Students take the examinations whenever they feel prepared, and those who fail any given examination are permitted to retake it. An obvious advantage of this alternative is that it allows for individual differences in students' initial levels of preparation and rates of growth. It also has the advantage of separating the evaluation process (grading) from the teaching-learning process."

Students and institutions alike seek to discover the basic requirements for getting grades, because these grades are combined and used to assess the worth of individuals in a variety of ways. It is argued that grades

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<sup>2</sup>A. W. Astin, The Myth of Equal Access in Public Education, (Southern Education Foundation, Atlanta, Georgia, 1975a), p. 259.



and grade point averages are indeed the perspective used by students and institutions for academic work. It has been found that students, both individually and collectively, organize their efforts so as to achieve adequate grades and grade point averages. Students get information from one another, from advanced students familiar with requirements of various courses and professors, or from students currently enrolled in the same course (Becker, Greer, and Hughes, 1968).

Good grades, according to Astin (1975b), Pantages and Creedon (1978) are strongly related to whether or not a student persists in college. Students with high grades are much more likely to invoke some kind of career plan in almost any field of endeavor. Grades are very strongly related to successful pursuit of careers requiring graduate or professional training. In areas of occupational endeavors such as math and scientific research, low grades have a definite effect on starting salaries.

Many of the studies reviewed support the concept that grade point averages and class ranks in high schools differentiate potential dropouts from persisters (Pantages and Creedon, 1978). Academic factors are most reliable in predicting attrition or retention rates among college students (Allen, 1981; Astin, 1975; Astin, 1971; Pantages and Creedon, 1978; Tinto, 1975). According to Astin

(1975b), academic achievement has been researched more than any other topic in higher education. He concludes that high school grades and grade point averages are the most accurate predictors of attrition and retention rates in junior colleges. The greatest arguments against the use of grades as predictors, as concluded by Astin (1975b), is that they are relative indices and therefore, are poor measures of student growth and development. Grades, it is argued, reflect only how the student is performing relative to other students at a given point in time, not necessarily what has been learned (Astin, 1975). Astin also states that high school grades are the most potent predictor: regardless of self-predictions, students with above average grades in high school are about fifteen times more likely to earn at least high or above average grades in college than those with below average grades in high school (Astin, 1975b). High school grades and grade point averages, along with other academic pre-enrollment variables of students going to college are the best predictors of student withdrawal (Astin, 1975; Chickering, 1974; Pascarella, Duby, Miller and Rasher, 1981).

Newlon and Gaither (1980), in their studies on attrition concluded that a student's area of pursuit is a factor of retention or attrition rates. They found the

highest survival rates among students in science, math and professional schools (engineering, computer science, business administration, economics and communication).

### Study Habits

Study habits is an important phase of the students' academic endeavors that can affect the probability of persistence among community junior college students. If they spend more time studying during their senior year in high school, they will persist in greater numbers during their freshman year in college (Pantagos and Creedon, 1978). The transition from high school to college will present fewer academic problems if students have good study habits. According to Demitroff (1974), students who drop out more frequently view their study habits as poor or below average. Students who persist estimate time studying to be more hours per week than the average of their peers (Sexton, 1965; Trent and Ruyle, 1969).

If a student earns poor grades, parents and teachers often conclude that the student has "poor study habits". Students with poor grades in many instances are labeled as having poor study habits, and many of these students are "learning-disabled" (Maxwell, 1980). Martha Maxwell (1980), a well known psychologist in the

educational arena, states that many students who are referred to her were learning disability cases that shared the one characteristic; they managed to avoid studying, reading, and writing in high school and did not study in college. These students are quite capable of improving their grades, once they can be convinced that profound studying and practice are necessary tools. The exclusion of homework in high schools during the past decade has widened the gap between the study skills needed to succeed in high school and the ones that are required by most colleges. The elimination of these study skills as high school requirements have also created more learning problems for the college students.

Some students need to improve their study efficiency. These students are the ones who spend endless hours studying but get little return in either learning or grades. One basic question that should be answered is whether or not students know how to utilize the most effective study skills but do not use them or whether they lack information about how to study (Maxwell, 1980).

Many colleges offer programs to orient new students to the rituals of college study. The skills typically stressed are the management of time, improving listening skills, taking notes, taking tests, and improving memory and concentration. The grades and

grade point averages that show improvement following the completion of a study skills course may be a more accurate reflection of the degree to which students benefited from the course and the degree to which students acquire knowledge of them. A student's increased use of study skills may be closely related to improved academic performance (Maxwell, 1980).

#### Class Rank and Ability Levels

According to Monroe (1976), a large number of junior college students rank at about the thirtieth percentile on a scale designed for four-year students. However, junior college students, in many cases, rank below four-year college students. They represent a select group of all college-age persons. Statistical medians or average age do not reflect the broad range of abilities in a typical junior college population. This range is much broader in a community college than in a four-year college (Monroe, 1976).

The open-door policy exhibited by junior colleges enroll students who range from the borderline defective on the low end of the IQ scale to the near genius on the upper end of that same scale. In many instances, the class ranks of students in high school classes reflect the fact that junior colleges oftentimes attract the weaker students.

Junior college students generally tend to be less able academically than their peers in four-year colleges (Monroe, 1976).

Academic ability alone is not practical in predicting who will drop out, although academic readiness is the most common variable examined. The average score on aptitude tests has usually been found to be lower for dropouts than persisters (Cope, 1975). Data collected from two groups of students from a highly selective, midwestern state university where about half the incoming freshmen are graduates among the top ten percent of their high school classes, showed it was very difficult to predict dropouts because of the homogeneous student population. One group consisted of the records of 20 students who had withdrawn from the university by the end of two years; the other group consisted of the records of 20 students who were still in attendance after two years. The majority of the students were admitted solely on the basic information listed: sex, high school grade point average, high school rank, Scholastic Aptitude Test (SAT) verbal and mathematical scores. Listed below is the result of that study:

The students who are no longer in attendance at the beginning of the third year are in List A. Among these former entering freshmen (i.e., the dropouts), 55 percent of the men and 64 percent of the women had graduated in the top 10 percent of their high school classes and their median SAT scores were men,

556 verbal and 614 mathematical and women, 534 verbal and 536 mathematical. The persisters (List B) had higher median scores: men, 578 verbal and 636 mathematical; women 578 verbal and 570 mathematical. While such composite medians are usually different for dropouts and persisters, it is virtually impossible, nevertheless, to identify from entrance date the student who will persist. Several investigations have not even found significant differences in the academic aptitude test scores of dropouts and persisters.<sup>3</sup>

On page 34 is Table 2.1 Dropouts and Persisters: Which is Which?, compiled by Cope, (1975).

#### Economic Factors of Attrition and Retention

The economic climate of today is very poor and there is an acute need to coalesce the fragments of research related to attrition or retention into some orderly programs that will enhance student success. Programs can be systematically unified with retention strategies on a continuum ranging from impersonal administrative actions to a more complicated, interpersonal intervention design that will increase the motivation of students (Boyce, 1982). Listed below are twelve strategies that can be involved in a continuum:

- (1) eliminate bureaucratic barriers within the college's organizational structure; (2) eliminate rigid policies that intimidate students or decrease their motivation; (3) encourage student participation in college affairs; (4) develop placement

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<sup>3</sup>Robert Cope and William Hannah, Revolving College Doors: The Causes and Consequences of Dropping Out, Stopping Out and Transferring, (John Wiley and Sons, New York, 1978), p. 10.

TABLE 3

## Academic Preparation

TABLE 2.1 DROPOUTS AND PERSISTERS: WHICH IS WHICH?

List A					List B				
Sex	HSG PA*	SAT			Sex	HSG PA*	SAT		
		HSR+Verbal	Math				HSR+Verbal	Math	
M	3.5	35/390	601	630	M	3.1	108/630	466	501
F	3.3	5/27	510	490	M	3.3	31/117	511	540
M	3.6	5/100	650	583	M	3.3	37/207	536	546
M	3.0	90/480	386	460	F	3.5	65/789	630	617
M	3.7	.3/94	710	732	F	2.9	45/216	517	499
F	3.9	2/561	741	630	M	3.1	118/703	490	530
F	3.1	107/580	460	413	M	3.2	50/263	507	503
M	2.9	30/109	430	510	F	3.3	6/37	515	476
M	2.9	94/418	501	547	F	3.7	6/197	760	729
F	3.8	5/501	716	660	F	3.6	34/801	784	680
M	3.2	25/111	480	463	M	2.7	18/46	461	503
M	3.3	30/89	475	528	F	3.6	6/107	680	662
F	3.2	37/207	555	521	M	3.1	103/680	493	490
M	3.0	56/319	544	570	M	3.5	46/592	680	713
F	3.5	51/680	613	605	F	3.6	3/27	690	695
M	3.7	3/103	680	710	M	4.0	1/54	720	770
F	2.8	13/24	500	416	M	3.9	3/340	766	774
M	2.9	19/93	510	570	F	2.8	31/99	501	470
M	3.7	17/418	713	760	F	3.3	60/169	490	501
M	3.1	119/631	439	503	M	3.2	51/223	564	576

\* High school grade point average.

