THE INFLUENCE OF SELECTED FACTORS ON NONPERSISTENCE OF NONTRADITIONAL STUDENTS AT A COMPREHENSIVE COMMUNITY COLLEGE

DISSERTATION

Presented to the Graduate Council of the University of North Texas in Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

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The purpose of the study was to determine the direct influences of selected environmental, academic, and background factors as well as academic outcomes and expression of intent to leave on persistence or nonpersistence of nontraditional students at a comprehensive community college in the Dallas County Community College District. The study applied a conceptual model of nontraditional undergraduate student attrition.

Data for this study were collected during the Fall, 1987 semester from 312 first-year nontraditional students using the two-year institution questionnaires from the National Center for Higher Education Management Systems. In addition, follow-up surveys were administered to the 97 students who did not re-enroll for the Spring, 1988 semester. The data were analyzed using discriminant function, chi square, and product-moment correlation.

For these nontraditional students, educational goal commitment, cumulative grade point average (GPA) and expression of intent to leave at the end of the semester had significant direct influence on persistence or nonpersistence decisions. In contrast, environmental factors such as
finances, employment status, and family responsibilities, and background factors such as high school academic performance, enrollment status and parents’ education level did not directly influence dropout decisions.

Nontraditional students reported receiving moderate to high levels of encouragement to remain in college from outside sources, especially employers. In spite of this encouragement, a frequent reason given for leaving college was the inability to cope with working and going to school at the same time.

The results generally confirmed that the conceptual model used in this study provided a valid framework for research on nontraditional student attrition. Accurate prediction of persistence or nonpersistence of nontraditional students in a community college appears quite difficult due to the heterogeneity of this student population and their diverse educational goals.
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CHAPTER I

INTRODUCTION

As declines in enrollment and fiscal resources are experienced by colleges and universities, renewed attention is given to student persistence. No longer can a casual attitude be taken that if one student leaves another will be waiting to enroll. Nowhere is this renewed interest in student persistence more prevalent than in community colleges (9).

El-Khawas (10) reports that in 1985, 85 percent of the community colleges surveyed had programs for monitoring student attrition, compared to 64 percent in 1984. Clearly there is an interest in retaining students for cost-effective benefits to the college. More importantly, there is a stronger commitment to retention efforts that are in the best interest of the student (1, 2, 4, 18). As Astin, Korn, and Green have noted: "Student retention and student satisfaction with the college experience have become 'hot' issues for campus officials in recent years" (2, p. 36).

To complicate the picture, significant changes are occurring in the profile of the students attending colleges and universities. A growing number of older men and women of diverse ethnic backgrounds are attending college on a full-time and part-time basis (30). This group of
"nontraditional students" represents a new market for higher education (4). These students, referred to by Cross (7) as adult learners, represented more than 38 percent of the enrollment of all college students in 1985 (30). This translates into nearly 1.7 million students. In fact, the number of students 35 years of age and older has nearly doubled since 1973 with women constituting two-thirds of those in the over 35 age bracket (30). Data from the National Center for Education Statistics suggest that by 1992, 48 percent of the total enrollment in higher education institutions will be part-time students, compared to 34 percent in 1972 (17). Further, these data indicate that enrollment of students 25 years of age and older, will change from 31 percent in 1972 to a projected 49 percent in 1992 (17).

Nontraditional students exhibit an enrollment behavior which is different from that of their traditional student counterparts. According to the National Institute of Education report entitled Involvement in Learning, "... more than two in five undergraduates attend college part-time . . . ." (27, p. 7). While the increase in nontraditional student populations may buffer the decline in the 18 year old population, their attendance patterns will have a negative effect on full-time equivalent (FTE) enrollment (6, 10). Total credit/contact hours generated by these students will also decline. For institutions funded on the basis of
FTE's or contact hours, this decline has significant ramifications for the future. However, institutions that do survive these shifts will be those that develop strategies, programs and services to accommodate the nontraditional student (11).

Lynton (17) reports that, according to the Carnegie Foundation, community colleges have the highest percentage of students defined as nontraditional. It is also noteworthy that minorities have a propensity for enrolling in two-year colleges throughout the United States (3). For example, in 1984, over 50 percent of the total Hispanic student population enrolled in higher education attended community and junior colleges (3). As well, 43 percent of the black and Asian students enrolled in higher education institutions attended two-year colleges (3).

The failure to use theoretical models which seek to explain the withdrawal process, the use of univariate or bivariate statistical procedures, and the use of ex post facto research designs, are among the major criticisms of earlier student retention research (15, 16, 20, 28, 29). Also, Kohen (14) has noted that failure to view college success and accordingly, college drop-out, as a sequential process, places severe limitations on the usefulness of attrition research.

Spady (26) incorporated selected concepts from Durkheim's theory of suicide to formulate the first
theoretical model of the drop-out process. Durkheim (8) contended that there was a higher likelihood of suicide when an individual does not receive sufficient support from friends and peers, and when there is incongruency between the values of the group and those of the individual. Spady (26) compared dropout behavior to suicide and concluded that similar group value systems and peer support mechanisms influenced nonpersistence behavior in students.

In 1975, Tinto (28) presented a model of student attrition based on a review of the literature. This model has been extensively tested and validated in a variety of institutional settings (13, 22, 23). Although the models of Spady (26) and Tinto (28) and the student-faculty interaction model proposed by Pascarella (21) share the same theoretical base of social and academic integration of the college student, they were designed primarily to study attrition of traditional students at residential four-year colleges and universities. Efforts to apply these models to the study of student attrition in two-year colleges have been less than successful given the diverse nature of the institutions and student populations (12, 22, 23).

Until recently there has not been a conceptual model to use in conducting attrition research of nontraditional undergraduate students at two-year or four-year institutions. Bean and Metzner (4) have developed such a model. In their model, as compared to the models of Spady (26),
Tinto (28) and Pascarella (21), social integration is predicted to have only a nominal influence on dropout decisions. The four primary sets of variables in the Bean and Metzner model which do influence dropout decisions are: background and defining variables (age, enrollment status, residence, educational goals, etc.), academic variables (study habits, absenteeism, major certainty, etc.), environmental variables (finances, hours of employment, family responsibilities, etc.), academic outcomes (GPA), and intent to leave (4). To date limited attrition research has been conducted using the model (5, 18, 25).

This study uses the conceptual model of Bean and Metzner in an attempt to identify students defined as non-traditional who may have dropped out prior to completing their educational goals. The National Center for Higher Education Management Systems/College Board Student-Outcome Information Service (SOIS) questionnaires (15) are used to collect data pertaining to specified variables of the conceptual model.

**Statement of the Problem**

The problem addressed in this study was the direct influence of selected background, academic and environmental factors as well as academic outcomes and expression of intent to leave on nonpersistence of first year non-traditional students at a comprehensive community college.
Purposes of the Study

The purposes of the study were:

1. To determine the direct influence of selected environmental factors (finances, employment, outside encouragement, family responsibilities, and opportunity to transfer) on persistence or nonpersistence of non-traditional students at a comprehensive community college.

2. To determine the direct influence of selected academic factors (study skills, academic advising, major certainty and course availability) on persistence or non-persistence of nontraditional students at a comprehensive community college.

3. To determine the direct influence of selected background and defining factors (high school academic performance, educational goal, parent's education, enrollment status, age, gender, ethnicity) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

4. To determine the direct influence of selected psychological outcomes (educational satisfaction and educational goal commitment) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

5. To determine the direct influence of institutional commitment on persistence or nonpersistence of nontraditional students at a comprehensive community college.
6. To determine the direct influence of academic outcomes (grade point average) on persistence or non-persistence of nontraditional students at a comprehensive community college.

7. To determine the direct influence of choice of major (two year versus four year) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

8. To determine the direct influence of an expression of intent to leave at the end of a semester on persistence or nonpersistence of nontraditional students at a comprehensive community college.

Hypotheses and Research Questions

To carry out the purposes of this study, the following research hypotheses and research questions were formulated and tested or described based on the data collected from the entering student, continuing student, and nonreturning student respondents.

Research Hypotheses

1. There will be a significant relationship between selected environmental factors (finances and employment) and persistence or nonpersistence of nontraditional students at a comprehensive community college.

2. There will be a significant relationship between selected academic factors (study skills and major certainty)
and persistence or nonpersistence of nontraditional students at a comprehensive community college.

3. There will be a significant relationship between selected background and defining factors (high school academic performance, educational goal, parent’s education, enrollment status, age, gender, and ethnicity) and persistence or nonpersistence of nontraditional students at a comprehensive community college.

4. There will be a significant relationship between a selected psychological outcome (educational goal commitment) and persistence or nonpersistence of nontraditional students at a comprehensive community college.

5. There will be a significant relationship between institutional commitment and persistence or nonpersistence of nontraditional students at a comprehensive community college.

6. There will be a significant relationship between grade point average (GPA) and persistence or nonpersistence of nontraditional students at a comprehensive community college.

7. There will be a significant relationship between choice of major (two year versus four year) and persistence or nonpersistence of nontraditional students at a comprehensive community college.

8. There will be a significant relationship between an expression of intent to leave at the end of a semester and
persistence or nonpersistence of nontraditional students at a comprehensive community college.

Research Questions

1. What was the magnitude of outside encouragement to remain in school received by nonreturning students?

2. What was the frequency of contact with instructors outside of class experienced by continuing and nonreturning students?

3. What was the degree of satisfaction with the quality of instruction experienced by continuing and nonreturning students?

4. How many hours per week did nonreturning students spend studying?

5. What was the extent of family responsibilities of nonreturning students?

6. What were the most important reasons which contributed to the nonreturning student's decision to leave college?

7. What was the degree of difficulty to transfer as perceived by continuing students?

8. What was the degree of satisfaction with academic advising experienced by continuing and nonreturning students?

Definition of Terms

The terms in this study are defined as follows:
**Academic goals** are primarily those goals stated on the SOIS questionnaires (15), namely:

1. To increase knowledge and understanding in an academic field
2. To obtain a degree or certificate
3. To complete courses necessary to transfer to another educational institution
4. Other (self-reported goals)

**Academic integration** identifies the interaction between students and the academic activities and systems of the institution. The level of academic integration is a function of grade performance, intellectual development, perception of faculty concern for quality teaching and student development, and informal contacts with faculty concerning academic, intellectual, and career matters (28).

**Attainer** refers to a student who completes a personal educational goal but may leave college prior to graduation (15).

**Attrition** (operationally) is the failure of a student to register for two consecutive regular semesters at Eastfield College, Mesquite, Texas. Attrition may be due to, but is not limited to, transfer to another college, voluntary withdrawal, or involuntary withdrawal for academic or disciplinary reasons.

**Career-preparation goals** are primarily those goals stated on the SOIS questionnaires (15), namely:

1. To discover career interests
2. To formulate long-term career plans and/or goals
3. To prepare for a new career
4. Other (self-reported goals)
Comprehensive Community College designates a two-year institution of higher education accredited to award the Associates in Arts or Sciences degree and that provides curricular functions addressing academic transfer preparation, vocational-technical education, continuing education, developmental education, and community service.

College Services are those services provided by the college that are designed to assist students. The college services evaluated for this study are listed on the SOIS Continuing-Student and Former-Student Questionnaires (15).

Continuing students (operationally) are those students who remained enrolled in at least one course during the Fall semester, 1987.

Educational goal refers to the level of degree (non-certificate, certificate, Associate, Bachelor's, or graduate) the student is currently pursuing.

Dropouts are those who leave the institution and do not return to complete a personal education goal (15).

Environmental factors are those factors over which the institution has little control but which might cause a student to voluntarily withdraw (28). These factors include ability to finance a college education, employment, the extent of outside encouragement to remain in college, the extent of family responsibilities, and the opportunity to transfer to another college (4, 28).
**Former (nonreturning) students** are defined as those students who did re-enroll at Eastfield College for the Spring, 1988 semester.

**Full-time student** designates a student enrolled in at least twelve credit hours during a regular semester at Eastfield College, Mesquite, Texas.

**Goal commitment** refers to the magnitude of importance a student gives to obtaining a college education (4). This commitment may be viewed from a pre- or post-matriculation perspective.

**High risk students** refers to those who are academically underprepared, have low educational aspirations and poor study habits, and have parents who are relatively uneducated (1).

**Institutional commitment** reflects a student’s loyalty to a college regarding completion of his/her educational goals and is determined by the student’s indication of whether or not Eastfield College, Mesquite, Texas was the first choice to attend. (4, 28)

**Job- or career-improvement goals** are primarily those goals stated on the SOIS questionnaires (15), namely:

1. To improve knowledge, technical skills, and/or competencies for a job or career
2. To increase chances for a raise and/or promotion
3. Other (self-reported)

**Major** refers to the primary area of study indicated by the student. The major specifies a program usually requiring four or more years of study or a program requiring
two years or less of study. It may include the option of undecided.

The National Center for Higher Education Management Systems/College Board Student-Outcomes Information Systems (SOIS) is the set of six standardized questionnaires for conducting surveys of different student populations in two-year institutions. The questionnaires are designed to collect student-outcome data without attempting to measure changes in the actual student skill levels or achievement (15). Three questionnaires from the set were used:

1. Entering-Student Questionnaire
2. Continuing-Student Questionnaire
3. Former-Student Questionnaire

The remaining questionnaires address long-term follow-up issues and were not used in this study.

Non-persisters are students who do not continue enrollment at the same institution until a personal educational goal is achieved.

Nontraditional students are defined by a combination of three variables--age, enrollment status and residence (4). More specifically, these students are older than 24 years of age, are commuters, or attend on a part-time basis, or some combination thereof; are not significantly affected by the social environment of the college; and are primarily concerned with the academic, transfer and occupational courses and programs of the college (4).
All students at Eastfield College, Mesquite, Texas are considered to be commuters.

**Part-time students** are enrolled in less than twelve credit hours in a regular semester at Eastfield College, Mesquite, Texas.

**Persistence** is the characteristic exhibited by a student who maintains a consistent enrollment pattern until an educational goal has been achieved (15). An educational goal could represent a single course, series of courses, a certificate or a degree.

**Persisters** are students who continue enrollment at the same institution until a personal educational goal is achieved (15).

**Personal-development and enrichment goals** are primarily those goals stated on the SOIS questionnaires (15), namely:

1. To increase self-confidence
2. To improve leadership skills
3. To improve ability to get along with others
4. To learn skills to enrich daily life or become a better person
5. To develop the abilities to be independent, self-reliant, and adaptable
6. Other (self-reported)

**Retention** occurs when a student remains enrolled and is successful in achieving a personal educational goal (15).

**Social- and cultural- participation goals** are primarily those goals stated on the SOIS questionnaires (15), namely:

1. To become actively involved in student life and campus activities
2. To increase participation in cultural and social events  
3. To meet people  
4. Other (self-reported)  

Stopouts are those students who interrupt their educational careers but plan to return at a later time to complete their educational goals (15).  

Significance of the Study  
A review of the literature reveals that few studies have attempted to explain the nonpersistence of nontraditional students, especially those in community colleges. According to Bean and Metzner (4), the majority of studies aimed at nonresidential student populations have been atheoretical and descriptive. More often, studies that are theoretically-based use the model for traditional, residential students developed by Tinto (14, 22, 23).  
Given the changing profile of students attending community colleges, and the concomitant reduction in fiscal resources, it becomes imperative for college leadership to be aware of the diverse factors which have resulted in the increased enrollment of nontraditional students. As well, knowledge of what influences a nontraditional student to persist or withdraw is critical to effective educational program planning and development of successful retention strategies.  
Bean and Metzner (4) report several factors which result in the significant increase in enrollment of
nontraditional students in colleges and universities. These include:

1. **Institutional** - growth of the community college sector of higher education, where large percentages of older, part-time commuter students attend.

2. **Curricular** - expansion of offerings to meet the educational needs of the new student population.

3. **Political** - forces include the Truman Commission report, the G. I. Bill, the National Defense Act of 1958, the Higher Education Act of 1965, and governmental and financial aid in the form of Basic Education Opportunity Grants and Pell Grants.

4. **Economic** - the decrease in the workforce of blue collar workers, resulting in numerous adults returning to school for further specialized training.

5. **Social** - the changing role of women and minorities in society and the recognition that lifelong learning is appropriate for all adults.

More recently, Smart and Pascarella (24) have proposed a causal model of the factors generally thought to influence an adult’s decision to return to college. It is clear that differences exist between traditional and nontraditional students as relates to motivation to attend college and to persist or voluntarily withdraw (4, 7, 13, 14, 31).

The proposed study is significant in that it identifies important variables that influence nonpersistence of nontraditional students at a comprehensive community college. In addition, the study provides data for the development of intervention strategies to improve nontraditional student persistence and educational goal accomplishment.
Limitations of the Study

This study was limited to first year nontraditional students enrolled in credit courses at Eastfield College, Mesquite, Texas, one of the seven colleges in the Dallas County Community College District (DCCCD), Dallas, Texas.

This study was cross-sectional by design and therefore did not identify those students who withdrew after one semester and who might eventually return to complete their educational goals. These students are generally referred to as "stopouts" (17).

Organization of the Study

Chapter I presents an introduction to the study which includes the statement of the problem, purposes of the study, the hypotheses, definition of terms, the significance of the study, limitations of the study, and the basic assumptions underlying the study. Chapter II provides a literature review of student retention and attrition, nontraditional students, theoretical models of traditional student attrition, and the theoretical model of nontraditional student attrition. Chapter III describes the research population, sample selection technique, survey instruments, and procedures for data collection. Chapter IV presents the findings from the data analysis. Chapter V presents a summary of the study, discussion and conclusions from the data analysis, and recommendations for practice and further research.
CHAPTER BIBLIOGRAPHY


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CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

The purpose of this study was to identify selected environmental and academic factors that directly influenced the persistence or nonpersistence of nontraditional students at a comprehensive community college and provide data for the development of intervention strategies to improve nontraditional student persistence and educational goal accomplishment. Student persistence and its counterpart, student attrition, continues to be a concern for institutions of higher education both as an issue for educational programs as well as for administrative policy (9, 26, 55, 66, 67). To that point, the report from the Study Group On The Conditions of Excellence in American Higher Education entitled Involvement in Learning: Realizing the Potential of American Higher Education suggested that student persistence may significantly reflect the level of institutional and educational effectiveness of a college or a university (99).

Historically, junior and community colleges were less concerned with student persistence than were senior institutions. This position was due in part to the increasing enrollment trends that community and junior colleges experienced during the 1960's and early 70's. However,
changing student demographics including the decrease in the 18 to 22 year old population and an increase in the adult student population, limited fiscal resources, and local and state expectations of accountability resulted in the need to seriously address student attrition (32, 34, 106, 115).

Many students attending community colleges are older, represent more women than men students, are more inclined to be part-time, and represent a significant percentage of the minority student populations attending institutions of higher education (108).

While the literature on student attrition is abundant it has been very difficult to generalize the findings from one institution to another. This is due to the differences in institutional as well as student characteristics (i.e., two-year versus four-year and commuter versus residential). Pascarella has noted that "... patterns of influence on student persistence or withdrawal behavior ... may differ substantially for different institutions" (73, p. 101). For this reason, researchers are now advocating single institution research if an accurate profile of persisters and dropouts is to be constructed (1, 5, 6, 73).

Historically, attrition statistics have been based on whether a student completed a degree program, either an associates degree or bachelors degree, in the standard program length of time (110). Lenning, Beal and Saur point out ... "only recently has much recognition been given to the
fact that program completion is only one type of retention" (53, p. 10). Student retention or student persistence may be manifested by completion of a degree, completion of a program which does not include the awarding of a degree, the completion of a course, or simply the attainment of a personal educational goal (53, 55). Accordingly, Pappas and Loring have proposed that adult learners be divided into three broad categories: "... degree seekers, problem solvers, and cultural enrichment seekers" (69, p. 144). Tinto (105) states that a student’s educational goals as well as his or her commitment to those goals are major influences on voluntary withdrawal from college.

Simply to define persistence as the accomplishment of a degree and calculate attrition based on the number of students who do not complete a degree is incongruent with the mission of the junior and community college. It is likewise unrealistic to expect the nontraditional student population to be predominantly degree-seeking as opposed to having a multitude of other educational options which motivate them to return to college (31, 43, 50, 60, 89, 97, 113). Tinto notes that:

Some individuals enter college with educational goals that are either more limited than or more extensive than those of the institution ... In either situation, we should expect that students will leave prior to degree completion: they have accomplished what they came to the institution to do. To label such departures as dropouts, and representing a form of failure, is both inaccurate and misleading (105, p. 33).
The importance of evaluating retention/attrition data in conjunction with students' educational goals has been emphasized by Nickens (65) and Brunner, Packwood, and Wilson (19). Nickens (65), reporting on the attrition studies at fifteen Florida two-year community colleges, concluded that only two percent of the students should be categorized as dropouts when the total number of students originally classified as dropouts were evaluated in relation to their educational objectives. Tinto states that:

The problem with defining dropout from the individual perspective is therefore more complex than simply noting the goals and or intentions with which the person entered the higher education system; it also entails determining that a person's experiences at a given institution are seen by that person as a failure to do or complete what he or she came to the institution to do. It is in this sense that the term "dropout" is best applied, for it is in this sense that there is a commonality of interest between the individual who enters college and the external observers who seek to increase retention in higher education. For institutional officials, in particular, such failure represents a failure of the institution, a failure to help the individual achieve what he or she initially set out to do (104, p. 5).

Lenning, Saur, and Beal have noted that not all attrition is a negative experience for the student:

. . . a word of caution should be mentioned: attaining the highest possible retention rate is not necessarily the most desirable goal. Some students need to transfer, stopout, or dropout for their own benefit, and an approach that could somehow force them to stay would be inappropriate, in spite of the detrimental financial implications of decreased enrollment. . . . Rather than improving retention per se, the primary goal should be to better meet student needs and to provide a more meaningful educational experience. And in the long run, motivations closer to the mission of the institution probably will lead to higher enrollments and tuition revenue than will a short-sighted,
survivalist focus on enrollments for enrollments' sake (55, p. 16).

However, Baldridge, Kemerer and Green (8) have described the institutional costs of attrition, namely, direct loss in revenue from tuition and agency reimbursement, increased recruitment expenses, and the likelihood of expensive recruitment efforts resulting in an applicant pool that is of higher risk and more dropout-prone, further exacerbating the attrition problem. Not only does attrition have negative effects on the financial status of an institution but there are costs born by the individual as well, including the decreased probability of gainful employment in order to maximize earning potential, the self-awareness of personal failure, and the practically nonexistence return on investment for any tuition and fees paid to the institution.

The study of attrition in the community college is made more complex due to the role and scope of the community college and its open access philosophy. The mission of the community college has expanded since its inception as a two-year institution which was specifically designed to carry out the offering of college courses at the freshman and sophomore level and thus fulfilling primarily a transfer function to an institution which includes vocational-technical education, continuing education, remedial education and community service (24). The term "community college" and additionally, "comprehensive community college" was
applied to these institutions as their role and function increased (24).

One of the major characteristics differentiating community colleges from senior colleges and universities is its open access philosophy. Community colleges were designed to provide educational opportunities to virtually every American. This resulted in a diverse student population representing all age groups, academic abilities, ethnic minorities and socioeconomic levels. Cohen and Brawer noted that community college students have been assessed from varying perspectives:

... to the psychologist, community college students are pragmatic, little concerned with learning for its own sake. They are not self-directed or self-motivated; they need to be instructed. To the sociologist, the students are struggling to escape from their lower-class backgrounds; some do, but many are inhibited by a bias against leaving family and friends that a move in class would engender. To the economist, students from low-income families pay more in the form of foregone earnings as a percentage of total family income than their counterparts from higher-income groups, a differential that more than offsets the savings gained by attending a low-tuition institution. To the political scientist, students attending community colleges are given short shrift because the institutions are funded at a lower per capita level than the universities, and hence the students do not have equivalent libraries, laboratories, are faculty-student ratios available to them (24, pp. 49, 50).

These kinds of characterizations, although they may be correct, have lead to criticism of the community college as not contributing to the attainment of higher degrees for many students (6, 7, 52, 64). However, as noted by Cohen and Brawer:
... students use community colleges for their own purposes and frequently achieve those purposes short of program completion. ... The students who attend community colleges for only a short time and then leave without receiving a degree or certificate of completion may be the pragmatic ones (24, pp. 59).

This review of the literature will be confined primarily to research and related reports published since the comprehensive review of Pantages and Creedon in 1978 (68). This chapter will focus on nontraditional students in two-year and four-year commuter colleges and will include the major theoretical models of traditional student attrition and the theoretical model of nontraditional student attrition.

The Nontraditional Student

All sectors of higher education have experienced dramatic changes in the demographic composition of their student populations. Often referred to as adult or nontraditional students, these individuals are generally older than the traditional college age students, attend on a part-time basis, and are usually commuter students who prefer to attend a local community college or university (13, 31, 42, 43, 69, 97). Over the last decade, community colleges in particular have experienced the transition from a traditional-aged student population that is predominately white male to an older student population that is becoming more balanced in favor of women, minorities, and part-time students (108).
Hughes (43), in a synthesis of the research literature on nontraditional students in higher education, described the inherent ambiguity in defining the nontraditional student. Bean and Metzner (13) after acknowledging the difficulty in developing a profile of this particular student population, offered a definition of the nontraditional student. Their definition focuses on the difference between traditional and nontraditional students on three parameters: age, enrollment status, and residence (13). Absent from their definition is reference to ethnicity, gender, or socioeconomic status. Given the changing demography of student populations in community colleges these latter variables would be present in both traditional and nontraditional student populations.

Bean and Metzner (13) have suggested that the enrollment increases of nontraditional students have been due to institutional factors, curricula factors, political factors, economic factors, and social factors. The curricula factors include changes institutions make in their curricula offerings moving from a more general academic emphasis to a vocational emphasis in order to accommodate adult learners whose educational goals are more vocational. The traditional scheduling of courses has been altered as well. A better selection of evening courses has become the rule rather than the exception. Weekend colleges and course offerings at off-campus sites are major factors that
contribute to the increased enrollment of nontraditional students.

The political forces which affected nontraditional student enrollment included the end of the World War II, the Truman Commission Report on Higher Education with an emphasis of education for all people, and the various financial aid packages including the GI Bill, the National Defense Education Act of 1958, the Higher Education Act of 1965, the Basic Education Opportunity Grants which were part of the Higher Education Amendment of 1972, and Pell Grants.

Economic factors which resulted in increasing numbers of nontraditional student returning to institutions of higher education were primarily vocational based (13). Higher paying technical jobs required specialized training and this training was found primarily in community colleges.

The social norms included the women’s movement and the changing structure of the American family. An additional societal influence has been the recognition that lifelong learning is acceptable for both vocational and avocational reasons (13).

Similar to traditional students, nontraditional students persist as a result of the interaction of numerous student characteristics, educational variables, environmental variables, and situational variables (2, 69). Pappas and Loring concluded the following variables to be the most effective in facilitating the adult student’s persistence:
1. Clear communication about the availability and nature of adult education programs.
2. Students who have had previous educational success or attainment.
3. Tailor-made and time-compressed adult programs.
4. Instruction that is life relevant and addresses student needs and expectations.
5. Adult programs that have strong student support services, particularly in the area of financial aid (69, p. 152).

Apps (4), compared adult learners with traditional students in major areas of differences which included life experiences, motivation, academic behavior, and academic as well as nonacademic problems. Adult students, due to their age and experience, represent a vast resource of diverse experiences which they bring to the classroom. Their motivation for returning to school is generally higher than that of traditional college students as a result of having a more specific reason for being in school (4, 30, 89, 113). However, adult students have more difficulty making the adjustment to college life due to inadequacies in study skills and the inability to concentrate on school work due to the various external responsibilities including employment and family (4, 43, 97). Not only do adult learners have academic problems to deal with, many also have nonacademic problems including unrealistic educational goals, a negative self-image, social-familial problems, and an orientation toward education that is highly pragmatic (4, 43). This latter point poses a problem when adult learners have an unrealistic expectation that everything they study will have direct application to the future job (4).
Knowles (51) has advanced a model of adult learning which he refers to as the androgogical model. It is based on assumptions of adult learners including: (1) the need to know why they need to learn; (2) having a self-concept of responsibility for their own decisions; (3) the quality and quantity of previous experiences; (4) a readiness to learn those things they need to know and be able to do in order to cope effectively with real-life situations; (5) a life-centered (or task-centered or problem-centered) orientation to learning; and (6) the motivation to learn based on internal pressures (the desire for increased job satisfaction, self-esteem, quality of life, etc.).

Adult students returning to college often are faced with many risks and uncertainties as well as opportunities. Steltenpohl and Shipton (97) have developed an introductory learning course designed to facilitate the transition to college for adults. The major goal of the course is to "... empower uncertain and anxious adults who feel like strangers in the academic world so that they can become successful participants in a college environment" (p. 639). Their preliminary experience suggests that a positive transitional experience is a precursor to long-term persistence and accomplishment of educational goals.

In a study of adult students who graduated with a bachelor's degree, Mishler et al., (61) found that the
majority of the adult students in their sample pursued their degree at full-time status with a mean credit load of 11.5 credit hours per semester. They also found that adult students performed comparably to younger students when grade point averages at graduation were compared. Another finding from their study was that the majority of the adult students had previous college experience prior to entering the course of study toward a bachelor's degree.

Although most theoretical models view persistence as a longitudinal process, when dealing with adult students it is important to realize that their educational goals may be more short-term, thus justifying a cross-sectional perspective of their persistence. Pappas and Loring (69) have divided adult students into three broad categories: degree seekers, problem solvers, and cultural enrichment seekers. These categorizations allow for viewing the persistence of adult students from both a longitudinal and cross-sectional perspective.

Smith and Sugarmann (92) found that the persisting nontraditional students were more satisfied with designated college services including registration and school location. In contrast to other investigators they found that a greater proportion of persisting nontraditional students were enrolled on a part-time basis but attended classes during the daytime.
Theoretical Models of Traditional Student Attrition

According to Bean, "A model of student attrition is a representation of the factors presumed to influence decisions to drop out of an institution" (12, p. 18). Early research of student attrition was based on descriptive models which were atheoretical. While researchers were able to state representative correlations among numerous variables, they were unable to offer explanations as to why students made decisions to persist or withdraw.

Precollege characteristics have also been used to predict student attrition. As with descriptive studies, these studies are also atheoretical and are deficient in their causal explanations.

Outcomes of these atheoretical studies are directed more at defining strategies to decrease attrition for the institution's welfare. Studies based on theoretical models offer explanations of why students decide to stay or leave and the results are directed at developing retention strategies, primarily for the benefit of the student.

Spady's Interaction Model

The first theoretical model of student attrition was proposed by Spady (95). This model was based on the "... assumption that the dropout process is best explained by an interdisciplinary approach involving an
interaction between the individual student and his particular college environment . . . " (p. 77).

Spady proposed that this college environment consisted of the academic and social systems of the college and that each contained rewards. The adequacy of the interaction with either system would influence persistence. The rewards in the academic system may be extrinsic (i.e., grades) or intrinsic (i.e., intellectual development). Within the social system, the student sought compatibility or "normative congruence" with the attributes and influences of the system. "Friendship support" was also a reward factor in the social system. The former elements represented academic integration and the latter element represented social integration.

Spady compared a student's decision to withdraw from college to Durkheim's theory of suicide. This theory is based on the notion that the tendency to commit suicide (withdrawal) increases as "normative congruence" and "friendship support" become insufficient (35). In the Spady model, normative congruence, grade performance, intellectual development and friendship support influence social integration, which resultantly has an indirect effect on the dropout decision (95).

The intervening variables, namely, satisfaction with the college experience and institutional commitment, have a
more direct effect on dropout decisions (96). As described by Bean, "Social integration was expected to increase satisfaction, which was expected in turn to increase institutional commitment. Institutional commitment reduced the likelihood of dropping out" (12, p. 21). Grade performance also has a direct effect on the dropout decision for those students demonstrating academic performance that results in their forced withdrawal (dismissal) (12).

The model is cyclical and flexible and represents the dropout decision as a longitudinal process with "... direct causal connections between pairs of variables" (95, p. 78).

In a longitudinal study, Spady (96) expanded on the original model based on findings that demonstrated differences between men and women on selected variables. For example, the extrinsic reward of grade performance was the most important influential factor of satisfaction for many, followed closely by the intrinsic rewards of social integration and intellectual development. On the other hand, social integration replaced grade performance as the best predictor of satisfaction for women. Spady also noted that:

... these findings clearly suggest that satisfaction is based mainly on the academic intellectual, and social experiences that occur during the first several months of college, and is influenced only indirectly by the dispositions and characteristics that students bring to these experiences (p. 60).
Tinto's Longitudinal Model of Dropout

Tinto's model like that of Spady, also draws on Durkheim's theory of suicide (102). Tinto expanded on the descriptive model of Durkheim in order to arrive at a predictive model of college dropout. In addition to the variables concerning academic and social integration, individual student characteristics, and institutional commitment, the model seeks to specify the longitudinal interaction processes of dropping out. The model regards persistence or dropout behavior primarily as a function of the quality of a student's interaction with the academic and social systems of the college. According to Tinto, this model:

... argues that the process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during a person's experiences in those systems (as measured by his normative and structural integration) continually modify his goal and institutional commitments in ways which lead to persistence and/or to varying forms of dropout (p. 94).

Goal commitment (commitment to graduation) and institutional commitment (commitment to graduating from the institution in question) are critical variables in the model. Family background, individual characteristics and precollege educational experiences are assumed to influence both goal and institutional commitment which, in turn, influence persistence. A higher goal commitment is thought
to result in higher grade performance as well as intellectual development and positive social integration. A high degree of institutional commitment results in productive peer and faculty interactions with resultant positive social integration (102). High levels of academic and social integration lead to even further increases in goal and institutional commitment thereby reducing the likelihood of dropping out.

Bean (12) has suggested that the appearance of goal commitment and institutional commitment twice in the model may cause conceptual confusion. However, the initial commitments may actually represent plans and further commitments result after a student interacts with the institution.

A key component in the Tinto model is the quality and quantity of faculty and peer interactions on both a formal and informal basis (102). These interactions and resultant high levels of social integration are thought to be pivotal in influencing the student's commitment to goal completion and to the institution (53, 70, 78, 80, 81).

In a later article, Tinto (103) acknowledged the shortcomings of the model in that it did not take into consideration the impact of financial and other external environmental factors on persistence-withdrawal decisions. Rather, the model focused on the institution and its impact on student dropout behavior. Accordingly, the model,
"... posed the policy question of how institutions can change themselves to reduce that attrition" (p. 695). The model also does not consider important differences of gender, age, ethnicity, and social status background of the student population.

The applicability of the model to study dropout behaviors of students in two-year colleges is inadequate according to recent research (13, 48, 74, 75, 103). However, numerous studies have tested and validated the model in four-year colleges and universities (77, 81, 82, 83).

Pascarella and Terenzini (84) used path analysis to test the validity of Tinto's model at a residential university. They found persistence for women were influenced more by social integration than by academic integration while the opposite was true for males. This investigation also supported the predictive power of the Tinto model in explaining persistence withdrawal decisions of college freshman. Getzslaf et al. (38) differentiated between dropouts and transfers on the basis of academic ability, academic integration, goal commitment and social integration using the Tinto model.

Munro (62) used path analysis to test the Tinto model using a student sample from the National Longitudinal Study of the High School Class of 1972, and found goal commitment to have the strongest positive effect on student persistence. Academic integration had a more significant positive
effect on dropout decisions than did social integration in this study. Munro also found that academic integration had a lesser effect on goal commitment than did the educational aspirations of the parents and students. However, academic integration, rather than social integration, was found to have a stronger influence on institutional commitment. This latter finding does not support the model's theoretical assumption of the influences of academic and social integration on goal and institutional commitment, respectively.