+ High school rank.

(From Revolving College Doors; The Causes and Consequences of Dropping Out, Stopping Out and Transferring, page 16, by Robert Cope, John Wiley and Sons, New York, 1975.)



procedures that assess both the student's knowledge and preferred learning style; (5) utilize a variety of instructional techniques; (6) implement flexible grading systems to accommodate varying learning rates among students; (7) help students formulate educational goals through an advisement system; (8) insist that staff understand the customer relationship of the student to the college; (9) increase student out-of-class contact with faculty; (10) maintain student interest in class participation; (11) stimulate the student's intellect; and (12) ensure that students know they are valued. This continuum helps allocate responsibility for student retention among the college staff and provide a framework for retention activities.<sup>4</sup>

Economic status is believed by many researchers to have an influence on attrition (Pantages and Creedon, 1978). The family's economic status has a definite inverse relationship to attrition rates (Eckland, 1964; Panos and Astin, 1968; Wegner, 1967; Wolford, 1964). According to studies conducted by Astin (1971), Cope (1975), Jaffe and Adams (1970), parental levels of expectations may have as much influence upon whether the student stays in school or not as the student's own expectations of himself.

### Financing College

Financing the cost of college is a major factor in attrition and ranks high among reasons given by students who drop out (Astin, 1975; Cope, 1975). The problem of obtaining money for college has concerned researchers for

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<sup>4</sup>Gloria Maxzine Boyce, "Sunny" Retention News Letter. "The Use of Peer Counselors; An Aid to Freshman Retention," (State University of New York, Albany, N.Y., May, 1982.) p. 9.

years in looking for various indices of economic status. It has been reported by various researchers that, the lower the level of family education, the lower the occupational position and the family income, the greater chance of being among the ones who do not persist (Cope, 1975). Some students can work almost miracles with limited resources and continue to complete their programs. In many cases, students with adequate financial backing might perceive problems financially and withdraw to correct the problems (Lenning, Beal, and Sauer, 1980).

In a study conducted at Washington State University and reported by Cope (1975), it was found that the higher the educational level of the parents, the greater the students' chances of persistence. In another study, it was reported that 93 percent of the students whose parents graduated from college completed their four-year program. Lack of money is socially accepted as a justifiable reason for discontinuance of college training regardless of financial position. Many of the students who drop out receive more money from home than some of those who continue their programs. It is believed that the commitment to complete the program is a greater motivational force than that of the family not having adequate finance. Many of the claims of dropping out because of money could very well be claims of dropping out because of

lack of commitment. A shortage of money is more of a barrier to begin college than it is to complete college (Cope, 1975).

### Part-time Work Opportunities

A number of studies as reported by Lenning, Beal, and Sauer (1980) concluded that part-time work provided by the institution for students can contribute to greater retention. Jobs for students can provide greater involvement into campus life and also provide an economic resource for them. Astin (1975) reported that student involvement into part-time work will create a positive relationship with persistence when the job is on campus and does not involve the student any more than 25 hours per week. In his study, however, freshmen who started the part-time work program created a negative relationship unless the students were married prior to entering college. Astin (1975) also reported that students who held off-campus jobs that were closely affiliated with their career goals were less likely to persist. Those who were on federal work-study grants or got their major support from the family tended to persist in greater numbers. Scholarships and grants caused a greater retention (Lenning, Beal and Sauer, 1980). A study reported by Lenning, Beal and Sauer (1980) indicated that more part-time students than full-time students dropped out of college for financial reasons.

Many part-time students were gainfully employed, making part-time employment of college students a negative component of student retention. However, Astin (1975) found that those students working part-time, and particularly those working on campus, remain in college in greater numbers. There must be a middle ground, according to Astin (1975), between those who work full-time and those who do not work at all, making the amount of time students devote to course work a major factor of attrition or retention rates. Lffert (1957) found that the amount of time per week working has a negative correlation with retention. The more time spent working, the greater are the chances of a student's not persisting. Working, he reported, no more than 15 hours per week will not adversely affect the student's academic performance and will not cause the student to drop out because of academic reasons. Working according to Astin (1971); Astin (1975); and Pantages and Creedon (1978), can help a student meet his financial obligations to the institution. If a student does not receive any other financial assistance, working is a necessity. Students who receive no financial aid or work assistance from the college have less chance of graduating from that institution, raising the dropout rate by 15 to 20 percent. Working for the college, whether on campus or off campus, is another means of getting students

involved in the life blood of the institution, thereby enhancing their chances of persistence.

### Demographic Factors of Attrition and Retention

The role of junior colleges in life-long learning should be addressed in relation to their responsiveness to the "Open Door Policy", community-based philosophy, and low institutional student ratios (Cope, 1976; Knoell, 1976; Lenning, Beal, and Sauer, 1980). The changing educational environments with an influx of older students present a challenge to most institutions of higher learning. It is very important that junior colleges assist these non-traditional students by providing programs and support services that are conducive for learning and will enhance retention (Mangano and Corrada, 1979).

### Age

According to Greer (1980), colleges that have declining enrollments and prospective shrinking of numbers of traditional age students have caused administrators to magnify their attention in two directions: (1) retain a greater percentage of the students who enroll, and (2) attract a greater proportion of older students. There is an increasing number of older students enrolling in post-secondary schools that are twenty-five years of age and older. Between the years of 1970 through 1977, 50

percent of the students enrolled in junior colleges were older students (Greer, 1980). Pantages and Creedon (1978) found in their study on attrition that age is not a major factor of attrition. However, in another study conducted by Astin (1975), it was found that older students drop out more frequently than the traditional students. Astin (1975) also found that older students generally have lower grades and grade point averages than the traditional students. The greater majority of studies on attrition showed that there is no significant difference in rates of attrition for older or younger than the average age student entering college (Pantages and Creedon, 1978). According to Sexton (1965), students who are at the normal age plus or minus a year or two had a better chance of persisting than students that were two or more years off the median age of first year students. Pantages and Creedon (1978), found that factors which may cause older students to delay entrance into college may continue with the individual and cause that person to drop out. However, Eckland (1964) found that students who entered college after completing military service, even when they are much older, persist at a higher rate than students entering at the traditional age.

Sex

The sex of the students may have a definite relationship on college persistence with a greater proportion of men completing college degree programs than women (Astin, 1972). However, Spady (1970) concluded that of those who dropped out, a larger percentage of the women made voluntary withdrawals than academic dismissals. Tinto (1975) states that men are more likely to strive for educational achievement because it is, in many instances, directly related to their careers or occupations. Men may feel the need to persist in college as an economic necessity. One would have to perceive that occupational attainment is less strongly felt by individuals of the higher social statuses and backgrounds.

According to Astin (1964), most studies on the influences which differences in sex have on attrition concludes that males have a higher attrition rate than females. Hill (1966), in a study at The University of Texas, found that three times as many men as women were dismissed for academic reasons, but he also found that men reentered after they were forced out at a higher rate. Panos and Astin (1968) found that there is no correlation between sex and attrition. Women in one of their studies, showed a greater attrition rate where grades and grade point averages were controlled. Lffert (1968) concludes

that there is not a significant difference in male and female dropouts.

Reasons given for dropping out differ between sexes. In two national studies completed between 1957 and 1967 by Lffert, it was found that men have a higher attrition rate than women. The studies agreed that the major purpose for women dropping out was marriage, whereas men dropped out mostly because of dissatisfaction with the institution (Lffert, 1968). Listed on page 43 are the results of those two national studies. According to a study done by Lffert (1968) more men than women dropped out mostly because of poor grades. Finances were equally important for both men and women.

In the data analyses the relationships of individual characteristics to attrition were examined separately for men and women respondents, on the assumption that the different needs and role expectations for men and women would make different issues relevant for attrition in the two groups. The findings indicate that some factors were related to attrition in similar ways for both men and women, but a number of differences also appeared. In general, men and women showed similar relationships to attrition when "objective" characteristics were considered--both background characteristics and indices of academic competence. Thus, for both men and women, dropping out was related to "noncosmopolitan" background characteristics such as rural and small town background and less parental education; it was also related to lower scores of indices of academic preparation (SAT scores and high school rank).