Pascarella and Chapman (74) applied the model across institutional types: residential universities, liberal arts colleges, two-year commuter institutions, and four-year commuter institutions. While the results generally provided support for the predictive validity of the model, academic integration was found to be more important than social integration in the commuter institutions, both two-year and four-year. It was also noted that in two-year commuter colleges, goal commitment had a stronger direct effect on persistence than did institutional commitment.

Pascarella, Duby, and Iverson (77) tested the predictive validity of the model in a nonresidential university setting. Although certain concepts of the model such as academic integration appeared consistent with theoretical expectations and previous research, social integration
exerted a negative influence on persistence. This negative influence may be due to differences in student characteristics. Students having high affiliation needs may not have these needs adequately satisfied at commuter institutions and will make the decision to withdraw.

Pascarella and Terenzini (80) have demonstrated the positive influence of informal contacts between faculty and students (an aspect of social integration) on student persistence. Nonclassroom contacts that served to reinforce the educational purposes of a given program were the most influential.

In a later study of the main and interaction effects of student characteristics and measures of social and academic integration on voluntary withdrawal of college freshmen, Pascarella and Terenzini (81) concluded that student persistence was primarily influenced by the quantity and quality of student-faculty contact.

In a later synthesis of the research on student-faculty nonclass contact, Pascarella (70) concluded that there is a significant positive relationship between student outcomes, including freshman to sophomore year persistence and the frequency and quality of informal, nonclass student-faculty contact. As a result, Pascarella has proposed a conceptual model to facilitate research on the influence of student-faculty informal contact on student persistence.
Pascarella’s Student Faculty Informal Contact Model

Pascarella (70) has developed a model which emphasizes the influence of informal, nonclassroom student-faculty contact on student persistence. The basic features of the model reflect the previous work of Spady (95) and Tinto (102) as well as others.

The longitudinal model suggests that the unique influence of student-faculty informal contact on persistence is best understood when viewed in the light of students’ background characteristics (i.e., family background, aptitudes, aspirations, college expectations and personality orientations), and college experiences (i.e., faculty culture, organizational structure, administrative policies, institutional size, and admission standards).

The model proposes that students’ background characteristics can be used to profile the differences a student brings to college and that these characteristics interact with the institutional factors during the application, admission and selection process. This interaction is thought to have a direct influence on student-faculty informal contact as well as on other college experiences, and educational outcomes (i.e., academic performance, intellectual development, personal development, college satisfaction, and institutional integration). The resultant educational outcomes would directly influence persistence-withdrawal decisions. Reciprocal influences are depicted in
the model between informal contact with faculty and other college experiences, informal contact with faculty and educational outcomes, and other college experiences and educational outcomes.

As with the Spady and Tinto models, the Pascarella model is longitudinal: students' background characteristics influence interaction behavior with the institutional environment, thus affecting educational outcomes and non-persistence (12, 70). The model also shares the characteristic of being theoretically based on the social and academic integration of the student and the institution following Durkheim's theory of suicide (35).

Bean's Industrial Model of Student Attrition

Bean (10) has proposed a model of student attrition based on employee turnover in work organizations. The causal model contains background variables (i.e., past academic performance, socioeconomic status, state residence, distance to a student's parents' home, and hometown size), organizational determinants (i.e., practical value, institutional quality, integration, GPA, staff/faculty relationships, campus job, and opportunity to transfer), intervening variables (i.e., satisfaction and institutional commitment) and the dependent variable, dropout. The premise is, "... that organizational determinants are expected to affect satisfaction, which in turn is expected to influence dropout".
Grades, development, institutional quality, and practical value are offered as substitute measures to replace pay, one of the most significant factors in employee turnover in work organizations. The importance of grades as an extrinsic reward has been established by Spady (95). According to Bean, "Development and institutional quality were expected to influence the potential earning power of a student. Practical value indicates the student's assessment of the usefulness of his or her education for getting a job" (10, p. 157).

Bean (10) tested the model on students in a university setting and found that women who were identified as dropouts lacked institutional commitment, performed poorly in high school, did not join campus groups and organizations, did not relate a college education to future employment perceived the availability of opportunities, did not relate education to self-development, did not have a bachelors degree as a goal commitment, and did not meet with faculty and staff on an informal basis. Similarly, Bean was able to characterize men who dropped out as lacking institutional commitment, did not have a high college GPA, were not satisfied with their status as a student, did not relate education to development, and lived at home. The overall findings were that men and women exhibit different reasons for dropping out but that lack of institutional commitment
was a major influence in the withdrawal decision for both sexes.

In a later study, Bean (11) used a revised model containing ten independent variables instead of the original twenty-three. Eliminating background variables, the study sample was divided into high- and low-confidence men and women. Bean found that the mean total effects for the four groups ranked expression of intent to leave, grades, and opportunity to transfer as having the strongest influence on nonpersistence although each of the remaining independent variables (practical value, certainty of choice, loyalty, family approval, courses, student goals, and major and occupational certainty) made significant contributions to explaining some aspect of the dropout process for one or more of the four groups.

Each of the four theoretical models of student attrition focuses on the importance of social integration in influencing a student’s persistence-withdrawal decision-making. Each model was developed to study attrition behavior of traditional college students. The use of these models in attrition research at nonresidential college and university settings and with nontraditional students has not been totally successful (13). The need exists to conduct research on attrition of older, part-time, commuter students, especially in two-year institutions. Thus an appropriate theoretical model which includes variables most
likely to influence nonpersistence in this particular student population is warranted. The difficulty in generalizing results of attrition research from four-year colleges and universities to two-year colleges, has been previously addressed (21).

**Theoretical Model of Nontraditional Undergraduate Student Attrition**

Bean and Metzner (13) identified the absence of a theoretical model for use by researchers studying nontraditional student attrition in colleges and universities. Drawing on the previous work of Spady (95), Tinto (102), and Pascarella (70), the proposed model of nontraditional student attrition reflects many of the same elements contained in the theoretical models of traditional student attrition. The exception being that of social integration. From their review of the literature Bean and Metzner (13) concluded that social integration played a lesser role in the persistence-withdrawal decision-making of nontraditional students when compared to traditional students. While not discounting the relative importance of faculty and peer contact as a significant determining factor for some students to remain at college, it was concluded that nontraditional students were less influenced by social integration within the university than they are by external environmental factors. In place of social integration, Bean and Metzner substituted external environmental factors on
the presumption that factors in the noncollegiate environment would exercise significant influence on the nonpersistence of nontraditional students.

The conceptual model of nontraditional undergraduate student attrition is illustrated in Figure 1 (p. 47). In the model, persistence-withdrawal decisions, or more specifically dropout decisions, are based primarily on four sets of variables: background and defining variables, academic variables, environmental variables, and intent to leave. Intent to leave is expected to be influenced by both academic variables and psychological outcomes. For purposes of this model, Bean & Metzner consider a dropout "... to be any student who enrolls at an institution one semester but does not enroll the next semester and has not completed his or her formally declared program of study" (13, p. 489).

The model contains two compensatory interaction effects similar to the interaction effects of social and academic integration reported by Tinto (102) and Pascarella and Terenzini (82). The first compensatory interaction effect is between the academic variables and the environmental variables with the environmental variables being more important to nontraditional students than the academic variables (13). Bean and Metzner describe the compensatory interaction thusly:

... when academic and environmental variables are both good (e.g., favorable for persistence), students should remain in school, and when both are poor, students should leave school. When academic
FIGURE 1. A Conceptual Model of Nontraditional Student Attrition.

Key: → Direct effects
     ← Direct effects presumed most important
     ↔ Compensatory interaction effects
     ↓↓ Possible effects
variables are good but environmental variables are poor, students should leave school, and the positive effects of the academic variables on retention will not be seen. When environmental support is good and academic support is poor, student will be expected to remain enrolled—the environmental support compensates for low scores on the academic variables. . . . Thus, for nontraditional students, environmental support compensates for weak academic support, but academic support will not compensate for weak environmental support (13, pp. 491, 492).

The second compensatory interaction effect involves the grade point average (GPA) and the psychological outcomes. Bean and Metzner state that:

Students who score high in both should remain in school while students who scored low in both would be expected to drop out. However, students may drop out of school despite high GPA’s if they perceive low levels of utility, satisfaction, or goal commitment, or have high levels of stress. Others may continue in school despite low GPA’s if they perceive positive psychological outcomes from attendance. Again, the nonacademic factors compensate for low levels of academic success, while high levels of academic achievement only result in continued attendance when accompanied by positive psychological outcomes from school (13, p. 492).

The psychological outcomes of this theoretical model consists of a student’s perception of the usefulness of a college education for employment and personal development (utility), perceived satisfaction an individual has in the role of a student (satisfaction), the amount of personal importance an individual perceives in attaining a college degree (goal commitment), and the individual’s perception of stress brought about by factors external to college attendance as well as time and energy requirements for
college study (stress). According to Bean and Metzner these psychological outcomes:

... are expected to be primarily the result of the academic and environmental variables; the primary effects of these outcomes are expected to be indirect, acting through intentions that are designated in this model as intent to leave. Utility, satisfaction, and goal commitment should reduce intent to leave, while stress should increase intent to leave (13, pp. 521, 522).

Another variation in this model as compared to the models of Spady (95), Tinto (102), and Pascarella (70) is the substitute intent to leave for institutional commitment. Institutional commitment generally reflects the perceived importance the student gives to attending and graduating from a particular institution, while intent to leave reflects the student’s intention to leave an institution he or she are attending prior to graduation. Bean and Metzner (13) have concluded that since institutional commitment represents a time commitment longer than that of a typical attrition study, intent to leave may represent a more accurate predictor of attrition than does institutional commitment. Pascarella, Duby, and Iverson (77) found that a student’s expression of intent to leave at the end of a currently enrolled term had a significant influence on nonpersistence, even when controlling institutional commitment.

Broughton (18) conducted an investigation of a sample of community college transfer students enrolled at a public urban university to test the explanatory power of the Bean
and Metzner model. The study investigated the relationship between enrollment intentions and background, academic, psychological, and environmental factors of community college transfer students to an urban, commuter university. The results of the study supported the proposed paths between background and academic variables, background and environmental variables, academic variables and academic outcomes, academic variables and psychological outcomes, environmental variables and academic outcomes, and academic outcomes and intent as illustrated in the Bean and Metzner model. This investigation also suggested that academic outcomes had the only direct effect on a student’s expression of intent to leave while other variable sets had indirect effects which were mediated by academic outcomes. This represents a variance with the proposed model in that the operating assumption of the model is that all sets of variables will directly affect a student’s expression of intent to leave. Broughton (18) concluded that the Bean and Metzner model was valid for explaining enrollment intention of nontraditional students.

Smith, Prather, and Hand (93) have reported on the persistence pattern of nontraditional students working toward a bachelor’s degree in a large nonresidential university. The results of this investigation revealed that traditional and nontraditional students exhibited the same rate of degree attainment when attendance was full-time and
a bachelor’s degree was a common goal, and only half as many part-time students will obtain a bachelor’s degree within four years when compared to full-time students. This study also found that nontraditional students who were in good scholastic standing but who stopped attending reported that external environmental factors were the principal influences on their decision to withdraw, and that a majority of these students expressed intent to return to the university.

The remaining synthesis of research focuses on the major variables related to attrition of nontraditional students according to Bean and Metzner. These variables have either a direct or compensatory interaction effect on a student’s decision to persist or withdraw from college (13).

Defining Variables

Bean and Metzner (13) have defined nontraditional students by the variables of age, enrollment status, and residence. Acknowledging the cumbersomeness of the definition, they state:

A nontraditional student is older than 24, or does not live in a campus residence (e.g., is a commuter), or is a part-time student, or some combination of these three factors; is not greatly influenced by the social environment of the institution; and is chiefly concerned with the institution’s academic offerings (especially courses, certification, and degrees) (13, p. 489)

Age

In their review of the literature, Pantages and Creedon (68) concluded the age was not a major influence on
nonpersistence. It has been noted that older students may be influenced by continuing factors that originally caused a delay in their pursuit of higher education (68). Studies at two-year commuter institutions have reported conflicting results as to the effects of a student's age on attrition from college (48, 74, 109). In the Bean and Metzner model, the indirect effect of age on nonpersistence is assumed to occur due to older students being employed, absent from class on a more frequent basis, and having significantly more family responsibilities than traditional college students (13).

**Enrollment Status**

This reflects the number of credit hours a student enrolls for during an academic term. Generally, 12 or more credit hours are considered full-time enrollment and less than 12 credit hours is considered part-time enrollment. The majority of students attending community colleges are older and enroll on a part-time basis (20, 40, 43, 54, 69, 108). Future projections suggest an increasing trend of older, part-time students over current levels (20, 36, 40). This reaffirms the operational assumption that older students enroll on a part-time basis, due primarily to a multitude of roles and responsibilities beyond that of being a student (13).

According to Lenning, Beal and Saur (53), a significantly higher rate of attrition occurs among students
enrolled on a part-time basis. This conclusion has been verified by numerous researchers (13). In a study taking a sample from the National Longitudinal Study (NLS) of the High School Class of 1972, Gates and Creamer employed path analysis of a causal model and concluded that for students attending two-year institutions, "... full-time students are more likely to be retained than part-time students. . . ." (37, p. 45).

Residence

The difficulties encountered by commuter (nonresidential) students have been previously reported (87). According to Chickering (22), commuter students are less likely to: (1) participate in activities designed to influence educational and personal development; (2) participate in extracurricular, nonrequired social, intellectual and cultural activities; (3) interact with faculty and peers; and (4) recognize the developmental influences of their educational experiences. However, Pascarella, Duby, Terenzini, and Iverson (78) found that the quality of faculty and peer group interactions contributed to the personal and intellectual development of the commuter student. Pascarella (72), in a study of the effects of on-campus versus off-campus residence, concluded that resident status had no significant direct influence on the development of intellectual and interpersonal self-concept.
Nonresidential students tend to leave campus shortly after classes. The lack of active participation in out-of-class activities results in a reduced degree of social integration, a key variable thought to influence persistence-withdrawal decisions in the models of Spady, (95) Tinto, (102) and Pascarella (70). Stewart, et al. (98) have noted that colleges should address the special needs of commuter students in order to promote their academic success.

According to Pascarella and Chapman (74), nonpersistence was not affected either directly or indirectly by social integration at commuter institutions, including two-year colleges. Thus, the lack of a strong, social integration component on a commuter campus should not be a factor in student persistence. However, these investigators did conclude that students living on campus were more likely to persist than commuter students even when variances in degrees of involvement and institutional commitment were controlled. Chapman and Pascarella (21) concluded that there were significant differences between residential and commuter students pertaining to their involvement patterns in the academic and social life of their institutions, when student characteristics were held constant. They also found that older students had less tendency to participate in campus-based extracurricular programs regardless of institutional type (21).
According to Bean and Metzner, the model "... assumes that few nontraditional students will reside on campus. Residence is, in fact, the most critical variable distinguishing nontraditional from traditional students" (13, p. 495).

Background Variables

The background variables in the Bean and Metzner (13) model include educational goals, high school performance, ethnicity, and gender.

Educational Goals

These goals represent a variation of the variable referred to as institutional commitment in Tinto's model. There is abundant research on the general influence of educational goals on student persistence (26, 53, 68, 96, 102). However, Pascarella, Duby and Iverson (77) were not able to verify the findings of earlier research. The influence of educational goals on student persistence at commuter colleges has generally been indirect through academic integration. There is an absence of reports on the influence of educational goals (pre-enrollment) on persistence of nontraditional students.

In two-year colleges, Walleri (107) suggests that many students are not degree seekers but have other educational goals which are just as worthwhile. According to Brunner, Packwood, and Wilson (19) commitment to educational goals by
community college students is definitely related to nonpersistence.

In the Bean and Metzner model, educational goals are assumed to "... have significant direct effects on dropout through major certainty, opportunity to transfer, goal commitment and intent to leave" (13, p. 496).

High School Performance

Numerous investigators have found a positive relationship between a student’s academic performance in high school and subsequent persistence in college (5, 53, 68). Cross (30, 31) reported that adult learners generally have lower high school grades when compared to traditional college-age students. Findings are inconsistent as to the relationship between academic performance in high school and student persistence at two-year colleges (48, 68, 109).

In this model, the effects of a student’s academic performance in high school on nonpersistence is expected to be indirect by influencing the college GPA (13).

Ethnicity

The relationship of ethnicity and persistence of students at commuter institutions appears to be nonsignificant (19, 78, 90). Gates and Creamer found "... black students are more likely to persist than white students" (37, p. 45). In a longitudinal comparison of minority and nonminority college dropouts, Rugg (86) concluded the dropout rate for minorities to be less than that for nonminorities. However,
minority students demonstrated a high tendency toward voluntary withdrawal, when dropout was differentiated into dismissal and voluntary. Minority students who remained in good academic standing were less likely to voluntarily withdraw compared to their nonminority peers.

McCool (58) and Quintilian (85) have suggested that community colleges need to be sensitive to the specific needs of minority students in order to have a positive influence on their recruitment and persistence. In contrast, Gosman et al. (39) cautioned against a college developing special retention and counseling programs for minority students. They found performance patterns, namely persistence, to be explained by factors other than race. Donovan (33) studied low-income blacks attending a variety of institutions and concluded college experiences to be more influential to persistence than the background characteristics for these students.

In an extensive national study of four minority groups--Blacks, Chicanos, Puerto Ricans and American Indians--Astin (7) examined outcome measures including undergraduate persistence, GPA, satisfaction, and choice of major or career. The findings of this study demonstrated a definite relationship between minority student persistence and high school grades, a positive self-perception of academic ability, and high quality study skills.
In the Bean and Metzner model, ethnicity is expected to exert an indirect effect on nonpersistence through a negative influence on the college-level GPA. The operating assumption is that the quality at the secondary and high school levels is less for minorities than it is for non-minorities (13).

Gender

Numerous studies have evaluated the influence of gender on student persistence (6, 25, 37, 58, 84, 102). Although they found that men were more likely than women to be enrolled full-time in the community college setting, Gates and Creamer (37) concluded that the influence of gender on nonpersistence was insignificant. McCool (58), in a retention study at a community college, reported that selection of short-term goals rather than long-term goals was more prevalent among women, especially Hispanics.

According to Bean (11), men and women give different reasons for leaving college although institutional commitment was the most important variable influencing nonpersistence of students in either gender group. Pascarella and Terenzini (84) found that for women students in a residential university, social integration had a stronger direct effect on voluntary dropout decisions there than did academic integration. The opposite appeared to exist for male students.
According to Smitherman & Carr (94), noncurricular (undecided major) male students in community colleges in Virginia had higher persistence rates than female students. This was attributed to better defined career goals, namely vocational training and subsequent employment, of males versus females. In contrast, Kohen, Nestel, and Karmas concluded that "... race, age and marital status exhibit no significant net relationship with dropping out at any stage [of an undergraduate career]" (52, p. 249).

In their model, Bean and Metzner state, "Gender is likely to have indirect effects on attrition through family responsibilities (positive effects for women) and opportunity to transfer (negative effects for women)" (13, p. 498).

Academic Variables

The academic variables in the model of nontraditional student attrition include study skills and habits, academic advising, absenteeism, major certainty, and course availability. The effects of these variables on persistence is projected to be indirect through the GPA, psychological outcomes, and intent to leave variables of the model (13). Study Skills

The relationship of study skills and habits and persistence has been thoroughly researched (68). Apps (4), Hughes (43), and others have noted that a major concern of returning learners is study skills deficiencies. This
finding was confirmed by Lenning and Hanson (54) in a longitudinal study of adult students at two-year colleges. Bean and Metzner (13) noted the paucity in research on persistence of adult learners and their perceptions of their study skills or study habits.

Academic Advising

In the model, academic advising refers to the student's evaluation of the quality of the academic advising they have received. According to Bean and Metzner, commuter students who are dropouts, in general, report dissatisfaction with academic advising.

Crocket has noted the importance of academic advising to student persistence. Recently, he has stated, "academic advising, effectively delivered, can be a powerful influence on student development and learning and as such, can be a potent retention force on campus (29, p. 244). The absence of adequate academic advising has been linked to student attrition. There is evidence that persistence rates of community college students could be positively affected by intensive academic advisement (15). Nontraditional students have demonstrated the need for comprehensive academic counseling (43).

Creamer (27) has described an educational advisement program for student retention. The program is based on seven propositions formulated from research—and conceptually-based knowledge:
1. Retention begins with recruitment.
2. Education advisement of high quality leads to increased student retention.
3. The quality of student faculty interaction is a major contribution variable to institutional holding power.
4. The best single indicator of the likelihood of persistence in college is student grades.
5. The premiere goal of educational advising is the full integration of students into their campus environment.
6. Educational advising programs should be designed to provide accurate, consistent, accessible information to students concerning their progress within a specific environmental context.
7. Educational advising programs should be developmental in nature (pp. 11-15).

Absence

The influence of absenteeism on persistence of nontraditional students has been given little consideration. Generally, attendance policies will influence individual course withdrawal decisions by students. In some cases, especially in two-year colleges, the withdrawal decision may not be voluntary.

Given the diverse role expectations (employee, spouse, parent, and student) experienced by adult learners, it would
be expected that their role as student would not receive top priority. Thus, their absenteeism would be higher than traditional students in order to meet the unexpected demands of their other responsibilities (43, 50).

Alternative teaching/learning strategies to address attendance problems of nontraditional students included self-paced courses, instructional television, and programmed instruction (60). Alternate scheduling of courses on week-ends have led to improved attendance of adult students.

In the Bean and Metzner model, absenteeism "... is defined as the extent to which students missed class and serves as an indicator of students' reduced interaction with their college" (13, p. 501).

**Major Certainty**

A student's certainty about his or her academic major has a positive relationship to persistence (13, 26, 34, 64). Willner (111) found that students in a community college who withdrew were more likely to report "undecided" when asked about their choice of a college major. It was also demonstrated that a higher than expected attrition rate was seen after one semester among those who were "undecided" about their academic major. In an analysis of graduates of an on-campus bachelor's degree program, Mishler, Hogan, and Woody (61) found over half of their study sample matriculated with no declared major. Smitherman and Carr (94) reported that persistence of noncurricular ("undecided")
students in community colleges in Virginia was significantly lower than the persistence of curricular ("decided") students.

**Course availability**

This variable defines the perception students have that courses they want to enroll in are offered at their present college. Course availability is also affected by scheduled times and course capacity (13). Previous research has demonstrated the relationship of course unavailability to student attrition (19, 53, 68). A change in major course of study to one not available at the college of initial enrollment is a significant influence on transfer decisions (17).

In a study of community college students, Winter and Fadale (112) demonstrated that students who drop out for financial or family problems are more satisfied with course availability than those who drop out for college-related reasons. As expected, "successful completers" were quite satisfied with course availability in this study.

Wilner (111) reported that students at a community college who left after one or two semesters indicated that unavailability of the desired course of study was a major factor in their withdrawal decision. Malin et al. (57) found that class scheduling was a significant influence on adult students level of satisfaction with the college, and presumably, their persistence. Smith (90, 91) and Smith and Sugarman (92) were unable to demonstrate course availability
as a significant factor in the persistence-withdrawal decisions of two-year college students, both traditional and nontraditional. Administrators have acknowledged the importance of course availability as a significant factor influencing nonpersistence (9). Miller (60) has recommended that colleges make courses available to meet the diverse educational goals of the adult learner, and schedule such courses, taking into account the time constraints facing these students.

Environmental Variables

Environmental variables, including finances, hours of employment, outside encouragement, family responsibilities, opportunity to transfer, are those over which the college or university has little control. However, the effects these factors have on nonpersistence should not be underestimated. Their influence will be direct or indirect through the psychological outcomes variables.

Finances

Although Cope and Hannah (26) have questioned inadequate finances as a reason for student withdrawal, others have concluded "... students' reports of financial difficulty were positively related to attrition from college" (13, p. 503). This conclusion has been confirmed by Smith (91), Brunner, Packwood, and Wilson (19) and White (109) at two-year institutions. Adults learners, especially divorced women have expressed a definite need for financial support
to return to school (30, 43, 54). Financial aid packages for this group of students should be need-based without regard to enrollment status (43, 57).

Jensen (46), Astin (5) and others has noted the importance of financial aid to student persistence in college, especially those from lower socioeconomic levels. Historically, research has demonstrated a positive relationship between income and external financial assistance. Jensen has confirmed these earlier findings, noting also that increasing the amount of financial aid does not significantly affect persistence. McCreight and LeMay (59) also found that the level of financial assistance, in this case Basic Educational Opportunity Grants (BEOG), did not differentiate among persisters.

In a review of the literature on the effects of financial aid on student outcomes. Jensen (47) concluded that educational opportunities for economically disadvantaged students are more readily available as a result of external financial assistance. Access to higher education, including choice of college and persistence to the completion of educational goals have been positively influenced by student financial aid. It is interesting to note that grants and scholarship are positively associated with persistence while loans generally have a negative influence.
**Hours of employment**

There have been numerous empirical studies verifying the negative relationship between number of hours and type of employment and persistence (3, 4, 6, 52). The influence of working full-time appears to be more detrimental than working part-time (less than 20 hours per week) (5, 52, 107). Students working off-campus lose the social integration benefits accrued by those who are work-study students on campus (3, 107). Anderson (3) has also emphasized the role conflicts between those who work off-campus and those not employed. These role conflicts can lower the probability of persistence.

In a study of attrition among first-generation college students Billson and Terry (16) found differences in persistence and attrition between first-generation and second-generation students was influenced by the nature and extent of employment. First-generation students were more inclined to work more than 20 hours per week and their work environment is off-campus. This finding supports the notion that off-campus employment has a negative effect on social integration and subsequently, persistence. According to the findings of Lenning and Hanson (54), adult community college students who expected to work were more likely to work full-time or not at all. After one semester in a community college these employment expectations were confirmed.
Outside encouragement

An important influence on persistence is the support provided by individuals who are external to the college, namely, parents, friends, spouse, and employer.

It has been shown that, for traditional students, parental support is a positive influence on persistence (68, 96, 102). Adult students rely on family approval as a significant factor in their satisfaction with college and resultantly, their persistence (11, 43, 57). For married students an important source of encouragement is their spouse. Huston-Hoburg and Strange (44) studied spouse support of returning adult learners in a two-year college and found wives to be more supportive of their husband’s educational pursuits than vice versa. Women students found a stronger support system among their friends.

Anderson (3) related employment to association with peers who are external to the college environment and therefore, may be less supportive of a college education. Thus, negative external peer influences can have a detrimental effect on social integration and a lower probability of persistence. This finding was also reported by Billson and Terry (16).

Although the research on employers encouraging employees to return to college is nonexistent, Malin et al. (57) noted that employer support through work scheduling to accommodate school schedules predisposes to higher levels of
student persistence. This support is especially beneficial for the adult learner (13).

The support of insiders, namely faculty and peer groups as depicted in the model of Spady (95) and Tinto (102) are replaced by outsider support in the Bean and Metzner model (13). Although internal support is present for nontraditional students, the more significant support is expected to come from external reference groups.

**Family responsibilities**

The effects of family responsibilities on persistence-withdrawal decisions have not been extensively studied. Family responsibilities have been identified as a source of role conflict for adult learners (43, 44, 57). In fact, provision of child care is a dominant need in this student group according to Hughes (43). Willner (111) found that students in a community college who voluntarily withdraw after three semesters stated that family matters were the major reason for leaving. According to Bean and Metzner (13), other researchers have reported similar findings for students at community colleges.

**Opportunity to transfer**

Bean considers opportunity to transfer a very important external variable affecting persistence and "... one about which the institutions can ethically do little" (11, p. 316). A student’s intention to transfer is positively related to attrition according to Lenning, Bean and Sauer
(53). In contrast, Bean (11) has demonstrated a negative relationship between students' perception of transfer difficulty and attrition for men and women students. In other words, opportunity to transfer had a significant positive influence on dropout or expression of intent to leave.

Brigman, Kuh, and Stager (17) found that reasons given for making a transfer decision differed significantly from reasons given by stopouts and dropouts. Getzlf & al. (38), using Tinto's model of student attrition, were able to differentiate between transfer students and dropouts on the basis of academic ability, academic integration, goal commitment and social integration.

In the community college setting, Winter and Fadale (112) reported that a type of "successful leaver" is one who intends to transfer and does so at the earliest opportunity. Institutional support of this individual appears warranted.

Social Integration Variables

According to the models of Tinto (102) and Spady (95) social integration is a multi-dimensional process involving informal and formal interactions between the student and peer groups, faculty, administration and extracurricular activities. The assumption is that students will have a greater likelihood of persistence given a high level of social integration (13, 68, 82, 95, 102). Spady (96) has concluded that a student's perception of his or her level of social integration is directly related to their persistence.
The predictive validity of the influence of social integration on persistence has been demonstrated for residential students in numerous studies (79, 82, 83, 84, 100). Pascarella and Chapman (74) and Pascarella, Duby and Iverson (77) and others have found the effects of social integration on persistence of students in commuter institutions, especially two-year colleges, to be considerably less than that predicted by the Tinto model (102). Pascarella and Chapman concluded that patterns of student involvement in the academic and social life of their college differ significantly by institutional type and that two-year college students appear to be less socially integrated than students in four-year colleges.

Pascarella (70) has advanced the notion that student persistence and other student outcomes are closely linked to informal, nonclassroom contact with faculty. In a later study of commuter college freshman, Iverson, Pascarella, and Terenzini (45) found that the educational aspirations of students influenced their persistence and informal contact with faculty, rather than informal faculty contact influencing educational aspirations. Furthermore, these researchers found that the nature of faculty contact, when present, was more formal and academically oriented.

Adult students, especially those at two-year institutions, may be less interested in on-campus social activities including informal interactions with peers and faculty (54,
Chapman and Pascarella speculated that "... as colleges recruit older students, the colleges will find these students less inclined to participate in campus-based social extracurricular activities ..." (21, p. 318).

According to Bean and Metzner (13), the positive relationship between social integration and student persistence at four-year residential universities has been clearly demonstrated. Research on the effects of social integration at two-year colleges as well as studies of attrition of adult and students have led to the conclusion that social integration does not significantly influence persistence-withdrawal decisions for these students, especially in a two-year college setting. Consequently, social integration has been relegated to a minor role in the Bean and Metzner model.

Academic Outcomes

College Academic Performance (GPA)

Numerous investigators have demonstrated the significant negative relationship between a student’s college academic performance, as measured by GPA, and attrition (5, 53, 68, 102). This relationship is evident regardless of institutional type (11, 14, 76, 109). Bell (14) found the GPA to be highly predictive of attrition for students in a community college. Pascarella, Duby, Miller, and Rasher (76) concluded that first quarter academic performance allowed for a sharp distinction to be made betweenpersisters and
voluntary withdrawals. Their findings confirmed those of Zaccaria & Creaser (114) that a salient dimension of academic integration for commuter students is their academic performance.

Studies of adult learners have disclosed that their academic performance meets or exceeds that of traditional-aged college students (13, 50, 54). Billson and Terry (16) found a significantly lower GPA among first-generation college student dropouts when compared to first- or second-generation dropouts.

In their model, Bean and Metzner have speculated that college GPA "... may be relatively less predictive of persistence for part-time and older commuter students that for their more traditional counterparts" (13, p. 521).

Psychological Outcomes

The psychological outcomes in the Bean and Metzner model include utility, satisfaction, goal commitment and stress. Acting upon a student’s intent to leave, utility, satisfaction, and goal commitment should lower it while increasing stress should promote intent to leave (13).

Utility

According to Bean and Metzner (13), utility is an index of a student’s perception of the value of a college education in getting a job as well as their personal development. Malin and et al. (57) found job preparation along with intellectual and personal development to be
important goals for adult students. Churchill and Iwai (23) were unable to differentiate among five subgroups of persisters/withdrawers on the basis of the student's perceived value of a college education or future occupational plans. Bean (10) in a test of a causal model of attrition found both men and women dropouts to be characterized as not believing that their college education would lead to self-development. In a later study, Bean (11) also demonstrated that the practical value of a college education was the best predictor of intent to leave among "low-confidence" men and women. Overall, practical value ranked fourth out of the ten factors as a predictor of attrition for all four dropout subgroups.

In a comparison of first- and second-generation college students, Billson and Terry (16) found no significant difference between the two groups as related to perceived value of a college education for future employment and intellectual development. Both student groups agreed that preparation for employment was the most important reason for getting a college degree. Simpson, Baker, and Mellinger (88) found that a vocational orientation to college was positively related to persistence for students in good academic standing. This vocational orientation or career preparation is a primary motivation factor for adult learners (54, 57, 68).
Satisfaction

In the Bean and Metzner model, satisfaction "... is an indicator of the degree to which a student enjoys the role of being a student and reports a lack of boredom with courses" (13, p. 523). Lenning and Hanson (54) have reported that adult learners appear to be more satisfied with their courses and student status when compared to tradition college students. First-generation college student dropouts demonstrate less of a commitment to the student role than do their second-generation peers. This conflict is generally the result of outside employment (16).

Studies of students at residential universities indicate that a student’s lack of interest with coursework has a negative relationship to persistence (5, 17). This relationship was demonstrated by White (109) in a study of community college students.

Goal commitment

This variable reflects the magnitude of importance a student gives to completing a college degree or comparable educational goals. Research has demonstrated that goal commitment has a significant influence on student persistence (41, 53, 68, 88, 95, 102).

Hackman and Dysinger (41) identified four categories of student withdrawers: persisters, transfers, voluntary withdrawals and academic dismissal or the basis of prematriculation commitment to a college education. Controlling
for pre-enrollment characteristics, Theophilides, Terenzini, and Lorang (101) concluded that the importance of certain educational goals, namely, gaining a liberal education, developing career knowledge and skills enhancing personal knowledge was positively influenced by student-faculty interactions. The development of commitment to these goals increases the likelihood of student accomplishment (101).

The educational goal commitment of adults learners may more closely be related to "... the highest level of college education that a student plans to obtain ..." (13, p. 525). There is positive relationship between educational aspirations and persistence (5, 53, 102). Munro (62) concluded that educational aspirations had the strongest positive influence on persistence decisions of students across institutional types. Smitherman and Carr (94) found community college students with specified educational goals were more persistent than those without definite goals.

In adult students, Bean (10) concluded that women dropouts were more likely to not have a commitment to a college degree than women persisters. In a later study, Bean (11) found educational goals to be very important to the persistence decisions of men and women, irrespective of confidence levels.

**Stress**

This variable refers to "... the extent to which students believe that they experience stress from factors that
are not related to college attendance as well as from the amount of time and energy required for college study" (13, p. 526). Sources of stress from external sources which relate to attrition include poor health and family problems (53, 68). Numerous sources of stress including home conflicts, personal and family illness, marital problems, difficulties with children and family finances, have been attributed to student attrition.

Other factors including inadequate high school preparation, extended delays prior to returning to college and poor study skills are stressful and influence nonpersistence (4, 43). Time constraints also pose a problem for adult learners (50, 57).

Intent to Leave

The final variable in the Bean and Metzner model is a student's expression of intent to leave (13). This expression may reflect an attitude to transfer, stopout or dropout. The significance of this variable as a predictor of actual attrition has been demonstrated (11, 63, 77).

Bean (11) reported that intent to leave was the most influential factor on nonpersistence of students of either gender at a residential university. In a test of Tinto's model, Pascarella, Duby and Iverson (77) concluded that students' intentions to stay or leave exerted the strongest single influence on nonpersistence of students in a nonresidential college setting. As a consequence of this
and other findings, these investigators offered a reconceptualization of the Tinto model, making it more applicable for attrition research at commuter institutions (77).

Tinto (102) and Pascarella, Duby and Iverson (77) have suggested that intent to leave is closely associated with institutional commitment. In the Tinto model, institutional commitment refers to the importance a student places on graduating from the college he or she selects to attend (102). Intent to leave denotes the student's preference to leave the institution they are attending prior to completing their educational goal (102). Thus, a student who expresses intent to leave is demonstrating a low level of institutional commitment and vice versa.