Men and women tended to differ, however, when some of the attitudinal and value correlates of these background characteristics and indices of academic



TABLE 4

REASON GIVEN FOR DROPPING OUT BY SEX:  
TWO NATIONAL STUDIES

Rank of Order Mention	Men		Women	
	Lffert (1957)	Panos-Astin (1967)	Lffert (1957)	Panos-Astin (1967)
1	lack of interest in studies	dissatisfied with college environment	marriage	marriage
2	military enlistment	need time to reconsider goals, interests	took full- time job	dissatisfied with college environment
3	financial (self)	financial (self)	financial (self)	changed career plans
4	low grades	changed career plans	lack of interest in studies	financial
5	financial (family)	low grades	financial (family)	need time to reconsider goals, interests
6	studies too difficult	marriage	low grades	pregnancy
7	military (drafted)	scholarship terminated	studies too difficult	tired of being a student

(From Retention and Withdrawal of College Students pages 36-37, by R. E. Lffert, U. S. Department of Health, Education, and Welfare, Office of Education, Washington, D. C., March, 1979.)

competence were examined. These differences, in general, are consistent with the differential relevance of certain attitudes and values to the cultural definitions of the masculine and feminine roles in our society. Thus, intellectual-aesthetic and social orientations, which are more central to the feminine role, were related to attrition for the women students but not for the men (women higher in both of these orientations tended to remain within the university). Feelings of adequacy and competence, more central to the masculine role, were related to attrition for the men but not for the women (men students with more self-questioning about their adequacy and competence more often dropped out of the university). "Identity-searching" concerns, which may reflect some sense of inadequacy in a man, were related to dropping out among the men students but to remaining in the university among the women.<sup>5</sup>

Most studies reviewed in this literature are not consistent on whether or not sex is a major factor of attrition and cannot be a very good predictor. In most instances, male and female dropouts gave the same reasons for dropping out. More women than men gave marriage and moving as reasons for leaving, while men gave joining the military (Lenning, Beal, and Sauer, 1980). Pantages and Creedon (1978) concluded that men usually dropped out for curriculum reasons while women dropped out because of personal reasons. Ranking high among both sexes were financial reasons.

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<sup>5</sup>Robert Cope, and William Hannah, Revolving College Doors: The Causes and Consequences of Dropping Out, Stopping Out and Transferring, (John Wiley and Sons, New York, 1975) p. 16.

### Ethnicity

In a study done by Astin (1971a) (1975) a lower probability of completing their respective programs was found in students of Spanish-speaking backgrounds (both Puerto Ricans and Chicanos) than any other ethnic group. Native Americans and Blacks were found also to have a lower probability of completing the prescribed years of college than whites (Lenning, Beal, and Sauer, 1980).

There are many problems with finding the ethnicity of students who protest against the inquiry. They many times give false information or refuse to give any information about race at all. Interest in ethnicity is high, particularly in community colleges where efforts to magnetize students from minority backgrounds are being made (Knoell, 1976). Allen (1981), a professor at The University of Michigan, states that minority recruitment, enrollment, retention and graduation were recognized as major college priorities in a survey conducted in the Fall of 1980 by the Office of Academic Affairs and reported to the Board of Regents. Many of the students continued in school because of the increased black student recruitment and enrollment efforts. A major assumption was made from Allen's study at The University of Michigan: students who enter college with adequate preparation and competent self-motivation took advantage of most opportunities for learning

and advancement made available by the University. Black students' levels of adjustments were enhanced to the extent that they positively perceived campus race relations. In addition, academic performances were high among black students as compared to whites. However, academic performance levels were lower for students expressing strong feelings of alienation and academic anxiety (Allen, 1981). Black students, according to Allen (1981), have a great deal to gain from attending integrated colleges and universities. He also concluded that they have much to contribute toward the enrichment of these institutions and the larger society. It is the responsibility of institutions of higher education in this nation to act affirmatively and to create an atmosphere that is conducive to a more positive development of black student potentialities (Allen, 1981).

#### Concluding Statement

The literature has indicated agreement and disagreement on the five variables presented. Factors affecting attrition and retention rates among junior college students, according to this report, are multifaceted, overlapping, and sometimes interrelated.

Dropping out is not a problem in its own right, but rather it is based on symptoms of other conditions! According to Cope (1975), conditions associated with

dropout problems will be alleviated when individuals are free to learn new things, in new ways, in different settings, and at varying times. Few colleges fulfill students' initial expectations and in many instances the students become unhappy. Some students seek their ideal model other places, but most select to persevere (Cope, 1975).

Attrition is a multi-dimensional problem involving a variety of contributing factors. The cause and effect relationships of attrition continue to elude the efforts of the most talented researchers. According to Lenning, Beal and Sauer (1980), for some students, the decision to leave the college is the best decision. Some students realize they are overly frustrated because going to college is not what they really need to do at that particular time. Others may not yet be ready for college because of immaturity and poor self-concept. They may need to stop awhile to acquire external ideals about things before continuing their education. There are those who should transfer to other more compatible institutions which can better meet their needs (Lenning, Beal, and Sauer, 1980).

## CHAPTER III

### RESEARCH METHODOLOGY

#### General Introduction

This study is a descriptive analysis of factors predicting attrition and retention rates among junior college students. Predictors included in this study are both individual pre-enrollment factors and institutional variables.

#### Selection of the Sample

The subjects in this study were selected from the population of graduates of the Richardson Independent School District (RISD) who enrolled in Richland College during the fall semester of the 1981--1982 school year. These subjects were stratified into two groups based upon whether or not they re-enrolled at Richland College during the spring semester of 1982. A random sample of the dropouts was made to obtain a group of 200 students from an estimated potential population (N=747). A random sample of 200 students was obtained from an estimated potential population of persisters (N=1,417).

### Data Collection

The data collection for this study was three phase. In the first phase the survey instruments were mailed out to 400 respondents or potential respondents. The second phase was the entry of students' high school records. The third phase was the treatment of the data.

#### Phase I

In the first phase of this study, a survey was conducted. On June 20, 1982 400 follow-up questionnaires used by the Dallas Community College District (TX8-6-C Devault) were mailed out accompanied by a letter of transmittal to 200 students, randomly selected non-returnees for the spring semester of 1982. The same questionnaires with similar materials were mailed to 200 randomly selected students from the total number of persisters (N=1,417) in order to give more reliability to the study. The questionnaires in both mail-outs were accompanied by a letter of transmittal and a self-addressed, stamped envelope in which the questionnaire could be returned.

June 29, 1982 through July 10, 1982, telephone calls were made to students who did not respond to the first questionnaire and whose telephone numbers could be obtained. If the student indicated to the caller that the

questionnaire had been misplaced or lost in the mail and not received, another questionnaire was mailed to that student. On July 5, 1982 a second letter was automatically mailed out to all non-respondents including respondents where telephone numbers could not be obtained.

The survey instrument used in gathering data for this study (TX8-6-C Devault) is considered by educators around the nation to be very reliable for attrition and retention studies. The instrument got its name (TX8-6-C Devault) because the first phase of the survey instrument was designed by Richard Devault. This instrument in its present stage was designed by Jim Reed, (1979) of the Center for Information Services located in Corsicana, Texas. This follow-up instrument has been used in a number of studies throughout Texas, including the Texas Education Agency (TEA), the Dallas Independent School District (DISD), and the Dallas County Community College District (DCCD). Data collected using this instrument were on the following variables: academic, economic, and demographic. It was also utilized to collect data on other minor variables such as job-school interaction and campus participation in extracurricular activities of students.

From the data supplied by the follow-up questionnaire, data for variables of interest to this



study were obtained. These variables included: (1) the student's perception of school, (2) satisfaction with the institution, (3) progress toward schooling goal, (4) effect of schooling and employment and (5) satisfaction with yields. Data collected from follow-up survey questionnaires were on institutional variables such as: services to the student, whether the student objectives were satisfied, course offering, students' satisfaction with the institution, grade point averages the first semester 1981, and hours completed at the institution. Personal or demographic data were also collected from questionnaires such as: employment status of the student, sex, age, and race. The appendix contains the supporting documents.

An overall total of 247 questionnaires were returned, constituting a 61.25 percent return rate. There were a total of 400 questionnaires mailed out to 200 dropouts and 200 persisters. One hundred sixteen dropouts responded which gave a 57 percent return rate for dropouts, and 131 persisters responded to the questionnaires which gave a 65.5 percent return rate for persisters.

Many of the questionnaires were manually picked up by the researcher because the researcher lived near many of the respondents. Some questionnaires were completed by telephone because the respondents desired to do so.

Sixteen questionnaires (4.0 percent) were returned to the researcher due to incorrect addresses. No attempt was made to locate these persons. One hundred thirty nine questionnaires (34.75 percent) remained unreturned after the second letter was mailed and additional telephone calls made. A total of 247 questionnaires were utilized in the data analysis.