In the model, Bean and Metzner (13) have substituted intent to leave for institutional commitment. The rationale for this substitution is based on the premise that expression of intent to leave may be a more accurate predictor of attrition. Bean and Metzner have also observed that "... students who intend to transfer also intend to leave, and the potential transfer cannot be distinguished from students who intend to leave for other reasons" (13, p. 528).

Summary

According to Tinto (103) the major inadequacies of research on nonpersistence of college students include unclear definitions of attrition and inadequate theoretical
models which explain rather than describe the withdrawal process. Although the former concern may not yet be fully resolved, Hackman and Dysinger (41) have proposed a classification of students not returning to college in consecutive semesters based on their level of commitment to college. The latter inadequacy has been very well addressed by Spady (95), Tinto (102), Pascarella (70), and Bean (10) for traditional students at residential colleges and universities, and by Bean and Metzner (13) for nontraditional students.

Although the study of student retention and attrition has a long history, the renewed interest in the decision-making processes of students to persist or withdraw reflects the numerous changes in student demographics, public attitude and the public’s concern for educational quality. Adult learners have become the focus of the more recent attrition research due to their growing ranks.

The needs of the adult or nontraditional student have been described by Apps (4), Hughes (43) and Knowles (51) as well as others. In fact, Knowles (51) has proposed a theory of adult learning based on recognized differences between younger and older students.

The model proposed by Bean and Metzner (13) draws on the previous work of others (95, 102). The model defines the variables expected to most significantly influence the nonpersistence of adult students in primarily commuter
institutions. No attempt is made to isolate a single variable. Thus, the model supports the notion that attrition is a complex, intricate interaction between a multitude of student, institutional, academic, and environmental factors.

The research on student attrition in community colleges indicates that reasons given for leaving are more likely to be nonacademic than academic (49). While not all attrition is necessarily a negative event for a student, college administrators must be aware of the reasons why students leave so that specific intervention strategies may be developed and implemented to alter those attrition causing factors over which the institution does have some control.

Bean and Metzner (13) have noted the scarcity of theoretically-based research using multivariate research designs on nonpersistence of nontraditional students at commuter colleges. This diverse student population is more influenced by external environmental factors than by social integration variables. Given the increasing enrollment trends of adult learners, colleges and universities will want to better understand varied and complex needs of these students in order to develop programs designed to maximize their educational success (67).
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CHAPTER III

METHODS AND PROCEDURES

Introduction

The National Center for Higher Education Management Systems/College Board Student-Outcomes Information Services (SOIS) questionnaires were used to survey first year nontraditional students enrolled at Eastfield College, Mesquite, Texas. Three different SOIS questionnaires from the Two-Year Institution series were used to carry out the purposes of the study. The purposes of the study were:

1. To determine the direct influence of selected environmental factors (finances, employment, outside encouragement, family responsibilities, and opportunity to transfer) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

2. To determine the direct influence of academic factors (study skills, academic advising, major certainty, and course availability) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

3. To determine the direct influence of selected background and defining factors (high school academic performance, educational goal, parent’s education, enrollment status, age, gender, ethnicity) on persistence or
nonpersistence of nontraditional students at a comprehensive community college.

4. To determine the direct influence of selected psychological outcomes (educational satisfaction and educational goal commitment) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

5. To determine the direct influence of institutional commitment on persistence or nonpersistence of nontraditional students at a comprehensive community college.

6. To determine the direct influence of academic outcomes (grade point average) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

7. To determine the direct influence of choice of major (two year versus four year) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

8. To determine the direct influence of an expression of intent to leave at the end of a semester on persistence or nonpersistence of nontraditional students at a comprehensive community college.

Research Population

The population for this nonpersistence study were first year, nontraditional students enrolled in the Fall, 1987 semester at Eastfield College, which is a two-year
comprehensive community college in the Dallas County Community College District and is located in Mesquite, Texas. In as much as all students at Eastfield College are commuters, nontraditional students in this study included those over the age of 25 years and enrolled either part-time or full-time.

Eastfield College had a student enrollment of 8940 students in the Fall semester, 1987 of which 2710 (30.3%) were first-year nontraditional students. The enrollment profile of the first-year nontraditional student population in the Fall semester, 1987 was 2417 (89.2%) part-time and 293 (10.8%) full-time. The ethnicity profile revealed 2097 (77.4%) white, 289 (10.7%) black, 167 (6.2%) Hispanic, and 157 (5.8%) Other.

Selection of the Sample

The nonpersistence study sample was a stratified random sample selected from all first year, nontraditional students enrolled in credit courses at Eastfield College, Mesquite, Texas, for the Fall semester, 1987. It was determined that a sample size of 500 or more students would yield an adequate respondent group for the purposes of this study (2). The sample size was 576 students.

The sample reflected the first-year nontraditional student population at Eastfield College for the Fall, 1987 semester in regards to ethnicity: 507 (78%) white, 53 (9.2%)
black, 34 (6%) Hispanic, and 40 (6.9%) Other, and enrollment status: 518 (89.9%) full-time and 58 (10.1%) part-time.

**Survey Instruments**

The National Center for Higher Education Management Systems/College Board Student-Outcomes Information Services (SOIS) questionnaires are "... designed to provide data on outcomes that are largely psychological/affective (student attitudes and satisfaction) or cognitive/behavioral (placement and job success) in Astin’s fourfold typology" (3, p. 7). The measures included in SOIS were developed as a result of preliminary pilot work beginning in 1973. SOIS has an objective "... to provide institutional decision makers with immediate, practical, and usable information on student characteristics, backgrounds, goals, attitudes, satisfactions, reasons for making various educational choices, and subsequent achievements" (3, p. 7). A common set of core questions in each of the six questionnaires allows for direct comparisons between different student populations or the same populations at different times in their educational careers.

The questionnaires are designed so that an institution may add up to fifteen questions specific to that institution (3, 4). Additional questions were added to each questionnaire (Appendix B). These questions were suggested directly from the Bean and Metzner model or adapted from previous research on attrition (1). The questions were reviewed by a
panel of experts made up of the faculty and staff members of the Eastfield College Retention Committee. All questions were evaluated based on the degree to which they related to the research problem and research purposes.

This study used three questionnaires specifically designed for two-year institutions: 1) Entering-Student Questionnaire, 2) Continuing-Student Questionnaire, and 3) Former-Student Questionnaire. The core questions in each questionnaire address: gender, ethnicity, age, marital status, handicap, personal educational goals, level of educational attainment sought, major, and enrollment status. Questions found on at least one of the three questionnaires relate to occupational choice, intent to reenroll, factors influencing the decision to attend college, factors influencing the decision to withdraw from college, financial aid, and level of satisfaction with, and awareness of various student services (5).

Reliability and Validity of the Instruments

According to Ewell, "... measures included in SOIS were developed as a result of preliminary pilot-test work that began in 1973 and continues today with a number of colleges and universities" and "... as new questionnaires are added to the series, each is thoroughly pilot tested at both two-year and four-year institutions" (3, p. 10). Since the questionnaires have no correct answers and require subjective responses on many of the items, the
normal measurements of reliability are not applicable. The extent of questionnaire development by actual users and review by students and former students have served to establish the reliability and validity of the instruments.

Procedures for Collection of Data

This study was cross-sectional by design (2, 6). Data collection was carried out using questionnaires designed for two-year institutions from the National Center for Higher Education Management Systems/College Board Student-Outcomes Information Services (SOIS) (Appendix B). The procedures used were as follows:

1. A packet containing the Entering-Student Questionnaire, a cover letter from the President of Eastfield College, Mesquite, Texas, and an Informed Consent Form was hand-delivered in class to each student in the sample immediately after the official enrollment certification day of the Fall semester, 1987. Students were asked to complete and return the questionnaire to their instructor at the next class meeting. Nonrespondents received a postcard reminder in class one week after they were to return the questionnaire. Three hundred and twelve completed questionnaires were collected, giving a usable response rate of 54 percent.

2. Each returned questionnaire was inspected to ensure completeness. Following inspection, the completed
questionnaires were sent to the College Board for initial cross tabulation analysis.

3. Students in the study sample were monitored via reports furnished by the Registrar's office at Eastfield College during the Fall semester, 1987 regarding the number of courses from which students may have voluntarily withdrawn and received a course grade of "W."

4. A packet containing the Continuing-Student Questionnaire and a cover letter from the President of Eastfield College, Mesquite, Texas was hand delivered two weeks prior to Final Examinations week of the Fall semester, 1987 to the 312 students who completed the Entering-Student Questionnaire and who maintained enrollment status in at least one credit course. Students were asked to complete and return the questionnaire to their instructor at the next class meeting. Nonrespondents received a postcard reminder in class one week after they were to return the questionnaire. Two hundred and three completed questionnaires were collected, giving a usable response rate of 65 percent.

5. Each returned questionnaire was inspected to ensure completeness. Following inspection, the completed questionnaires were sent to the College Board for initial cross tabulation analysis.

6. A packet containing the Former-Student Questionnaire, a cover letter from the President of Eastfield College, Mesquite, Texas, and a self-addressed, postage-paid
envelope was mailed to all participants in the original sample who completed an Entering-Student Questionnaire (312 students) and did not reenroll in the Spring semester, 1988. These 97 students were asked to complete and return the questionnaire within seventy-two hours. A postcard reminder was mailed to all nonrespondents two weeks after the original mailing. Follow-up mailings of duplicate packets and phone calls were conducted. Sixty-nine completed questionnaires were collected, giving a usable response rate of 71.1 percent.

7. Each questionnaire was inspected to ensure completeness. Following inspection, the completed questionnaires were sent to the College Board for initial cross tabulation analysis.

8. The College Board provided a copy of the SOIS Questionnaire Analysis Service output tape for purposes of performing further statistical analysis. Other student data including pre-enrollment information, assessment scores (SAT, ACT, etc.), grade point average (GPA) and Eastfield College student demographic statistics were obtained from students' records in the Registrar's office at Eastfield College, Mesquite, Texas, and the Dallas County Community College District Research Office.

9. The Statistical Analysis System (SAS) was used to analyze the data for the study.
10. Students were advised in the cover letter of the confidentiality of their responses and the importance to Eastfield College, Mesquite, Texas, of receiving as many completed questionnaires as possible in all data collection processes.

**Hypotheses and Procedures for Data Analysis**

The analysis of the data obtained from the National Center for Higher Education Management Systems/College Board Student-Outcomes Information Services (SOIS) questionnaires corresponded with the research hypotheses for this study.

**Hypothesis One**

There will be a significant relationship between selected environmental factors (finances and employment) and persistence or nonpersistence of nontraditional students at a comprehensive community college.

Discriminant function analysis was used to determine the degree of relationship. The significance was tested at the .05 level, using the F-ratio.

**Hypothesis Two**

There will be a significant relationship between selected academic factors (study skills and major certainty) and persistence or nonpersistence of nontraditional students at a comprehensive community college.

Discriminant function analysis was used to determine the degree of relationship. The significance was tested at the .05 level, using the F-ratio.
Hypothesis Three

There will be a significant relationship between select background and defining factors (high school academic performance, educational goal, parent’s education, enrollment status, age, gender, and ethnicity) and persistence or nonpersistence of nontraditional students at a comprehensive community college.

Discriminant function analysis was used to determine the degree of relationship. The significance was tested at the .05 level, using the F - ratio.

Hypothesis Four

There will be a significant relationship between a selected psychological outcome (educational goal commitment) and persistence or nonpersistence of nontraditional students at a comprehensive community college.

Chi square analysis was used to determine the degree of relationship. The significance of the relationship was tested at the .05 level.

Hypothesis Five

There will be a significant relationship between institutional commitment and persistence or nonpersistence of nontraditional students at a comprehensive community college.

Chi square analysis was used to determine the degree of relationship. The significance of the relationship was tested at the .05 level.
Hypothesis Six

There will be a significant relationship between grade point average outcomes (GPA) and persistence or nonpersistence of nontraditional students at a comprehensive community college.

Pearson product-moment correlation was used to determine the relationship. The significance of the relationship was tested at the .05 level.

Hypothesis Seven

There will be a significant relationship between choice of major (two-year versus four-year) and persistence or nonpersistence of nontraditional students at a comprehensive community college.

Chi square analysis was used to determine the degree of relationship. The significance of the relationship was tested at the .05 level.

Hypothesis Eight

There will be a significant relationship between an expression of intent to leave at the end of a semester and persistence or nonpersistence of nontraditional students at a comprehensive community college.

Chi square analysis was used to determine the degree of relationship. The significance of the relationship was tested at the .05 level.

Research Questions

To carry out the purposes of this study, the following research questions were formulated and addressed based on
the data collected on the continuing student sample and nonreturning student respondents:

1. What was the magnitude of outside encouragement to remain in school received by nonreturning students?

2. What was the frequency of contact with instructors outside of class experienced by continuing and nonreturning students?

3. What was the degree of satisfaction with the quality of instruction experienced by continuing and nonreturning students?

4. How many hours per week did nonreturning students spend studying?

5. What was the extent of family responsibilities of nonreturning students?

6. What were the most important reasons which contributed to the nonreturning student's decision to leave college?

7. What was the degree of difficulty to transferring as perceived by continuing students?

8. What was the degree of satisfaction with academic advising experienced by continuing and nonreturning students?

9. What was the degree of satisfaction of continuing students with course availability?
CHAPTER BIBLIOGRAPHY


CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The problem addressed in this study was the direct influence of selected background, academic, and environmental factors as well as academic outcomes and expression of intent to leave on nonpersistence of first year nontraditional students at a comprehensive community college. Three questionnaires from The National Center for Higher Education Management Systems/College Board Student-Outcomes Information Services (SOIS) were used to carry out the purposes of the study which were:

1. To determine the direct influence of selected environmental factors (finances, employment, outside encouragement, family responsibilities, and opportunity to transfer) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

2. To determine the direct influence of selected academic factors (study skills, academic advising, major certainty and course availability) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

3. To determine the direct influence of selected background and defining factors (high school academic performance, educational goal, parent’s education, enrollment
status, age, gender, ethnicity) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

4. To determine the direct influence of selected psychological outcomes (educational satisfaction and educational goal commitment) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

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6. To determine the direct influence of academic outcomes (grade point average) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

7. To determine the direct influence of choice of major (two year versus four year) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

8. To determine the direct influence of an expression of intent to leave at the end of a semester on persistence or nonpersistence of nontraditional students at a comprehensive community college.

The purpose of this chapter is to present and describe the statistical analysis of the data collected from the
completed Entering-Student questionnaires. In addition, data collected from the Continuing-Student questionnaires and Former-Student questionnaires are presented.

The data collected from the Entering-Student questionnaires corresponded to the research hypotheses and were analyzed using three statistical techniques: discriminate function analysis, chi square analysis, and Pearson product-moment correlation. The computer software package SAS (Statistical Analysis System) was used to perform the statistical analysis (5).

Each research hypothesis and research question corresponds to a selected variable or variable set depicted in the conceptual model of nontraditional undergraduate student attrition (Fig. 1, p. 47). Only the direct influence of selected independent variables on nonpersistence (the dependent variable) was examined. The effects of the independent variables on each other and resultant indirect effects on nonpersistence were not considered.

Two-group discriminant function analysis was used to test research hypotheses one, two and three since the criterion variable was nominal with two categories, persisters and nonpersisters (2). Two-group discriminant function analysis is useful when multiple response data and a dichotomous criterion variable are used (4). It also
allowed a determination of the efficiency of variable sets
to correctly classify persisters and nonpersisters.

The results of discriminant function analysis will
yield an F ratio, a canonical correlation coefficient, and
an estimation of the variance in the criterion variable.

The F test is the test of significance for a discrim-
inant function analysis. According to Huck et al., "... the results of the F test indicates whether there is a
significant increase in accurate prediction above the 50
percent level that would be expected by chance" (2, p.
163).

A canonical correlation coefficient (R ) can be calcu-
lated which shows the correlation of the independent
variables with the criterion variable. Squaring of R will
estimate the variance in the criterion variable as explained
by each independent variable (4).

According to Terenzini, in cross-sectional studies of
student attrition it is acceptable to use bivariate
statistical analysis. Caution should be exercised since
"... it is highly unlikely that the variables used in a
retention study are independent of one another" (4 p. 62).
In this cross-sectional study the direct effects of single
variables on nonpersistence were isolated. Thus, the use of
bivariate statistical techniques, namely chi square analysis
and Pearson product-moment correlation, were deemed appro-
priate.
Demographic Findings

Entering Student Demographics

The demographic characteristics of the respondents to the Entering-Student questionnaire are presented in Table 1.

| TABLE 1 |
| DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS TO THE ENTERING-STUDENT QUESTIONNAIRE (N = 312) |

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>218</td>
<td>69.9</td>
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<tr>
<td>Male</td>
<td>94</td>
<td>30.1</td>
</tr>
<tr>
<td>Enrollment Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>39</td>
<td>12.5</td>
</tr>
<tr>
<td>Part-time</td>
<td>273</td>
<td>87.5</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>265</td>
<td>84.9</td>
</tr>
<tr>
<td>Black</td>
<td>26</td>
<td>8.3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9</td>
<td>2.9</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>3.8</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23-30</td>
<td>132</td>
<td>42.3</td>
</tr>
<tr>
<td>31-50</td>
<td>159</td>
<td>51.0</td>
</tr>
<tr>
<td>&gt;50</td>
<td>21</td>
<td>6.7</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>206</td>
<td>66.2</td>
</tr>
<tr>
<td>Not Married</td>
<td>106</td>
<td>33.8</td>
</tr>
<tr>
<td>Employment Status (N = 308)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed more than half-time</td>
<td>229</td>
<td>74.4</td>
</tr>
<tr>
<td>Employed half-time or less</td>
<td>20</td>
<td>6.5</td>
</tr>
<tr>
<td>Homemaker</td>
<td>40</td>
<td>13.0</td>
</tr>
<tr>
<td>Not employed</td>
<td>19</td>
<td>6.2</td>
</tr>
<tr>
<td>Family Income (N = 300)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$ 0 - $10,000</td>
<td>27</td>
<td>9.0</td>
</tr>
<tr>
<td>$ 10 - $20,000</td>
<td>48</td>
<td>16.0</td>
</tr>
<tr>
<td>$ 20 - $30,000</td>
<td>85</td>
<td>28.3</td>
</tr>
<tr>
<td>more than $30,000</td>
<td>140</td>
<td>46.7</td>
</tr>
<tr>
<td>High School Grade Average (N = 308)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90-100</td>
<td>53</td>
<td>17.2</td>
</tr>
<tr>
<td>80-89</td>
<td>173</td>
<td>56.2</td>
</tr>
<tr>
<td>70-79</td>
<td>74</td>
<td>24.0</td>
</tr>
<tr>
<td>Less than 70</td>
<td>7</td>
<td>2.3</td>
</tr>
</tbody>
</table>

*N” indicates number of respondents with complete data.
TABLE 1—CONTINUED

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td><strong>Father’s Educational Level (N = 303)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school diploma</td>
<td>100</td>
<td>33.0</td>
</tr>
<tr>
<td>High School diploma/GED</td>
<td>103</td>
<td>34.0</td>
</tr>
<tr>
<td>1-3 years of college</td>
<td>38</td>
<td>12.6</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>13</td>
<td>4.3</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>27</td>
<td>8.9</td>
</tr>
<tr>
<td>Graduate School/Degree</td>
<td>22</td>
<td>7.3</td>
</tr>
<tr>
<td><strong>Mother’s Educational Level (N = 307)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school diploma</td>
<td>80</td>
<td>26.1</td>
</tr>
<tr>
<td>High School diploma/GED</td>
<td>160</td>
<td>52.1</td>
</tr>
<tr>
<td>1-3 years of college</td>
<td>34</td>
<td>11.1</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>21</td>
<td>6.8</td>
</tr>
<tr>
<td>Graduate School/Degree</td>
<td>6</td>
<td>1.9</td>
</tr>
</tbody>
</table>

*Not all respondents answered this question.