### Phase II

The second phase of the data collection commenced with the entry of records of students of the Richardson Independent School District that enrolled in Richland College and were included in this study, to collect pre-enrollment information pertinent to this study, such as: high school grade point averages, scholastic aptitude test (SAT) scores and class rank from the number of graduates that completed high school with the student in the study. Academic data from high school records and college records will be used in the analysis of this study.

### Phase III

After the data were collected, discriminant function analysis was computed to distinguish between the groups where the researcher selected discriminating variables that measure characteristics on which the groups were expected to differ. These statistics include

frequency tables, means, modes, and standard deviations to measure differences between groups.

Null hypotheses one and two were tested using discriminant function analysis to determine any significant difference between persisters and dropouts in the selected aspects of attrition or retention rates. The Null hypotheses tested in this manner were as follows:

Ho<sub>1</sub> There is no significant difference in persisters and dropouts of the Richardson Independent School District students who enrolled at Richland College on the basis of their employment status.

Ho<sub>2</sub> There will be no subset of pre-enrollment, institutional, or personal and demographic variables which will discriminate between those students who were persisters and dropouts at Richland College and who were previously graduates of the Richardson Independent School District.

## CHAPTER IV

### RESULTS

The purpose of this study was to investigate the possibility that grades and grade point averages earned in high school along with other pre-enrollment factors may be highly accurate predictors of attrition or retention rates among Richland College students. This study was limited to those Richardson Independent School District students who enrolled at Richland College for the fall semester of the 1981--1982 school year. The investigator examined differences in grade point averages, and other pre-enrollment factors between those students who did and those who did not re-enroll for the spring semester of 1982. Other variables examined were social, demographic, and economic factors. Data were collected from students and former students using the TX8-6-C Devault follow-up questionnaire designed and revised by Reed (1979). A return rate of 61.5% was achieved in the present doctoral study.

The data presented and analyzed in this chapter are divided into three sections: first, a description of the population characteristics; second, a statistical description of items; third, the statistical testing of

hypotheses.

Description of the Population Characteristics

The subjects for this study were graduates of the Richardson Independent School District who were enrolled at Richland College for the fall semester of the 1981--1982 school year. The subjects were chosen from two groups, those who re-enrolled in the spring semester of 1982 (persisters), and those who did not re-enroll (dropouts).

TABLE 5

Description of Subjects Surveyed and the Percentages of Returned Questionnaires

SUBJECTS	NUMBER SURVEYED	NUMBER OF RETURNS	TOTAL PERCENTAGE
DROPOUTS	200	116	57
PERSISTERS	200	131	65.25
COLUMN TOTAL	400	247	61.5

A random sample of 200 dropouts were surveyed. Also, 200 persisters were surveyed. There were 116 dropouts that responded to the survey and 131 persisters responded to the same questionnaire which gave an overall total number of respondents of 247 out of the 400 subjects surveyed. Dropouts responded to the survey at a rate of 57 percent and persisters responded at a rate of 65.25 percent. There was an overall response rate of 61.5 percent.

TABLE 6

Ethnic/Racial Backgrounds of Respondents

	Count Row % Col % Tot %	Ethnic White	Black	Hispanic	Asian	American Indian	Row Total
		1	2	3	4	5	
GROUP	1	116	8	0	2	0	126
		92.1	6.3	0.0	1.6	0.0	53.2
		53.5	66.7	0.0	100.0	0.0	
		48.9	3.4	0.0	0.8	0.0	
Persisters	2	101	4	4	0	2	111
		91.0	3.6	3.6	0.0	1.8	46.8
		46.5	33.3	100.0	0.0	100.0	
		42.6	1.7	1.7	0.0	0.8	
Dropouts		217	12	4	2	2	237
		Column Total					

Statistical Description of Items

Table 6 illustrates the ethnic/racial backgrounds of respondents as reported on the questionnaire. There were 10 missing observations, resulting in a total of 237 responses.

There were 217 (91.6%) white respondents out of the total number of respondents, 116 (53.5%) persisters and 101 (46.5%) dropouts. One hundred twenty six (92.1%) of all persisters were white and 101 (9%) of all dropouts were white. Of the 237 total responses, 48.9% were white persisters while 42.6% were white dropouts.

There were a total of 12 (5.1%) blacks included in this study. Eight (66.7%) of all blacks were persisters and 4 (33.3%) were dropouts. Eight (6.3%) of all persisters were black and 4 (3.6%) of all dropouts were black. Of the total numbers of respondents, 3.4% were black persisters and 1.7% were black dropouts.

There were 4 (1.7%) Hispanics out of the total number of respondents. All of the Hispanics (4) dropped out. Four (3.6%) of all dropouts were Hispanics. Four (1.7%) of all respondents were Hispanics.

There were 2 (.8%) Asians and 2 (.8%) American Indians included in this study. Two (1.6%) of all persisters were Asians while none of the 2 Asians dropped out. None of the 2 American Indians persisted. The 2 that enrolled did not return in the spring semester. Included in this table were 126 (53.4%) persisters and 111 (46.6%) dropouts that makes the total number of responses of 237.

TABLE 7

Distribution of Sex

Count		Sex		Row Total
Row %		Female	Male	
Col %				
Tot %		0	1	
GROUP Persisters	1	62	69	131
		47.3	52.7	53.3
		45.3	62.7	
		25.1	27.9	
Dropouts	2	75	41	116
		64.7	35.3	46.7
		54.7	37.3	
		30.4	16.6	
Column Total		137	110	247
		55.5	44.5	100.0

Table 7 shows the distribution of all respondents according to their sex. There were 247 responses. One hundred thirty one (53.3%) were persisters and 116 (46.7%) were dropouts. Sixty two (45.3%) of the females were persisters and 75 (54.7%) of the females were dropouts. Sixty two (47.3%) of the persisters were females while 69 (52.7%) of the persisters were males. Sixty nine (62.7%) of the males were persisters and 41 (37.3%) of the males were dropouts. Of the 247 respondents, 137 (55.5%) were females while 110 (44.5%) were males. Sixty two (25.1%) of all respondents were female persisters and



75 (30.4%) of all respondents were female dropouts. Sixty nine (27.9%) of all respondents were male persisters while 41 (16.6%) were males who dropped out.

TABLE 8

Distribution of Primary Objectives of Respondents  
for Attending Richland College

	Count	Improve	Prepare	Transfer	Personal	Other	Row
	Row %	Existing	For	to a	Interest	Pers.	Total
	Col %	Skills	Job	Univ.			
	Tot %	1	2	3	4	5	
GROUP	1	8	26	79	14	4	131
Persis-		6.1	19.8	60.3	10.7	3.1	53.5
ters		33.3	66.7	49.7	77.8	80.0	
		3.3	10.6	32.2	5.7	1.6	
	2	16	13	80	4	1	114
Drop-		14.0	11.4	70.2	3.5	0.9	46.5
outs		66.7	33.3	50.3	22.2	20.0	
		6.5	5.3	32.7	1.6	0.4	
Column		24	39	159	18	5	245
Total		9.8	15.9	64.9	7.5	2.0	100.0

Table 8 shows a distribution of student objectives for attending Richland College. There were 2 missing observations which resulted in a total of 245 responses. There were 131 (53.5%) persisters and 114 (46.5%) dropouts.

Eight (6.1%) of all persisters attended Richland College to improve existing skills and 16 (14%) of all dropouts attended to improve existing skills. Eight (53.3%) of all respondents who sought to improve existing skills were persisters while 16 (66.7%) of all respondents who sought to improve existing skills were dropouts. Eight (3.3%) of all respondents sought to improve existing skills

and were persisters, while 16 (6.5%) of the total number of respondents were dropouts who sought to improve existing skills.

There were 39 (16.0%) respondents of the total number of respondents that attended Richland College to prepare for jobs. Twenty six (66.7%) were persisters and 13 (33.3%) were dropouts. Twenty six (10.6%) of all respondents were persisters who sought to prepare for a job and 13 (5.3%) of all respondents were dropouts who sought to prepare for jobs. One hundred and fifty nine (64.9%) of all the respondents sought to transfer hours to a university. Of the students who sought to transfer hours to a university, 79 (49.7%) were persisters and 80 (50.3%) were dropouts. Seventy nine (60.3%) of all persisters sought to transfer hours and 80 (70.2%) of all dropouts were students who sought to transfer hours. Seventy nine (32.2%) of all respondents were persisters who sought to transfer hours and 80 (32.7%) of all respondents were dropouts who sought to prepare for university transfer hours.