As shown in Table 1 the majority of the respondents are female (69.9%), attend school part-time (87.5%), are married (66.2%), and are employed more than part-time (74.4%). Two hundred and twenty-six respondents (73.4%) reported a high school grade average of 80 or above. It is of interest that almost one-half of the respondents (46.7%) reported a family income of more than $30,000. The parents’ educational level reflects the fact that a high percentage of individuals enrolled in community colleges are first generation college students.

The response frequencies for the nondemographic independent variables represented in the conceptual model of nontraditional attrition and selected for inclusion in this study are depicted in Table 2.
<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Most Important Education Goal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Academic</td>
<td>188</td>
<td>60.3</td>
</tr>
<tr>
<td>b. Career Preparation</td>
<td>38</td>
<td>12.2</td>
</tr>
<tr>
<td>c. Career Improvement</td>
<td>30</td>
<td>9.6</td>
</tr>
<tr>
<td>d. Social/Cultural</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>e. Personal-Developmental</td>
<td>31</td>
<td>9.9</td>
</tr>
<tr>
<td>f. Other</td>
<td>24</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>2. Ultimate Degree Plans</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Not seeking certificate/degree</td>
<td>32</td>
<td>10.3</td>
</tr>
<tr>
<td>b. Certificate of 1 year or less</td>
<td>14</td>
<td>4.5</td>
</tr>
<tr>
<td>c. Certificate of more than 1 year</td>
<td>13</td>
<td>4.2</td>
</tr>
<tr>
<td>d. Associate Degree</td>
<td>60</td>
<td>19.2</td>
</tr>
<tr>
<td>e. Bachelor’s Degree</td>
<td>112</td>
<td>35.8</td>
</tr>
<tr>
<td>f. Graduate or Professional Degree</td>
<td>81</td>
<td>26.0</td>
</tr>
<tr>
<td><strong>3. Major (Area of Study)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. 4-year Program</td>
<td>191</td>
<td>61.2</td>
</tr>
<tr>
<td>b. 2-year Program</td>
<td>89</td>
<td>28.5</td>
</tr>
<tr>
<td>c. Undecided</td>
<td>32</td>
<td>10.3</td>
</tr>
<tr>
<td><strong>4. Institutional Commitment:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This college was first choice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Yes</td>
<td>265</td>
<td>84.9</td>
</tr>
<tr>
<td>b. No</td>
<td>47</td>
<td>15.1</td>
</tr>
<tr>
<td><strong>5. Financial Aid Applicant</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Yes</td>
<td>71</td>
<td>22.8</td>
</tr>
<tr>
<td>b. No</td>
<td>241</td>
<td>77.2</td>
</tr>
<tr>
<td><strong>6. Intent to Return</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Yes</td>
<td>257</td>
<td>82.4</td>
</tr>
<tr>
<td>b. No, program complete</td>
<td>4</td>
<td>1.3</td>
</tr>
<tr>
<td>c. No, plan to return later</td>
<td>15</td>
<td>4.8</td>
</tr>
<tr>
<td>d. No, plan to transfer</td>
<td>5</td>
<td>1.6</td>
</tr>
<tr>
<td>e. No, no plans for further education</td>
<td>4</td>
<td>1.3</td>
</tr>
<tr>
<td>f. Do not know</td>
<td>27</td>
<td>8.6</td>
</tr>
</tbody>
</table>
The majority of the respondents (60.3%) identified their most important educational goal as "Academic." This goal may include earning a certificate or degree, completing courses necessary to transfer, or increasing one’s knowledge or understanding in a selected discipline.

The selection of "Academic" as the most important educational goal corresponds to the fact that the overwhelming majority of students (81%) identified either an associate, bachelor’s or a graduate degree as their ultimate academic goal. This is also reflected in the selection of a major. One hundred and ninety-one students (61.2%) selected a major in a two-year program area while 89 students (28.5%) selected a major in a two-year program area. Eastfield College was the college of first choice for 265 (84.9%)
students. Two hundred and fifty seven (82.4%) intended to return for the Spring semester. The magnitude of this response is supported by the fact that 229 (95.6%) of the students indicated a moderate to high level importance to complete their educational goals.

The persistence rate for this study was 69 percent with an attrition rate of 31 percent. The attrition rate only reflects the students who did not re-enroll for the Spring semester. It does not take into consideration those students who completed their personal educational goals or who transferred.

Nonreturning Student Demographics

The demographic characteristics of the respondents to the Former-Student questionnaire are presented in Table 3.

TABLE 3

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS TO THE FORMER-STUDENT QUESTIONNAIRE (N = 69)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>50</td>
<td>72.5</td>
</tr>
<tr>
<td>Male</td>
<td>19</td>
<td>27.5</td>
</tr>
<tr>
<td>Enrollment Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>5</td>
<td>7.2</td>
</tr>
<tr>
<td>Part-time</td>
<td>64</td>
<td>92.8</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>59</td>
<td>85.5</td>
</tr>
<tr>
<td>Black</td>
<td>8</td>
<td>11.6</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.4</td>
</tr>
</tbody>
</table>
TABLE 3—CONTINUED

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS TO
THE FORMER-STUDENT QUESTIONNAIRE
(N = 69)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23-30</td>
<td>22</td>
<td>31.9</td>
</tr>
<tr>
<td>31-50</td>
<td>38</td>
<td>55.1</td>
</tr>
<tr>
<td>&gt;50</td>
<td>9</td>
<td>13.0</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>45</td>
<td>65.2</td>
</tr>
<tr>
<td>Not Married</td>
<td>24</td>
<td>34.8</td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed more than half-time</td>
<td>57</td>
<td>82.6</td>
</tr>
<tr>
<td>Employed half-time or less</td>
<td>4</td>
<td>5.7</td>
</tr>
<tr>
<td>Not employed</td>
<td>8</td>
<td>11.6</td>
</tr>
<tr>
<td>Family Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$ 0 - $10,000</td>
<td>3</td>
<td>4.3</td>
</tr>
<tr>
<td>$ 10 - $20,000</td>
<td>11</td>
<td>15.9</td>
</tr>
<tr>
<td>$ 20 - $30,000</td>
<td>18</td>
<td>26.1</td>
</tr>
<tr>
<td>&gt; $30,000</td>
<td>37</td>
<td>53.6</td>
</tr>
</tbody>
</table>

The demographic profile of a nonreturning student closely resembles that of an entering student in almost every category. However, when a comparison is made between selected demographic characteristics of entering students and former students significant differences are noted (Table 4).
### TABLE 4

**COMPARISON OF SELECTED DEMOGRAPHIC CHARACTERISTICS BETWEEN ENTERING STUDENTS AND NONRETURNING STUDENTS**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Entering Students (N = 312)</th>
<th>Nonreturning Students (N = 69)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>218</td>
<td>50</td>
</tr>
<tr>
<td>Male</td>
<td>94</td>
<td>19</td>
</tr>
<tr>
<td>Enrollment Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>39</td>
<td>5</td>
</tr>
<tr>
<td>Part-time</td>
<td>273</td>
<td>64</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>265</td>
<td>59</td>
</tr>
<tr>
<td>Black</td>
<td>26</td>
<td>8</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23-30</td>
<td>132</td>
<td>22</td>
</tr>
<tr>
<td>31-50</td>
<td>159</td>
<td>38</td>
</tr>
<tr>
<td>&gt;50</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>206</td>
<td>45</td>
</tr>
<tr>
<td>Not Married</td>
<td>106</td>
<td>24</td>
</tr>
<tr>
<td>Employment Status*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed more than half-time</td>
<td>229</td>
<td>57</td>
</tr>
<tr>
<td>Employed half-time or less</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>Not employed</td>
<td>19</td>
<td>8</td>
</tr>
</tbody>
</table>

*aPercentage of Entering Students

*Employment status as homemaker was omitted since this information was not collected for nonreturning students.

An examination of the data in Table 4 reveals that approximately the same percentage of women and men did not return in the Spring semester. Blacks exhibited a higher percentage of nonreturning students than whites or...
Hispanics, 30.8 percent versus 22.3 percent and 11.1 percent respectively. Part-time students did not return in the Spring semester at a rate almost twice that of their full-time counterparts. Married and nonmarried students did not re-enroll in the Spring at approximately the same rate. Most surprising was the percentage difference of unemployed students between entering and nonreturning students (42.1%). Another noteworthy finding was the marginal difference between nonreturning students employed more than half-time (24.9%) and those employed half-time or less (20.0%). Typically, it is expected that employment on more than half-time basis significantly influences continued enrollment (1).

Analysis of the Hypotheses

Hypothesis One

Hypothesis one stated that there would be a significant relationship between selected environmental factors (finances and employment) and persistence or nonpersistence of nontraditional students at a comprehensive community college. Discriminant function analysis was used to determine the degree of relationship. The significance of the relationship was tested at the .05 level. Data for hypothesis one are presented in Table 5.
TABLE 5

DISCRIMINANT FUNCTION ANALYSIS OF THE RELATIONSHIP BETWEEN SELECTED ENVIRONMENTAL FACTORS AND NONPERSISTENCE (N = 312)

<table>
<thead>
<tr>
<th>Variable Set</th>
<th>Rc</th>
<th>Rs²</th>
<th>F</th>
<th>Percent Correct Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Factors</td>
<td>0.078</td>
<td>0.006</td>
<td>0.63</td>
<td>59.9*</td>
</tr>
</tbody>
</table>

*Percentage of correct classification with a prior probability of 50 percent.
*p > .05

The selected environmental factors were family income, whether the student was receiving financial aid, and employment status. As a variable set, these environmental factors yielded a very low discrimination index (Rc = .078) and explained less than one percent of the variance in persistence behavior (Rs² = .006). The ability of the variable set to correctly classify students intoPersisters and nonpersisters was 59.9 percent. The F ratio (.63) was not significant at the .05 level. Thus, hypothesis one is rejected.

Hypothesis Two

Hypothesis two stated that there would be a significant relationship between selected academic factors (study skills and major certainty) and persistence or nonpersistence of nontraditional students at a comprehensive
community college. Discriminant function analysis was used to determine the degree of relationship. The significance of the relationship was tested at the .05 level. Data for hypothesis two are presented in Table 6.

TABLE 6

DISCRIMINANT FUNCTION ANALYSIS OF THE RELATIONSHIP BETWEEN SELECTED ACADEMIC FACTORS AND NONPERSISTENCE (N = 312)

<table>
<thead>
<tr>
<th>Variable Set</th>
<th>R_c</th>
<th>R_c^2</th>
<th>F</th>
<th>Percent Correct Class^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Factors</td>
<td>0.029</td>
<td>0.0008</td>
<td>0.13</td>
<td>43.2*</td>
</tr>
</tbody>
</table>

^aPercentage of correct classification with a prior probability of 50 percent.

*p > .05

The selected academic factors were study skills and major certainty. Students were asked to rate their study skills on a scale from poor to excellent. Major certainty was based on whether a student selected a major in a two-year program area, four-year program area, or was undecided. As a variable set these selected academic factors had a very low discrimination index (R_c = .029) and provided almost no explanation of variance in student behavior to persist or not persist (R_c^2 = 0.0008).

The ability of this variable set to correctly classify nonpersisters was quite high (74.2%). However, the same
variable set classified 70.8 percent of the nonpersisters as persisters. Overall, the percent of correct classification was only 43.2.

Accurate predictive ability of this variable set is almost nonexistent. The F ratio (.37) was not significant at the .05 level. Thus, hypothesis two is rejected.

Hypothesis Three

Hypothesis three stated that there would be a significant relationship between selected background and defining factors (high school academic performance, educational goal, parent's education, enrollment status, age, gender, and ethnicity) and persistence or nonpersistence of nontraditional students at a comprehensive community college. Discriminant function analysis was used to determine the degree of relationship. The significance was tested at the .05 level. Data for hypothesis three are depicted in Table 7.
TABLE 7

DISCRIMINANT FUNCTION ANALYSIS OF THE RELATIONSHIP
BETWEEN SELECTED BACKGROUND AND DEFINING
FACTORS AND NONPERSISTENCE
(N = 312)

<table>
<thead>
<tr>
<th>Variable Set</th>
<th>$R_c$</th>
<th>$R_{c2}$</th>
<th>F</th>
<th>Percent Correct Class$^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background and Defining Factors</td>
<td>0.164</td>
<td>0.027</td>
<td>1.05</td>
<td>55.2*</td>
</tr>
</tbody>
</table>

$^a$Percentage of correct classification with a prior probability of 50 percent.

*p > .05

The selected background and defining factors were age, gender, and ethnicity as well as high school academic performance, educational goal, parent's education and enrollment status. As a variable set these factors yielded a low discrimination index ($R_c = .164$) and explained only 2.7 percent of the variance ($R_{c2} = .027$) in student behavior to persist or not persist. The ability of this variable set to correctly classify persisters and nonpersisters was 55.2 percent. The F ratio (1.05) was not significant at the .05 level. Thus, hypothesis three is rejected.

Hypothesis Four

Hypothesis four stated that there would be a significant relationship between a selected psychological outcome (educational goal commitment) and persistence or
nonpersistence of nontraditional students at a comprehensive community college. Chi square analysis was used to determine the degree of relationship. The significance of the relationship was tested at the .05 level. The data for hypothesis four are presented in Table 8.

**TABLE 8**

CHI SQUARE ANALYSIS OF THE RELATIONSHIP BETWEEN EDUCATIONAL GOAL COMMITMENT AND PERSISTENCE OR NONPERSISTENCE (N = 312)

<table>
<thead>
<tr>
<th>Educational Goal Commitment</th>
<th>Student Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Persistence</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>None</td>
<td>2</td>
</tr>
<tr>
<td>Minimum</td>
<td>7</td>
</tr>
<tr>
<td>Moderate</td>
<td>35</td>
</tr>
<tr>
<td>Extreme</td>
<td>171</td>
</tr>
<tr>
<td>TOTAL</td>
<td>215</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 14.69, \ df = 3, \ p < .05 \]

Students were asked to respond to the question of importance of completing their educational goals. The data in Table 8 illustrates that students who persisted to the spring semester had a significantly higher level of commitment to completing their educational goal than those students who did not persist. The major difference is noted between persisters and nonpersisters in their commitment at the "moderate and "extreme" response levels.
Only 16.3 percent of the persisters (N = 35) indicated a response of "moderate" while 79.5 percent (N = 171) indicated a response of "extreme" to their educational goal commitment. Of the nonpersisters, 35.1 percent (N = 34) were "moderate" in their commitment and 59.8 percent (N = 58) were "extreme". Overall, there is a statistically significant relationship between educational goal commitment and persistence. Thus, hypothesis four is accepted.

Hypothesis Five

Hypothesis five stated that there would be a significant relationship between institutional commitment and persistence or nonpersistence of nontraditional students at a comprehensive community college. Chi square analysis was used to determine the degree of relationship. The significance of the relationship was tested at the .05 level. The data for hypothesis five are presented in Table 9.

**Table 9**

<table>
<thead>
<tr>
<th>Institutional Commitment</th>
<th>Student Behavior</th>
<th>Persistence</th>
<th>Nonpersistence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td>183</td>
<td>84.7</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>32</td>
<td>15.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>215</td>
<td>100.0</td>
</tr>
</tbody>
</table>

chi square = .007, df = 1, p > .05
Institutional commitment was determined by asking students if Eastfield College was their first college choice. An examination of the data presented in Table 9 reveals that approximately the same percentage of persisters (84.7%) selected Eastfield as their first choice as did nonpersisters (84.5%). The percentage of persisters and nonpersisters who did not select Eastfield as their first choice is also approximately the same (persisters = 15.3% and nonpersisters = 15.5%). Thus institutional commitment does not appear to differentiate between persisters and nonpersisters. Therefore, hypothesis five is rejected.

Hypothesis Six

Hypothesis six stated that there will be a significant relationship between grade point average (GPA) and persistence or nonpersistence of nontraditional students at a comprehensive community college. Pearson product-moment correlation was used to determine the relationship. The significance of the relationship was tested at the .05 level. Data for hypothesis six is presented in Table 10.
### TABLE 10
PEARSON PRODUCT-MOMENT CORRELATION BETWEEN GRADE POINT AVERAGE (GPA) AND PERSISTENCE OR NONPERSISTENCE
(N = 312)

<table>
<thead>
<tr>
<th>Grade Point Average</th>
<th>Student Behavior</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Persistence</td>
<td>Nonpersistence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>---------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>0.00 - 1.99</td>
<td>11</td>
<td>5.1</td>
<td>21</td>
</tr>
<tr>
<td>2.00 - 2.99</td>
<td>37</td>
<td>17.2</td>
<td>15</td>
</tr>
<tr>
<td>3.00 - 4.00</td>
<td>167</td>
<td>77.7</td>
<td>61</td>
</tr>
<tr>
<td>TOTAL</td>
<td>215</td>
<td>100.0</td>
<td>97</td>
</tr>
</tbody>
</table>

Pearson r = 0.21  \( r^2 = 0.04 \)  F = 14.3  \( p < .01 \)

As shown in Table 10, students who did not persist from Fall to Spring semester had a significantly lower grade point average (GPA) in comparison to students who persisted. Twenty-one nonpersisters (21.6%) had a GPA below 2.00 while only 11 persisters (5.1%) had GPA's in this range. The percentage of persisters and nonpersisters with GPA's from 2.00 to 2.99 were approximately the same (17.2% and 15.5%, respectively). A high percentage of nonpersisters (62.9%) had a GPA's at or above 3.00 as did persisters (77.7%). Although the relationship between GPA and persistence or nonpersistence is statistically significant, it explains only 4 percent of the variance in student behavior (\( r^2 = 0.04 \)). Hypothesis six is accepted.
Hypothesis Seven

Hypothesis seven stated that there will be a significant relationship between choice of major (2 year versus 4 year) and persistence or nonpersistence of nontraditional students at a comprehensive community college. Chi square analysis was used to determine the degree of relationship. The significance of the relationship was tested at the .05 level. Data for hypothesis seven is shown in Table 11.

TABLE 11

CHI SQUARE ANALYSIS OF THE RELATIONSHIP BETWEEN CHOICE OF MAJOR (FOUR YEAR VERSUS TWO YEAR) AND PERSISTENCE OR NONPERSISTENCE (N = 270)*

<table>
<thead>
<tr>
<th>Choice of Major</th>
<th>Student Behavior</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Persistence</td>
<td>NonPersistence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>4 year</td>
<td>135</td>
<td>68.5</td>
<td>56</td>
</tr>
<tr>
<td>2 year</td>
<td>62</td>
<td>31.5</td>
<td>27</td>
</tr>
<tr>
<td>TOTAL</td>
<td>197</td>
<td>100.0</td>
<td>83</td>
</tr>
</tbody>
</table>

chi square = 0.058, df = 1, p > .05

*42 respondents were undecided in choice of major

An examination of the data in Table 11 indicates that there is not a significant relationship between choice of major (two year versus four year) and a student’s persistence or nonpersistence. Approximately the same percentage of persisters and nonpersisters expressed a choice of major in a four year program area. The same holds for those
choosing a major in a two year program area (persisters = 31.5% and nonpersisters = 32.5%). Therefore, hypothesis seven is rejected.

Hypothesis Eight

Hypothesis eight stated that there will be a significant relationship between an expression of intent to leave at the end of a semester and persistence or nonpersistence of nontraditional students at a comprehensive community college. Chi square analysis was used to determine the degree of relationship. The significance of the relationship was tested at the .05 level. Data for hypothesis eight are depicted in Table 12.

<table>
<thead>
<tr>
<th>Intent to Leave</th>
<th>Student Behavior</th>
<th>Persistence</th>
<th>NonPersistence</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Persistence</td>
<td>N = 189</td>
<td>87.9%</td>
</tr>
<tr>
<td>Yes</td>
<td>NonPersistence</td>
<td>N = 26</td>
<td>12.1%</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>N = 215</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

chi square = 14.59, df = 1, p < .05

Table 12 illustrates that expression of intent to leave is significantly related to persistence or nonpersistence. Of those students who re-enrolled in the Spring semester,
189 (87.9%) stated they did not plan to leave after the fall semester. Twenty-nine nonpersisting students (29.9%) expressed an intent to leave at the end of the fall semester while only 26 persisting students (12.09%) indicated no plans to re-enroll in the spring semester. It appears that students who express an intent to leave at the end of a semester are two and one-half times more likely to do so when compared to students who express the same intention but re-enroll in the following semester. Therefore, hypothesis eight is accepted.

**Research Questions**

Research Question 1: What was the magnitude of outside encouragement to remain in school received by nonreturning students?

Outside encouragement is a variable in the Environmental Factors variable set in the conceptual model (1). Nonreturning students were asked to indicate the level of encouragement from parents, spouse, employer, and close friends to remain in college. These results are depicted in Tables 13, 14, 15, and 16.
### TABLE 13

**LEVEL OF ENCOURAGEMENT FROM PARENTS FOR NONRETURNING STUDENTS TO REMAIN IN COLLEGE**

(N = 65)*

<table>
<thead>
<tr>
<th>Level of Encouragement</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>25</td>
<td>38.5</td>
</tr>
<tr>
<td>None</td>
<td>15</td>
<td>23.1</td>
</tr>
<tr>
<td>Minimal</td>
<td>7</td>
<td>10.8</td>
</tr>
<tr>
<td>Moderate</td>
<td>8</td>
<td>12.3</td>
</tr>
<tr>
<td>Significant</td>
<td>10</td>
<td>15.4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>65</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Four students did not respond to this question.

### TABLE 14

**LEVEL OF ENCOURAGEMENT FROM SPOUSE FOR NONRETURNING STUDENTS TO REMAIN IN COLLEGE**

(N = 65)*

<table>
<thead>
<tr>
<th>Level of Encouragement</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
<td>22</td>
<td>33.8</td>
</tr>
<tr>
<td>None</td>
<td>5</td>
<td>7.7</td>
</tr>
<tr>
<td>Minimal</td>
<td>7</td>
<td>10.8</td>
</tr>
<tr>
<td>Moderate</td>
<td>13</td>
<td>20.0</td>
</tr>
<tr>
<td>Significant</td>
<td>18</td>
<td>27.7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>65</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Four students did not respond to this question.*
TABLE 15
LEVEL OF ENCOURAGEMENT FROM AN EMPLOYER FOR NONRETURNING STUDENTS TO REMAIN IN COLLEGE
(N = 66)*

<table>
<thead>
<tr>
<th>Level of Encouragement</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
<td>23</td>
<td>34.8</td>
</tr>
<tr>
<td>None</td>
<td>11</td>
<td>16.7</td>
</tr>
<tr>
<td>Minimal</td>
<td>6</td>
<td>9.1</td>
</tr>
<tr>
<td>Moderate</td>
<td>10</td>
<td>15.1</td>
</tr>
<tr>
<td>Significant</td>
<td>16</td>
<td>24.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>66</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Three students did not respond to this question.

TABLE 16
LEVEL OF ENCOURAGEMENT FROM CLOSE FRIENDS FOR NONRETURNING STUDENTS TO REMAIN IN COLLEGE
(N = 66)*

<table>
<thead>
<tr>
<th>Level of Encouragement</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
<td>13</td>
<td>19.7</td>
</tr>
<tr>
<td>None</td>
<td>12</td>
<td>18.1</td>
</tr>
<tr>
<td>Minimal</td>
<td>9</td>
<td>13.6</td>
</tr>
<tr>
<td>Moderate</td>
<td>19</td>
<td>28.8</td>
</tr>
<tr>
<td>Significant</td>
<td>13</td>
<td>19.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>66</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Three students did not respond to this question.

In Table 13, 25 students (38.5%) indicated that parents’ encouragement was "not applicable" to their remaining in college. With the exception of close friends
other sources of encouragement were also "not applicable" in approximately the same magnitudes.

As depicted in Tables 14 and 16, moderate to significant support to remain in college came from spouses (47.7%) and close friends (48.7%). It is of interest that moderate to significant encouragement from an employer was reported by 26 (39.3%) nonreturning students (Table 15).

Over 80 percent ($N = 57$) of the nonreturning students were employed more than half-time (Table 3). In spite of the levels of support from parents, spouses, and employers, and close friends, these students made the decision not to re-enroll in the spring semester.

Research Question 2: What was the frequency of contact with instructors outside class experienced by continuing and nonreturning students?

Contact with faculty is a variable in the Social Integration Factors variable set. In the conceptual model, social integration factors are predicted to have only minimal effect on dropout decisions (1).

Continuing and nonreturning students were asked to give the frequency of contact they had with instructors outside of class. The results of their responses are presented in Table 17.
TABLE 17

FREQUENCY OF CONTACT WITH INSTRUCTORS OUTSIDE OF CLASS EXPERIENCED BY CONTINUING AND NONRETURNING STUDENTS

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Continuing Students</th>
<th>Nonreturning Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>None</td>
<td>143</td>
<td>74.1</td>
</tr>
<tr>
<td>1-2 times/week</td>
<td>42</td>
<td>21.8</td>
</tr>
<tr>
<td>2-4 times/week</td>
<td>8</td>
<td>4.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>193</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As noted in Table 17, the overwhelming majority of continuing students (74.1%) reported no contact with an instructor outside of class. The same is true for nonreturning students (79.7%). Approximately the same percentage of continuing and former students reported frequency of contact of 1 - 2 times per week (21.8% and 20.3%, respectively).

Research Question 3: What was the degree of satisfaction with the quality of instruction experienced by continuing and nonreturning students?

Satisfaction is a variable in the Academic Factors variable set in the conceptual model of nontraditional student attrition (1). In Table 18, responses of continuing and nonreturning students are presented. In both students groups, over 90 percent reported moderate to extreme satisfaction with the quality of instruction. None of the
nonreturning students reported dissatisfaction with the quality of instruction.

TABLE 18

DEGREE OF SATISFACTION EXPERIENCED BY CONTINUING AND NONRETURNING STUDENTS WITH THE QUALITY OF INSTRUCTION

<table>
<thead>
<tr>
<th>Degree of Satisfaction</th>
<th>Continuing Students</th>
<th>Nonreturning Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Not Satisfied</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td>Minimally Satisfied</td>
<td>10</td>
<td>5.2</td>
</tr>
<tr>
<td>Moderately Satisfied</td>
<td>94</td>
<td>48.7</td>
</tr>
<tr>
<td>Extremely Satisfied</td>
<td>86</td>
<td>44.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>193</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Research Question 4: How many hours per week did nonreturning students spend studying?

Study habits are a component of the Academic Factors variable set in the conceptual model of nontraditional student attrition (1).

The variation in study hours per week for nonreturning students is depicted in Table 19.
### TABLE 19

**FREQUENCY OF STUDY HOURS PER WEEK FOR NONRETURNING STUDENTS, CATEGORIZED BY GENDER**

(N = 65)*

<table>
<thead>
<tr>
<th>Hours/week</th>
<th>N</th>
<th>%</th>
<th>Gender</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>1</td>
<td>1.5</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1-2</td>
<td>11</td>
<td>16.9</td>
<td></td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>2-3</td>
<td>8</td>
<td>12.3</td>
<td></td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>3-4</td>
<td>12</td>
<td>18.5</td>
<td></td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>4-5</td>
<td>7</td>
<td>10.8</td>
<td></td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>5-6</td>
<td>5</td>
<td>7.7</td>
<td></td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>6-7</td>
<td>5</td>
<td>7.7</td>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7-8</td>
<td>6</td>
<td>9.2</td>
<td></td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>8-9</td>
<td>1</td>
<td>1.5</td>
<td></td>
<td>1</td>
<td>.</td>
</tr>
<tr>
<td>&gt;9</td>
<td>9</td>
<td>13.8</td>
<td></td>
<td>1</td>
<td>8</td>
</tr>
</tbody>
</table>

*4 students did not respond to this question.

As shown in Table 19, the majority of nonreturning students (75.4%) spent an average of one hour a day or less in study activities. Males students appear to study fewer hours than females students. Females students exhibited a fairly consistent distribution over the range of hours.

**Research Question 5:** What was the extent of family responsibilities of nonreturning students?

Family responsibilities represent a variable in the Environmental Factors variable set. Nonreturning students were asked to indicate how many children under the age of 18 years were living at home. The responses are shown in Table 20.
Almost one-half of the nonreturning students (49.3%) did not have children under the age of 18 years living at home with them. Only 6 students (8.9%) had 3 children under the age of 18 years old living at home. None of the nonreturning students reported having more than 3 children under the age of 18 years old living at home.

Research Question 6: What were the most important reasons which contributed to the nonreturning student’s decision to leave college?

The SOIS Former-Student questionnaire categorizes the reasons for leaving by (1) academic, (2) financial, and (3) other (Appendix B). Students were asked to respond to all categories as appropriate. Therefore, the total responses in a category may be greater than the total of nonreturning students.

The academic reasons for leaving as cited by nonreturning students are presented in Table 21.
TABLE 21

ACADEMIC REASONS GIVEN BY NONRETURNING STUDENTS FOR LEAVING COLLEGE

<table>
<thead>
<tr>
<th>Reason</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achieved my academic goal</td>
<td>12</td>
</tr>
<tr>
<td>Transferred</td>
<td>3</td>
</tr>
<tr>
<td>Needed a break from college</td>
<td>19</td>
</tr>
<tr>
<td>Courses/programs not available</td>
<td>7</td>
</tr>
<tr>
<td>Dissatisfied: Academic Performance</td>
<td>2</td>
</tr>
<tr>
<td>Dissatisfied: Quality of Teaching</td>
<td>4</td>
</tr>
<tr>
<td>Dissatisfied: Learning Environment</td>
<td>2</td>
</tr>
<tr>
<td>Course work not what I wanted</td>
<td>3</td>
</tr>
<tr>
<td>Unsure of my academic goals</td>
<td>7</td>
</tr>
<tr>
<td>Other academic reasons</td>
<td>18</td>
</tr>
</tbody>
</table>

Twelve students indicated "achieved my academic goal" and three students indicated "transferred" as reasons for not returning to college in the Spring semester. Students achieving their academic goal or transferring should be considered "completers" and not included in the calculation of semester to semester attrition.

The remaining academic reasons cited are generally within the control of the college and should be addressed by appropriate intervention strategies such as academic advising and career counseling, student progress monitoring, and improvement of the quality of teaching and learning environment.

The financial reasons for leaving, as cited by nonreturning students are shown in Table 22.
While "money" was cited by eight nonreturning students, only two indicated they could not earn enough money. The majority (N = 13) responded that there were other financial reasons for leaving college. Overall, only 23 responses were obtained for financial reasons as an explanation for not returning the Spring semester. Other reasons for leaving as cited by nonreturning students are presented in Table 23.

### Table 22
**Financial Reasons Given by Nonreturning Students for Leaving College**

<table>
<thead>
<tr>
<th>Reason for Leaving</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money</td>
<td>8</td>
</tr>
<tr>
<td>Could not earn enough money</td>
<td>2</td>
</tr>
<tr>
<td>Other financial reasons</td>
<td>13</td>
</tr>
</tbody>
</table>

### Table 23
**Other Reasons Given by Nonreturning Students for Leaving College**

<table>
<thead>
<tr>
<th>Reason</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achieved my personal goals</td>
<td>7</td>
</tr>
<tr>
<td>Accepted a job/joined the military</td>
<td>3</td>
</tr>
<tr>
<td>Could not work and go to school</td>
<td>12</td>
</tr>
<tr>
<td>Other responsibilities became too great</td>
<td>30</td>
</tr>
<tr>
<td>Personal problems</td>
<td>8</td>
</tr>
<tr>
<td>Other: Other problems</td>
<td>10</td>
</tr>
</tbody>
</table>
The most frequently cited reason for leaving was "other responsibilities became too great" (N = 30), followed by the reason of not being able to work and go to school at the same time (N = 12).

Overall, nonreturning students cited "Academic Reasons" or "Other Reasons" with greater frequency when compared to "Financial Reasons."

Students were also asked to cite the most important reasons for leaving college. The results are depicted in Table 24.

TABLE 24
THE MOST IMPORTANT REASON GIVEN BY NONRETURNING STUDENTS FOR LEAVING COLLEGE

<table>
<thead>
<tr>
<th>Reason (Category)</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other responsibilities became too great (Other)</td>
<td>11</td>
<td>19.0</td>
</tr>
<tr>
<td>Achieved my academic goals (Academic)</td>
<td>8</td>
<td>13.8</td>
</tr>
<tr>
<td>Needed a break from college (Academic)</td>
<td>8</td>
<td>13.8</td>
</tr>
<tr>
<td>Unsure of my academic goals (Academic)</td>
<td>5</td>
<td>8.6</td>
</tr>
<tr>
<td>Could not work and go to school at the same time (Other)</td>
<td>5</td>
<td>8.6</td>
</tr>
<tr>
<td>Other academic reasons (Academic)</td>
<td>5</td>
<td>8.6</td>
</tr>
<tr>
<td>Other: Other Problems (Other)</td>
<td>4</td>
<td>6.9</td>
</tr>
<tr>
<td>Dissatisfied: Quality of Teaching (Academic)</td>
<td>3</td>
<td>5.2</td>
</tr>
<tr>
<td>Accepted a job/joined the military (Other)</td>
<td>3</td>
<td>5.2</td>
</tr>
<tr>
<td>Courses/Programs not available (Academic)</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td>Transferred (Academic)</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td>Money (Finance)</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td>Could not earn enough money (Finance)</td>
<td>1</td>
<td>1.7</td>
</tr>
</tbody>
</table>
TABLE 24--CONTINUED
THE MOST IMPORTANT REASON GIVEN BY NONRETURNING STUDENTS FOR LEAVING COLLEGE

<table>
<thead>
<tr>
<th>Reason (Category)</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achieved my personal goal (Other)</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td>Personal problems (Other)</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>58*</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Not all respondents answered this question.

The three most important reasons for leaving college were "other responsibilities became too great" (N = 11), "achieved my academic goals" (N = 8), and "needed a break from college" (N = 8). With the exception of "achieved my academic goals", the other two reasons should be considered within control of the college and could be addressed by intrusive intervention strategies, especially exit interviewing. It is worthy to note that employment and going to school at the same time was the most important reason given by only 8.6 percent (N = 5) of the respondents. Also, financial reasons for leaving college were cited by only two students (3.4%) as the most important reason for leaving college. These findings support the nonsignificant influence of selected environmental factors including employment status on persistence or nonpersitence as shown in hypothesis one.
Research Question 7: What was the degree of difficulty to transfer as perceived by continuing students?