There were 18 (7.4%) respondents of the total number who attended Richland College for personal interest. Of those students 14 (77.8%) were persisters while 4 (22.2%) were dropouts. Of all the respondents 5.7% were persisters who sought to attend Richland College for personal interest

while 4 (1.6%) of all respondents attended Richland College for personal interest and were dropouts. Fourteen (10.7%) of all persisters were students who attended for personal interest, while 4 (3.5%) of all dropouts attended for personal interest.

There were 5 (2.0%) of the total number of respondents who attended Richland College for other reasons. Of this group 4 (80%) were persisters and 1 (20%) dropped out. Four (1.6%) of all respondents were persisters who attended Richland College for other reasons, while one (0.4%) respondent dropped out who attended Richland College for other reasons. There were 4 (3.1%) persisters who attended Richland College for other reasons and 0.9% of all dropouts who attended Richland College for other reasons.

TABLE 9

The Degree To Which Objectives Were Completed

		Objectives	Objectives	Objectives	
Row %		Fully	Partially	Not	Row
Col %		Completed	Completed	Completed	Total
Tot %		1	2	3	
<hr/>					
GROUP Persisters	1	20	93	15	128
		15.6	72.7	11.7	52.5
		35.7	59.6	46.9	
		8.2	38.1	6.1	
<hr/>					
Dropouts	2	36	63	17	116
		31.0	54.3	14.7	47.5
		64.3	40.4	53.1	
		14.8	25.8	7.0	
<hr/>					
Column		56	156	32	244
Total		23.0	63.9	13.1	100.0

Table 9 illustrates whether or not the respondents' objectives were completed. There were three missing observations, resulting in a total of 244 responses. There were a total of 128 (52.5%) persisters and 116 (47.5%) dropouts. Fifty six (23%) of all respondents fully completed their objectives. Of this group 20 (35.7%) were persisters and 36 (64.3%) were dropouts. Twenty (15.6%) of all persisters fully completed their objectives, while 36 (31%) of all dropouts fully completed their objectives. Of all respondents, 20 (8.2%) were persisters who completed their objectives fully, while 36 (14.8%) of all respondents were

dropouts who fully completed their objectives.

There were 156 (63.9%) respondents who partially completed their objectives. Of this group, 93 (59.6%) were persisters and 63 (40.4%) were dropouts who partially completed their objectives. Ninety three (38.1%) of all respondents were persisters who partially completed their objectives while 63 (25.8%) of all respondents were dropouts who partially completed their objectives. Ninety three (72.7%) of all persisters indicated objectives were partially completed and 63 (54.3%) of all dropouts indicated objectives were partially completed.

There were 32 (13.1%) of the total number of respondents who indicated objectives were not completed. Fifteen persisters (6.1%) of the total number of respondents indicated their objectives were not completed. Seventeen dropouts (7%) of the total number of respondents indicated that their objectives were not completed. The fifteen persisters who indicated that their objectives were not completed constituted 11.7% of all persisters. The seventeen dropouts whose objectives were not completed constituted 14.7% of all the dropouts.

TABLE 10

The Amount of Education Required to  
Accomplish Objectives

	Count Row % Col % Tot %	Selected Courses	Certifi- cate Program	2 Year Associate Degree	Other	Row Total
		1	2	3	4	
GROUP	1	75	3	36	10	124
Persisters		60.5	2.4	29.0	8.1	52.5
		54.0	37.5	50.7	52.0	
		31.6	1.5	15.2	4.2	
	2	64	5	35	9	113
Dropouts		56.6	4.4	31.0	8.0	47.7
		46.0	62.5	49.3	47.4	
		27.0	2.1	14.8	3.8	
Column Total		139	8	71	19	237
		58.6	3.4	30.0	8.1	100.0

Table 10 shows the respondents' educational objectives for attending Richland College. There were 10 missing observations, leaving a total of 237 responses. Of the 237 responses, 124 (52.3%) were persisters and 113 (47.7%) were dropouts. There were 139 (58.6%) of all respondents that sought selected courses. Seventy five (54%) were persisters and 64 (46%) were dropouts. Of all the respondents, 75 (31.6%) were persisters who indicated selected courses and 64 (27%) of all respondents were dropouts who indicated selected courses. Seventy five (60.5%) of all persisters indicated selected courses while

64 (56.6%) of all dropouts indicated selected courses.

There were 8 (3.4%) of the total number of respondents who indicated their objectives were to get into a certificate program. Of this group, 3 (37.5%) were persisters and 5 (62.5%) were dropouts. Three (2.4%) of all persisters indicated certificate programs while 5 (4.4%) of all dropouts indicated certificate programs. Three (1.3%) of all respondents were persisters who indicated certificate programs, and 5 (2.1%) of all respondents were dropouts who sought certificate programs.

There were 71 (30%) of all respondents that sought a two year associate degree. Of that group, 36 (50.7%) were persisters while 35 (49.3%) were dropouts who sought a two year associate degree. Thirty six (29%) of all persisters sought a two year associate degree, while 35 (31%) of all dropouts sought a 2 year associate degree. Thirty six (15.2%) of all respondents were persisters who sought a 2 year associate degree while 35 (14.8%) of all respondents were dropouts who sought a 2 year associate degree. There were 19 (8%) of all respondents who selected other objectives. Of that group, 10 (52.6%) were persisters and 9 (47.4%) were dropouts. Nine (8%) of all dropouts indicated other objectives, while 10 (8.1%) of all persisters indicated other objectives as to what type of programs they desired. Ten (4.2%) of all



respondents were persisters who indicated other reasons for attending Richland College, while 9 (3.8%) of all respondents were dropouts who indicated other reasons for attending Richland College.

TABLE 11

Feelings About Educational Experiences  
at Richland College

	Row % Col % Tot %	Very Satis- fied 1	Satis- fied 2	Aver- age 3	Disap- pointed 4	Very Disap- pointed 5	Row Total
GROUP	1	40	68	18	1	0	127
Persisters		31.5	53.5	14.2	0.8	0.0	52.5
		52.6	58.1	45.0	12.5	0.0	
		16.5	28.0	7.4	0.4	0.0	
	2	36	49	22	7	2	115
Dropouts		31.0	42.2	19.0	6.0	1.7	47.7
		47.4	41.9	55.0	87.5	100.0	
		14.8	20.2	9.1	2.9	0.8	
Column		76	117	40	8	2	245
Total		31.3	48.1	16.5	3.3	0.8	100.0

Table 11 illustrates the respondents' feelings about their educational experiences at Richland College. There were 4 missing observations, leaving a total of 245 responses. One hundred twenty seven (52.3%) were persisters and 116 (47.5%) were dropouts. Of all the respondents, 76 (31.3%) were very satisfied. Of that group of very satisfied, 40 (52.6%) were persisters and 36 (47.4%) dropouts were very satisfied. Of all the respondents, 40 (16.5%) were very satisfied persisters, while 36 (14.8%) of all respondents were very satisfied dropouts. Forty (31.5%) of all persisters were very satisfied, while 36

(31%) of all dropouts were very satisfied.

There were 117 (48.1%) of all respondents satisfied. Of that group, 68 (58.1%) were persisters and 49 (41.9%) were satisfied dropouts. Sixty eight (53.5%) of all persisters were satisfied while 49 (42.2%) of all dropouts were satisfied. Sixty eight (28%) of all respondents were satisfied persisters, while 49 (20.2%) of all respondents were satisfied dropouts.

There were 40 (16.5%) of all respondents who were averagely satisfied. Of that group, 18 (45%) were persisters and 22 (55%) were dropouts. Eighteen (14.2%) of all persisters indicated average, while 22 (19%) dropouts out of the total number of dropouts indicated average. Eighteen (7.4%) of all respondents indicated average, while 22 (9.1%) of all respondents were dropouts who indicated average. There were 8 (3.3%) of all respondents who were disappointed. Only 1 (0.4%) of the persisters reported disappointment, while 7 (2.9%) were disappointed dropouts. One (.8%) of all persisters was disappointed, while 7 (6%) of all dropouts were disappointed.

There were no very disappointed persisters, while 2 (1.7%) of all dropouts were very disappointed. Two (.8%) of all respondents were very disappointed.

TABLE 12

Employment Status Prior to Enrolling  
at Richland College

	Row % Col % Tot %	NO 0	YES 1	Row Total
GROUP				
Persisters	1	74 56.5 54.4 30.1	57 43.5 51.8 23.2	131 53.3
Dropouts	2	62 53.9 45.6 25.2	53 46.1 48.2 21.5	115 46.7
Column Total		136 55.3	110 44.7	246 100.0

Table 12 shows the respondent's employment status status before enrolling at Richland College. There was one observation missing, leaving a total of 246 responses. One hundred thirty one (53.3%) of all respondents were persisters and 115 (46.7%) were dropouts.

There were 136 (55.3%) respondents who were not employed and 110 (44.7%) who were employed. Of those who were not employed, 74 (54.4%) were persisters and 62 (45.6%) were dropouts who were not employed. Seventy four (56.5%) of all persisters were not employed, while 62 (53.9%) of all dropouts were not employed. Of all the

respondents, 74 (30.1%) were persisters not employed, and 62 (25.2%) of all respondents were unemployed dropouts.

TABLE 13

Current Employment Status of Respondents

GROUP	Count	NO	YES	Row Total
	Row %			
	Col %			
	Tot %			
		0	1	
Persisters	1	34	97	131
		26.0	74.0	53.3
		61.8	50.8	
		13.8	39.4	
Dropouts	2	21	94	115
		18.3	81.7	46.7
		38.2	49.2	
		8.5	38.2	
Column Total		55	191	246
		22.4	77.6	100.0

Table 13 shows the respondents' current employment status. There was one missing observation, resulting in a total of 246 responses. There were 131 (53.3%) persisters and 115 (46.7%) dropouts.

There were 55 (22.4%) not employed. Of that group, 34 (61.8%) were persisters, while 21 (38.2%) were unemployed dropouts. Thirty four (26%) of all persisters were not employed, while 21 (18.3%) dropouts from the total number of dropouts were not employed. Thirty four (13.8%) of all respondents were unemployed persisters, while 21 (8.5%) of all respondents were unemployed dropouts.

One hundred ninety one (77.6% of all respondents) were employed. Of the employed, 97 (50.8%) were persisters while 94 (49.2%) were dropouts who were employed. Ninety seven (74%) of all persisters were employed, while 94 (81.7%) of all dropouts were employed. Ninety seven (39.4%) of all respondents were employed persisters, while 94 (38.2%) of all respondents were employed dropouts.

TABLE 14

Why Dropouts Did Not Return to Richland  
in the Spring Semester 1982

Row % Col % Tot %	COMPLETE	TRANSPOR-	TRANSFER	HOURS	MONEY	MOVE	COURSES	PERSONAL	OTHER	OTHER	Row Total
	1	TATION 2	3	5	6	7	10	11	PER- SONAL 12	13	
GROUP 2	26	2	20	23	12	6	3	3	6	9	110
	23.6	1.8	18.2	20.9	10.9	5.5	2.7	2.7	5.5	8.2	100.0
Dropouts	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
	23.6	1.8	18.2	20.9	10.9	5.5	2.7	2.7	5.5	8.2	
Column Total	26	2	20	23	12	6	3	3	6	9	110
	23.6	1.8	18.2	20.9	10.9	5.5	2.7	2.7	5.5	8.2	100.0



Table 14 shows the number of dropouts who reported on each of ten reasons for not returning to Richland College in the spring, 1982.

There were 110 persons that responded to those reasons. Twenty six (23.6%) did not return in the spring because they had completed their Richland College courses of study. Two (1.8%) of the dropouts had transportation problems, 20 (18.2%) transferred, 23 (21.9%) had conflicting hours, 12 (10.9%) had financial problems, 6 (5.5%) moved, 3 (2.7%) had course problems, 6 (5.5%) had personal problems, and 9 (8.2%) had other problems.

### Observations from the Data

Eighty six percent of the respondents in this study (212 out of 244 respondents) had their objective partially completed or fully completed. Only a small portion of the respondents indicated their objectives were not completed.

Fewer than one third of the respondents in this study were seeking associate degrees. Nearly two thirds of the respondents indicated interest in selected courses. This difference indicates attributes of the student body. Many were enrolled for specific purposes other than a college degree.

More than two thirds of the respondents in this study were satisfied or very satisfied with their educational experiences at Richland College. There were 10 students (4.1%) that indicated a feeling that was below average. In this study it is evident that Richland College is satisfying their participants in many areas.

Only about 22% of the respondents in this study indicated they were not employed while attending Richland College. An overall total of 191 (77.6%) of the respondents were employed. The implications are that Richland College provides a program that is flexible enough to accomodate these working students.

There were 13 factors listed on the questionnaires for the dropouts to respond to concerning their reasons for not re-enrolling. Nearly one fourth of the dropouts that did not return in the spring 1982 were dropouts who completed their courses of study at Richland College. More than twenty percent of the dropouts did not return because their course hours were completed. Twelve of the respondents who dropped out did not return because of financial reasons. Very few dropouts indicated that they had a minimal amount of complications with at least four of the variables mentioned in Table 14. They are as follows: moving (6%), course, (dissatisfied with instructors 3%), personal problems (illness or injury 2%), other personal (family reasons 6%), and other problems (outside the scope of this instrument 8%).

In the design of this study, equal numbers of questionnaires were sent to dropouts and persisters (200 each). This equal distribution of subjects explains the reason persisters and dropouts showed comparable results on many dimensions.

The subjects for this investigation were randomly selected. Ninety one and six tenths of the respondents were ethnic white. The percentages of minority respondents were very small. The results of this study represent the responses of a predominantly white population.

A higher percentage of the male respondents in this study persisted into the spring semester 1982 than the percentage of female respondents.

Nearly two thirds of the respondents in this study earned credits at Richland College to be transferred to a university. A significant function of Richland College is to supply a part of the requirements for a university degree. More than one fourth of the respondents in this study reported a primary objective related to career development (improve existing skills or prepare for a job).

TABLE 15

Summary of Means and Standard Deviations  
for Selected Variables

VARIABLES	Persisters		Dropouts	
	Means	Standard Devia- tions	Means	Standard Devia- tions
High School Grade Point Average	81.01	6.2	82.3	5.7
Scholastic Aptitude Test	812.5	172.9	817.9	140.5
College Grade Point Average	2.7	.71	2.7	.63
Age	23.3	5.2	24.3	3.4
Course Evaluation	23.9	5.1	20.9	6.9
Services	10.9	6.4	10.8	6.4
Course Hours	31.2	15.8	28	19.9
Class Standing	56.5	24.7	48.3	24

Table 15 is a summary of means and standard deviations for selected variables. The table compares

the selected variables in this study. The variables summarized are: high school grade point averages (HGPA), Scholastic Aptitude Test (SAT) scores, college grade point averages (CGPA), age, course evaluations, services, course hours, and high school class standing.

The mean grade point average for persisters was 81.01 and for dropouts it was 82.3. There was only a slight variation in the mean scores for these groups. The standard deviation for the groups were also similar. For persisters, the standard deviation was 6.2 and 5.7 for dropouts.

Scholastic Aptitude Test (SAT) mean scores for respondents in this study were 812.5 for persisters and 817.9 for dropouts. The SAT standard deviations were: persisters 172.9 and 140.5 for dropouts.

The college grade point average mean scores were the same for dropouts and persisters, 2.7 each. There was a slight difference in standard deviation scores for persisters and dropouts. The standard deviation for persisters was .72 and .63 for dropouts.

The mean age for persisters was 23.5 with a standard deviation of 5.2. The mean age for dropouts was 24.3 and the standard deviation was 3.4. Dropouts in this study showed a slightly higher mean age.

Course evaluation mean score for persisters was 23.9 and a standard deviation of 5.1. For dropouts, the mean score was 20.9 and a standard deviation of 6.9. The scores here show a mean score for persisters that is 3 points higher than the dropouts. This variable was a composite measure with a possible maximum score of 30 and a minimum score of one on the following factors: the quality of instructions, grading, testing, instructor's interest, content of course, instructional media, and class size.

Services that help to fulfill student needs such as financial aids, job placement, course advisement, tutoring services, veterans services, learning labs, students activities, and library services are involved in the variable named services. A maximum value of 40 and a minimum of 1 could have been marked. The mean score was 10.9 with a standard deviation of 6.4 for persisters and a mean score of 10.8 and a standard deviation of 6.4 for dropouts. Scores on this factor were very similar.

The scores on course hours are slightly different, with a mean score of 31.2 and a standard deviation of 15.8 for persisters and a mean score of 28 with a standard deviation of 19.9 for dropouts.

The last variable was created by transforming the high school class rank relative to the size of the

graduating class. The resulting scale was so formed that smaller values reflect a higher class standing while larger values are representations of a lower class standing, i.e. nearer the bottom of the class.

In this study, the mean score for persisters on the class standing was 56.5 with a standard deviation of 24.7. The mean score for dropouts was 48.5 with a standard deviation of 24.



TABLE 16

Summary Table of Discriminant Analysis Results

VARIABLE	STANDARDIZED DISCRIMINANT FUNCTION COEFFICIENTS	WILKS' LAMBDA	P <	RAO'S V	P <	CHANGE IN V	P <
Services	.369	0.9584	.001	10.64	.001	10.64	.001
Completion of Goals	-.592	0.9157	.001	22.55	.001	11.91	.001
College Grade Point Average	.467	0.8938	.001	29.10	.001	65.53	.01
High School Class Standing	.408	0.8620	.001	39.22	.001	10.12	.01
Sex	.183	0.8522	.001	42.50	.001	3.275	NS
Satisfaction with College	.247	0.8445	.001	45.09	.001	2.595	NS
Scholastic Aptitude Test Scores	-.211	0.8386	.001	47.13	.001	2.036	NS
Course Hours	.206	0.8340	.001	48.76	.001	1.625	NS

Table 16 shows the results of the stepwise discriminant function analysis. This technique was selected to determine which of the variable characteristics selected in this study actually differed. The variables are: services, whether or not goals were completed, college grade point average (CGPA), high school class standing, sex, satisfaction with educational experiences, Scholastic Aptitude Test (SAT) scores, and credit hours (current classification and status at Richland College).

The standardized discriminant function coefficient for the variables in this table reflect the relative importance of each variable to the discriminant function. Wilks' lambda is an inverse measure of the discriminant power of the variable in the equation. As a further measure of group separation, Rao's V was used in the analysis. Wilks' lambda and Rao's V are both measures of the significance of group discrimination by the variables included in the discriminant equation.

In looking at the change, it was very clear that 4 of the variables added significantly to the discriminant power of the function. The 4 variables are: services, completed goals, college grade point average, and high school class standing.

The standardized discriminant function coefficient (SDFC) reflects the relative importance of the variable. As can be seen in Table 16, completion of goals had the

largest value of  $-.592$ . The negative sign indicates that the dropouts completed their goals with greater frequency than the persisters.

The next largest contributor was college grade point average, with a SDFC of  $.467$ . This was followed by high school class standing with a SDFC of  $.408$ , and services with a SDFC of  $.369$ . All the variables contributed significantly to group separation based on Wilks' lambda analysis. The other variables which contributed were: SAT that had a SDFC of  $-.211$ , credit hours which had a SDFC of  $.206$  and sex that had a SDFC of  $.183$ .

On the basis of these results, the Null  $H_{01}$ , as listed in Table 17, was retained. Employment was not a contributor to the attrition rate in this study since it did not contribute to group situations.

The Null  $H_{02}$  was rejected because the factors named significantly discriminated between persisters and dropouts at Richland College.

TABLE 17

## Results of Statistical Testing of Hypotheses

Null Hypotheses		Disposition
	Null hypotheses one and two were tested using discriminant function analysis to determine any significant difference between persisters and dropouts in the selected aspects of attrition or retention rates. The Null hypotheses tested in this manner were as follows:	
Ho <sub>1</sub>	There is no significant difference in persisters and dropouts of the Richardson Independent School District students who enrolled at Richland College on the basis of their employment status.	Accept
Ho <sub>2</sub>	There will be no subset of pre-enrollment, institutional, or personal and demographic variables which will discriminate between those students who were persisters and dropouts at Richland College and who were previously graduates of the Richardson Independent School District.	Reject

TABLE 18

Classification Results

Actual Group	Number of Cases	Predicted Persisters	Group Membership Dropouts
Persisters	131	99 75.6%	32 24.4%
Dropouts	116	44 37.9%	72 62.1%

Percent of "grouped" cases correctly classified: 69.23%

To further determine the success of group discrimination, classification procedure was performed. These results are displayed in Table 18. Of the 131 persisters, 99 were correctly classified with a success rate of 76%. For the dropouts 72 of the 116 were correctly classified resulting in a success rate of 62%. Thus, the overall classification success rate was 69.23%.

## CHAPTER V

### SUMMARY

This research project was designed primarily to determine attrition causes among Richland College students by their grade point averages in high school. In order to better understand factors that are pertinent to dropouts only, persisters and dropouts were compared on several factors.

Data for this study were collected during the summer and fall of 1982. Subjects in this study were selected at random from an equal number of persisters and dropouts who were graduates of the Richardson Independent School District. These students were enrolled in Richland College during the fall semester of 1981. Dropouts were determined as those students not re-enrolling in the spring of 1982.

The survey instrument used in the data collection was the follow-up questionnaire TX8-6-C Devault and revised by Reed (1979). Two hundred persisters were randomly selected from a total of 1417 persisters and 200 dropouts were randomly selected from a total of 747 dropouts. An overall total of 247 questionnaires were returned constituting a 61.50 percent return rate. There

was a 57% return rate for dropouts and a 61.25% return for persisters. From the data supplied by the follow-up questionnaire, information for variables of interest was obtained. These variables are: (1) services, (2) completion of goals, (3) college grade point average, (4) high school class standing, (5) sex, (6) satisfaction, (7) SAT scores, and (8) course hours.

Nearly two thirds of all respondents in this study, persisters and dropouts, indicated the desire for credit hours to be transferred to some university, more than one fourth indicated career development courses as important, and one third indicated interest in associate degrees. Nearly three fourths of all the students in this study indicated they were employed, only twelve had financial trouble, and only a very small portion of the respondents reported objectives at Richland College were not completed. Of the variables from Table 14, four were not significant on the change in Rao's V (Table 16).

A summary of the results of the stepwise discriminant function analysis on the two hypotheses was presented in Table 15. These findings as described below are based upon information concerning dropouts and persisters. It was found that:

$H_{01}$ : Three fourths of the respondents in the study were employed. An equal number of persisters and dropouts

indicated they were employed. Therefore, there were no significant differences in persisters and dropouts of the Richardson Independent School District students who enrolled at Richland College in the fall of 1981.

$H_{02}$ : There were subsets of pre-enrollment, institutional, personal, and demographic variables that discriminated between those students who were persisters and those who were dropouts.



### Conclusions

There were 13 variables included on the follow-up questionnaire. Only 8 of these variables were selected as discriminating variables in the data analysis. They are: (1) services, (2) objectives completed, (3) college grade point average, (4) high school class standing, (5) sex, (6) educational experiences satisfied, (7) scholastic aptitude test scores, and (8) course hours. These variables were analyzed by the use of the stepwise discriminate function analysis.

#### Conclusion (1)

Many of the respondents in this study indicated student services as not being congruent with students' individual needs and learning objectives.

#### Conclusion (2)

Completed objectives is a major variable of this study. Conditions associated with what has been described as a dropout problem, will be alleviated when students are able to be educated with new methods, at various times, and in different settings. There are, according to the literature, no dropout personalities, only individuals interacting with different campus environments at different times in their changing lives.

Conclusion (3)

The literature of this study supports the fact that in many cases, beginning students may have ingenious and boundless ideas about the ways of college living. They, in many instances, think they understand how a certain school differs from another school. There are in all colleges, particular patterns of courses of study, demands, and many individual student personalities. Each institution has a different posture of faculty and staff, financial obligations, student services, and other environmental factors. Many things usually come unexpectedly to students who are new and they are disillusioned. These factors, many times, cause students to seek their ideal model of an institution elsewhere or not at all and drop out.

Conclusion (4)

With more than three fourths of the respondents in this study, that were desirous of credit hours to be transferred to a university, Richland College is playing a major role in students' educational endeavors as they strive for a full 4 year college diploma.

Conclusion (5)

Three fourths of the students at Richland College which are included in this study, were employed. It is evident that the schedule is flexible enough to accomodate

many of the working students.

### Recommendations

The following recommendations are made on the basis of the findings of this doctoral dissertation.

1. There should be continuous follow-up studies affecting all students. The follow-up studies should begin while the student is still enrolled. In fact, it should begin with the orientation program.
2. Follow-up studies can provide good information as a basis for the development of a good retention program. This program can aid the potential dropouts and confirmed persisters to complete the course of study and graduate.
3. When data are generated from a combination of different groups, such as transfer students, stop-outs, students who leave for full-time employment, and persisters, these data can be analyzed to aid any or all of the groups.
4. Follow-up investigations of dropouts and persisters can provide valuable inferences for the colleges students first attended, for institutions to which students transfer, and for the individual students. The results should be analyzed with reference to providing individualized programs.
5. Attrition rates can be reduced if students who are experiencing academic difficulties can be more adequately

served.

6. The literature supports the fact that a peer counseling program for all students can improve retention rates and help students in their educational development.

7. A well designed and established orientation program can be helpful in guiding and directing students toward setting goals and evaluating those goals early in their college life according to the literature in this study.

## APPENDIX

Richland College

Richardson Independent School District

400 S. Greenville Avenue

Richardson, Texas 75081



Dear Student:

Richland College and the Richardson Independent School District (RISD) are joining together in "Project Follow-up" study. You have been selected from among many to participate in this study. Richland College and the RISD are interested in determining reasons why some students continue in their programs of college study and some do not. This information will be particularly helpful in institutional and school district planning of Richland College and the RISD as they strive to meet the needs of the students.



12800 Abrams Rd.  
Dallas, Texas 75243

President:  
Stephen K. Mittelstet

Vice President  
of Instruction:  
Jack E. Stone

Vice President  
of Student Services:  
Jean Sharon Griffith

Vice President  
of Business Services:  
Donald L. Bacon

To help us determine this, you will find enclosed a confidential questionnaire for you to complete. Please complete the questionnaire as soon as possible and return it in the enclosed envelope. You may notice that this questionnaire includes personal data about yourself. This is included in order to verify institutional records and for statistical purposes. This information will remain confidential and your responses will become part of a statistical report. If you are presently enrolled, discontinued your enrollment or plan to re-enroll at a later date, the receipt of this questionnaire will in no way affect your future plans at Richland College. You merely received this questionnaire because you were selected through a random sampling of students who attend Richland College and graduated from the RISD.

Your cooperation and assistance in completing this questionnaire as soon as possible will be greatly appreciated. Your answering and mailing this questionnaire indicates your consent to participate in this study.

Sincerely,

Clayton Bell, Jr.  
Researcher

  
Dr. Stephen Mittelstet  
President  
Richland College  
Dr. John McFarland  
Advisor  
Texas Woman's Univ.  
Dr. John Roberts  
Superintendent  
Richardson I.S.D.

RICHLAND  
COLLEGE  
OF THE  
DALLAS COUNTY  
COMMUNITY  
COLLEGE  
DISTRICT

Richland College

Richardson Independent School District  
400 S. Greenville Avenue  
Richardson, Texas 75081



12800 Abrams Rd.  
Dallas, Texas 75243

President:  
Stephen K. Mitterstet

Vice President  
of Instruction:  
Jack E. Stone

Vice President  
of Student Services:  
Jean Sharon Griffith

Vice President  
of Business Services:  
Donald L. Bacon

Dear Student:

Recently a confidential questionnaire was mailed to you in which you were asked to provide information on your satisfaction with various aspects of Richland College. We have not yet received your response to that questionnaire.

To help Richland College and the Richardson Independent School District plan for the needs of future students, it is essential that we receive as many questionnaires as possible.

We are enclosing another questionnaire for you to complete and return to us. If you have already mailed the other questionnaire to us, please disregard this second one.

Your answering and mailing this questionnaire indicates your consent to participate in this study. Your cooperation and assistance in completing this questionnaire as soon as possible will be greatly appreciated.

Sincerely,

Clayton Bell, Jr.  
Researcher

RICHLAND  
COLLEGE  
OF THE  
DALLAS COUNTY  
COMMUNITY  
COLLEGE  
DISTRICT



# RICHLAND COLLEGE



## PROJECT FOLLOW-UP

Term Date

Mo   Yr  

Completion

Code 

Group Code

☐ A O T  
☐ B UT  
☐ C OTH  
☐ D VC

Major

Code

Special Code

Course Type Code

☐ 7A Cross  
☐ Non-4 way

Target Pop. Code

☐ 7B REG  
☐ DAVT  
☐ HNCP  
☐ LEP

Level Code

☐ 7C Postsecondary  
☐ 3 Adult-LT  
☐ 4 Adult-ST  
☐ 5 OTH

Note: This survey is authorized by Public Laws 20 USC 2312 and 20 USC 2391. While you are not required to respond to this survey, your cooperation is needed to insure that the results of this effort are comprehensive, reliable, and timely.

Please make corrections to the information above if necessary.

### PLEASE CHECK APPROPRIATE BLOCK(S) WITHIN EACH CATEGORY BELOW.

#### SECTION A

#### EVERYONE SHOULD ANSWER THIS SECTION.

Please respond to the below as appropriate. This information is needed for equal opportunity education and employment reporting.

MAJOR

☐ Male  
☐ Female

(At our college)  
 ETHNIC GROUP  
 5 ☐ American Indian or Alaska Native  
 6 ☐ Asian or Pacific Islander  
 7 ☐ Black, not of Hispanic Origin  
 8 ☐ Hispanic  
 9 ☐ White, not of Hispanic Origin  
 10 ☐ Nonresident Alien

AGE  
 11 ☐ 16-19  
 12 ☐ 20-24  
 13 ☐ 25-29  
 14 ☐ 30-34  
 15 ☐ 35-39  
 16 ☐ 40-44  
 17 ☐ 45-49  
 18 ☐ 50-54  
 19 ☐ 55-59  
 20 ☐ 60 and over

1 What was your PRIMARY objective in attending our two-year college?

- 16-1 ☐ Improvement of existing "job skills"  
 17-1 ☐ Preparation for "job to be obtained"  
 18-1 ☐ University transfer credit  
 19-1 ☐ Personal interest  
 20-1 ☐ Other (describe) \_\_\_\_\_

2 To what extent has this objective been completed?

- 21-1 ☐ Fully completed  
 22-1 ☐ Partially completed  
 23-1 ☐ Not completed

3 Do you plan to pursue this objective further?

- 24-1 ☐ Yes; where? ☐ At our college  
 25-1 ☐ At another college  
 26-1 ☐ Other (describe) \_\_\_\_\_  
 27-1 ☐ No

4 How much education is (or was) required to accomplish your educational objective at our college?

- 28-1 ☐ Selected courses  
 29-1 ☐ Certificate program  
 30-1 ☐ Two-year associate degree program  
 31-1 ☐ Other (describe) \_\_\_\_\_

5 What was your principal reason for NOT re-enrolling at our college this semester?

- 32-1 ☐ Completed needed courses  
 33-1 ☐ Transportation problems  
 34-1 ☐ Transferred to another college  
 35-1 ☐ Found job in occupation related to courses completed at this college  
 36-1 ☐ Conflicting job hours  
 37-1 ☐ Financial reasons  
 38-1 ☐ Change of residence  
 39-1 ☐ Grade problems  
 40-1 ☐ Dissatisfied with instruction  
 41-1 ☐ Dissatisfied with content of courses  
 42-1 ☐ Personal family illness or injury  
 43-1 ☐ Other personal family reasons  
 44-1 ☐ Other (describe) \_\_\_\_\_

Do not write in this column.

6

Which statement best describes your feeling about your educational experience at our college?

- 61-1 ☐ Very satisfied  
 62-1 ☐ Satisfied  
 63-1 ☐ Average  
 64-1 ☐ Disappointed  
 65-1 ☐ Very disappointed

Do not write in this column.

7

If you have completed courses in your MAJOR FIELD OF STUDY, please rate them according to how well they fulfilled your individual needs. Students with "undeclared/undeclared" majors should skip to next question.

	Very Good	Good	Average	Poor	Very Poor
a. Quality of instruction	74-1	75-1	76-1	77-1	78-1
b. Grading/Testing	74-2	75-2	76-2	77-2	78-2
c. Instructor interest	74-3	75-3	76-3	77-3	78-3
d. Content of courses	74-4	75-4	76-4	77-4	78-4
e. Instructional media	74-5	75-5	76-5	77-5	78-5
f. Class size	74-6	75-6	76-6	77-6	78-6

8

If you have used any of the help college services, please rate them according to how well they fulfilled your individual needs.

	Very Good	Good	Average	Poor	Very Poor
a. Financial aid	34-1	35-1	36-1	37-1	38-1
b. Counseling	34-2	35-2	36-2	37-2	38-2
c. Job placement services	34-3	35-3	36-3	37-3	38-3
d. Course advisement	34-4	35-4	36-4	37-4	38-4
e. Tutoring services	34-5	35-5	36-5	37-5	38-5
f. Veterans services	34-6	35-6	36-6	37-6	38-6
g. Learning lab packages	34-7	35-7	36-7	37-7	38-7
h. Student activities	34-8	35-8	36-8	37-8	38-8
i. Library services	34-9	35-9	36-9	37-9	38-9

9

What is your current educational status? (Check one)

- 42-1 ☐ Currently attending school  
 42-2 ☐ Not currently attending school

10

What is your current employment status? (Check one)

- 44-1 ☐ Employed (includes all employment, even if below your qualifications; does not include full-time military service)  
 44-2 ☐ Employed (Full-time military service)  
 44-3 ☐ Unemployed (Not employed, but actively seeking employment)  
 44-4 ☐ Not in labor force (Not employed and not seeking employment because of choice, illness, full-time student status, retirement, pregnancy, or other such reason)

### OVER PLEASE!

BELOW SPACE RESERVED FOR COMMENTS

CODE

MAJOR



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