Opportunity to transfer is a variable in the Environmental Factors variable set of the conceptual model of nontraditional student attrition (1). Community college students with an academic goal of transferring to a four-year college or university may choose to leave the community college prior to earning an Associate degree. Therefore, perceptions of difficulty to transfer are important when evaluating student persistence.

As shown in Table 25, the majority of continuing students (60.6%) perceived little or no difficulty in transferring to another college or university.

<table>
<thead>
<tr>
<th>Level of Difficulty</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy</td>
<td>49</td>
<td>24.1</td>
</tr>
<tr>
<td>Minimal</td>
<td>74</td>
<td>36.5</td>
</tr>
<tr>
<td>Moderate</td>
<td>57</td>
<td>28.1</td>
</tr>
<tr>
<td>Extreme</td>
<td>23</td>
<td>11.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>203</td>
<td>100.0</td>
</tr>
</tbody>
</table>

However, almost 40 percent of the continuing students perceived transferring to another college as a moderate to extremely difficult. Since one of the primary functions a
community college is providing opportunity for college transfer, this high level of perceived difficulty could be addressed by appropriate academic advising with a resultant positive effect on student persistence and educational goal accomplishment.

Research Question 8: What was the degree of satisfaction with academic advising experienced by continuing and nonreturning students?

Academic advising is a variable in the Academic Factors variable set of the conceptual model (1). Students completing the Continuing-Student Questionnaire and the Former-Student Questionnaire were asked to evaluate a list of services provided by the college ranging from Admissions to Parking and Campus Security (Appendix B). Included in the list of services was Academic Advising. Students were asked whether or not they knew about academic advising, if they used the service, and were they satisfied with it. These results are depicted in Table 26.

TABLE 26
USE, NON-USE, AND LEVEL OF SATISFACTION WITH ACADEMIC ADVISING BY CONTINUING AND NONRETURNING STUDENTS

<table>
<thead>
<tr>
<th>Student Group</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuing Students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not use</td>
<td>85</td>
<td>51.5</td>
</tr>
<tr>
<td>Used and were satisfied</td>
<td>61</td>
<td>37.0</td>
</tr>
<tr>
<td>Used but were not satisfied</td>
<td>19</td>
<td>11.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>165*</td>
<td>100.0</td>
</tr>
</tbody>
</table>
TABLE 26—CONTINUED

USE, NON-USE, AND LEVEL OF SATISFACTION WITH ACADEMIC ADVISING BY CONTINUING AND NONRETURNING STUDENTS

<table>
<thead>
<tr>
<th>Nonreturning Students</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not use</td>
<td>35</td>
<td>60.3</td>
</tr>
<tr>
<td>Used and were satisfied</td>
<td>18</td>
<td>31.1</td>
</tr>
<tr>
<td>Used but were not satisfied</td>
<td>5</td>
<td>8.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>58*</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Not all students responded to this question

In the continuing student sample, 165 students indicated they knew of academic advising. Eighty-five students (51.5%) reported they did not use the service, 61 students (40.1%) indicated they used academic advising and were satisfied with it, and 19 students (11.5%) indicated they used academic advising but were not satisfied with the service.

In the former student sample, 58 students reported they were aware of academic advising. Thirty-five students (60.3%) indicated they did not use academic advising, 18 students (31%) reported using the service and were satisfied with it, and 5 students reported (8.6%) using the service but were not satisfied with it.

In summary, a higher percentage of nonreturning students compared to continuing students did not use the academic advising service. A higher percentage of continuing students were satisfied with the academic advising service while a lower percentage of nonreturning students reported dissatisfaction.
Research Question 9: What was the degree of satisfaction of continuing students with course availability?

In the conceptual model of nontraditional undergraduate student attrition, course availability is included in the Academic Factors variable set (1). Continuing students were asked their level of agreement that courses were scheduled at times they were available to enroll. The results are presented in Table 27.

TABLE 27
LEVEL OF AGREEMENT BY CONTINUING STUDENTS ABOUT COURSE AVAILABILITY

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>6</td>
<td>3.1</td>
</tr>
<tr>
<td>Disagree</td>
<td>26</td>
<td>13.5</td>
</tr>
<tr>
<td>Uncertain</td>
<td>30</td>
<td>15.5</td>
</tr>
<tr>
<td>Agree</td>
<td>110</td>
<td>57.0</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>211</td>
<td>10.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>193</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The majority of continuing students (67.9%) either agreed or strongly agreed that courses were scheduled at times they were available to enroll. It appears that course availability does not directly influence persistence or nonpersistence of nontraditional students. Given the flexibility in class scheduling at Eastfield College, the high level of agreement reported could be anticipated. These results confirm that expectation.
Summary

In summary, of the 312 entering students in the Fall, 1987 semester, 97 did not re-enroll for the Spring, 1988 semester. The demographics of both student respondent groups appeared quite similar. The majority of the respondents in both samples were female, enrolled part-time, white, between the age of 31 and 50 years, married, and employed more than half-time.

Selected environmental factors such as finances and employment status, academic factors such as study skills and major certainty, and background factors such as high school academic performance, enrollment status, parent's education, gender, and ethnicity did not demonstrate a significant direct influence on persistence or nonpersistence. Likewise, institution commitment was not directly associated with dropout decisions even though Eastfield was the college of first choice for the overwhelming majority of the students in this study. Commitment to an education goal (p < .05), cumulative GPA (p < .01), and expression of intent to remain in college (p < .05) were significantly related to persistence. Each of these findings is supported by previous research on adult students at four-year as well as two-year colleges.

Nonreturning students cited academic reasons more frequently than financial reasons as reasons for leaving
college. Completion of an educational goal or transferring were included in the category of academic reasons.

A majority of nonreturning students reported moderate to high levels of encouragement, especially from employers, to stay in college. Apparently, this encouragement had little positive influence. A significant percent of nonreturning students were employed more than half-time and frequently cited that they could not work and go to school at the same time.


CHAPTER V

SUMMARY, DISCUSSION OF FINDINGS, CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

Introduction

The problem of this study was the direct influence of selected background, academic, and environmental factors as well as academic outcomes and expression of intent to leave on nonpersistence of first-year nontraditional students at a comprehensive community college. The purposes of this study were:

1. To determine the direct influence of selected environmental factors (finances, employment, outside encouragement, family responsibilities, and opportunity to transfer) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

2. To determine the direct influence of selected academic factors (study skills, academic advising, major certainty and course availability) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

3. To determine the direct influence of selected background and defining factors (high school academic performance, educational goal, parents' education, enrollment
status, age, gender, ethnicity) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

4. To determine the direct influence of selected psychological outcomes (educational satisfaction and educational goal commitment) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

5. To determine the direct influence of institutional commitment on persistence or nonpersistence of nontraditional students at a comprehensive community college.

6. To determine the direct influence of academic outcomes (grade point average) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

7. To determine the direct influence of choice of major (two-year versus four-year) on persistence or nonpersistence of nontraditional students at a comprehensive community college.

8. To determine the direct influence of an expression of intent to leave at the end of a semester on persistence or nonpersistence of nontraditional students at a comprehensive community college.

Two-year institution series questionnaires from the National Center for Higher Education Management Systems/College Board Student-Outcomes Information Services (SOIS)
were used to carry out the purposes of the study (Appendix B). The study was guided by a conceptual model of nontraditional undergraduate student attrition (5). According to the model, decisions to leave college are based primarily on six sets of factors:

1. **Background and Defining Factors** including age, enrollment status, residence, educational goals, high school performance, ethnicity, and gender;

2. **Academic Factors** including study habits, academic advising, absenteeism, major certainty, and course availability;

3. **Environmental Factors** including finances, employment, outside encouragement, family responsibilities, and opportunity to transfer;

4. **Psychological Outcomes** including utility, satisfaction, goal commitment, and stress;

5. **Academic Outcomes** including grade point average (GPA); and

6. **Intent to Leave** (5, p. 491)

Social Integration factors such as faculty contact and institutional commitment, are thought to have little influence on dropout decisions of nontraditional students (5, 25, 29). However, social integration is a component of the model, and selected variables were included in this study.
Summary

A stratified random sample of first-year nontraditional students at Eastfield College in the Dallas County Community College District was surveyed at the beginning of the 1987 Fall semester using the Entering-Student Questionnaire. Baseline demographic data, educational goals, financial status, and future educational plans were collected from 312 students out of the sample of 576 students for a response rate of 54 percent. The respondents appear to reflect the first-year nontraditional student population at Eastfield College in regards to ethnicity and enrollment status.

The Continuing-Student Questionnaire was administered at the end of the 1987 Fall semester to the 312 students who completed the initial questionnaire and who remained enrolled in at least one course during the Fall semester. Two hundred and three usable questionnaires were returned for a response rate of 65 percent.

The Former-Student Questionnaire was administered to the 97 students of the 312 respondents who completed an Entering-Student Questionnaire and did not reenroll in the Spring semester, 1988. Sixty-nine usable questionnaires were returned for a response rate of 71 percent. All questionnaires were sent to the College Board for initial cross-tabulation analysis. Further data analysis was carried out using the Statistical Analysis System (SAS) software computer package.
Demographic profiles were developed for the students who completed usable Entering-Student Questionnaires ($N = 312$) and students who completed usable Former-Student Questionnaires ($N = 69$). The research hypotheses were addressed by data collected from the Entering-Student Questionnaires. The Continuing-Student and the Former-Student Questionnaires provided data to answer the research questions.

Each research hypothesis and research question corresponded to a variable or variable set depicted in the conceptual model of nontraditional undergraduate student attrition. Only the direct influence of selected independent variables on persistence or nonpersistence was studied.

Research hypotheses one, two, and three were tested using two-group discriminant function analysis. Research hypothesis four, five, seven, and eight were tested using chi square analysis. Pearson product-moment correlation was used to test research hypothesis six. The research questions were answered descriptively. The level of significance used for the analysis was $.05$.

Discussion of Findings

Demographics

1. The 312 respondents to the Entering-Student Questionnaire were predominately female ($69.9\%$), attended college on a part-time basis ($87.5\%$), were white ($84.9\%$), married ($66.2\%$), and were employed more than half-time
Seventy-five percent (N = 225) reported an annual family income of at least $20,000. Two hundred and twenty-six (73.4%) indicated a high school grade average of 80 or above. The parents' education ranged from a high school diploma/GED or less (67% for the father and 78.2% for the mother) to a graduate degree (7.3% for the father and 1.9% for the mother). The parents' educational level generally attested to the fact that a high percentage of community college students are the first ones in their family to attend college.

2. The majority of the 69 respondents to the Former-Student Questionnaire were female (72.5%), attended college part-time (92.8%), were white (85.5%), were married (65.2%), and were employed more than half-time (82.6%). Almost 80 percent reported an annual family income of at least $20,000.

When compared, nonreturning students exhibited a demographic profile that closely resembled that of the entering students. The percentage of nonreturning men and women was approximately the same (20.2% and 22.9%, respectively). Blacks had a higher percentage of nonreturning students than whites or Hispanics (30.8% versus 22.3% and 11.1%, respectively). A higher percentage of part-time students (23.4%) than full-time students (12.8%) did not return in the Spring semester. Marital status did not appear to influence
attrition as 21.8 percent of the married students and 22.6 percent of the unmarried students did not return.

Twenty percent (N = 4) of the entering students who were employed half-time or less did not return in the spring semester. Of the 229 entering students employed more than half-time, 57 (24.9%) were nonreturning students. The highest attrition was in the subgroup of students not employed (42.1%). This latter finding is particularly noteworthy.

Employment on a full-time basis is generally associated with a higher dropout rate (5). Several investigators have reported that even working part-time especially off-campus can be detrimental to continuing one’s education (8,16,18).

This demographic comparison does not support previous findings regarding the different influence of full-time employment versus part-time employment on nonpersistence. A plausible explanation for the high attrition among the unemployed students may be their inability to secure adequate financial support thereby requiring them to withdraw.

Research Hypotheses and Questions

1. Research hypothesis one and research questions one, five, and seven addressed the environmental factors in the conceptual model which were predicted to have a direct influence on persistence or nonpersistence.
Research hypothesis one stated that there would be a significant relationship between selected environmental factors (finances and employment) and persistence or non-persistence of nontraditional students at a comprehensive community college. Family income, whether the student was receiving financial aid, and employment status were the selected environmental factors. Discriminant function analysis revealed that the relationship was not significant at the .05 level. Thus, research hypothesis one was rejected.

This finding is consistent with that of Metzner and Bean who concluded that environmental factors did not have a direct influence on dropout decisions as originally predicted (21).

The importance of financial aid to student persistence, especially those from lower socioeconomic levels has been noted (1, 5, 11, 14, 18). However, in this study only 22.8 percent of the entering student respondents indicated they were financial aid applicants and 75 percent reported an annual family income of $20,000 or more. Thus, the nonsignificant influence of financial need or dropout decisions would be expected.

Employment is also often linked to nonpersistence (8, 16). Part-time employment is generally associated with a higher persistence rate while full-time employment is negatively correlated with persistence (5). For community college students, especially older students, employment
status (none, part-time or full-time) does appear to have a significant effect on dropout rate (17, 18). In this study, employment status was not shown to be significantly related to persistence.

Research question one asked about the level of outside encouragement to stay in school received by nonreturning students. Sources of encouragement were parents, spouse, employer, and close friends. High levels of support ("moderate" to "significant") to remain in college came primarily from close friends (48.5%) and spouse (47.7%). Almost 40 percent (N = 26) of the nonreturning students reported "moderate" to "significant" levels of support from an employer. This is especially noteworthy since over 80 percent (N = 57) of the nonreturning students were employed more than half-time. Thus, in spite of relatively high levels of support to remain in college, these students made the decision not to re-enroll in the spring semester. This finding is especially interesting since external encouragement is predicted to be of significant importance to nontraditional students to remain in college (4, 5, 15, 20, 24, 28). Research question five asked the extent of family responsibilities of nonreturning students. Family responsibilities referred primarily to the number of children under the age of 18 years living at home. Almost 50 percent (N = 33) reported having no children living at home with them. Only six students (8.9%) reported having 3 children. Thus
it appears family responsibilities did not have a significant influence on the student’s decision not to re-enroll. Research question seven asked about the degree of difficulty to transfer to another college as perceived by continuing students. Almost 40 percent (N = 80) reported a perceived level of difficulty of "moderate" to "extreme". The fact that a student may perceive a high level of difficulty in transferring to another college may not directly influence his decision not to re-enroll the following semester. However, the opportunity to transfer should be facilitated by the community college as part of its transfer mission. Bean has noted that opportunity to transfer to another college is a very important external variable affecting persistence and for ethical reasons alone should be unchallenged (3, 4).

2. Research hypothesis two and research questions four, eight, and nine addressed the academic factors in the conceptual model which were predicted to have a direct influence on persistence or nonpersistence.

Research hypothesis two stated that there would be a significant relationship between selected academic factors (study skills and major certainty) and persistence or nonpersistence of nontraditional students at a comprehensive community college. Discriminant function analysis revealed that the relationship was not significant at the .05 level. Thus, research hypothesis two was rejected.
In the conceptual model, academic factors are predicted to have a direct effect on dropout. These findings do not support that prediction. Metzner and Bean demonstrated that academic factors are associated with college grade point average (GPA) which, in turn, significantly affects dropout decisions (21). As will be reported later, college GPA for students in this study demonstrated a significant relationship with persistence and nonpersistence. The direct effect of academic factors on GPA was beyond the scope of this study. Research question four asked about the number of hours per week spent studying by nonreturning students. The majority of nonreturning students (75.4%) reported spending only one hour a day less in study activities. Data on the study hours of entering students is not available for comparison. However, when asked to rate their study skills, almost 80 percent selected "good or "excellent." This reflects a high confidence in study ability which conflicts with other reported research (4, 5). In spite of the high level of confidence in study skills, the fact that a majority of nonreturning students spent relatively little time studying may have resulted in the lower GPA's for nonreturners. Research question eight asked about the degree of satisfaction continuing and nonreturning students experienced with academic advising. Thirty-six percent (N = 61) of continuing students reported satisfaction with academic advising while 51.5 percent (N = 85)
indicated they did not use this service. Only 11.5 percent (N = 19) indicated dissatisfaction with academic advising.

Of the nonreturning student respondents, 31% (N = 18) indicated they were satisfied with academic advising compared to only 8.6 percent (N = 5) who reported not being satisfied. Thirty-five students (60.3%) indicated they did not use academic advising. The finding that a considerably higher percentage of nonreturning students were satisfied with academic advising than were dissatisfied suggested the absence of a significant relationship between a student's evaluation of academic advising and persistence.

Generally, the literature reports an association between satisfaction with academic advising and dropout decisions (5). There is evidence that academic advisement can positively affect student persistence (7, 12, 13). Research findings are inconsistent as to the relationship of satisfaction with academic advising and persistence for students in community colleges (5).

Research question nine asked about the degree of satisfaction continuing students had with course availability. As a variable within the academic factors variable set, course availability reflects the extent to which students agree that courses were scheduled at times they were able to enroll. In this study the majority of the respondents (67.9%) reported they agreed or strongly agreed that courses were scheduled at times they were able to
enroll. Only 26.6% (N = 32) reported they disagreed or strongly disagreed that courses were appropriately scheduled.

Research has demonstrated that course unavailability is related to student dropout decisions for community college students (5, 10, 24). On the other hand, others have reported a lack of relationship between nontraditional student attrition and course availability (26, 27). The evidence from the current study appears to concur with this lack of relationship.

Overall, the direct effect of the selected academic factors on persistence or nonpersistence has not been established. Metzner and Bean found this variable set to have a strong influence on GPA rather than the direct predicted effect on dropout decisions (21).

3. Research hypothesis three addressed the background and defining variables in the conceptual model which were predicted to have a direct influence on persistence or nonpersistence. Research hypothesis three stated there would be a significant relationship between selected background and defining factors (high school academic performance, educational goal, parents' education, enrollment status, age, gender, and ethnicity) and persistence or nonpersistence of nontraditional students at a comprehensive community college. Discriminant function analysis indicated
that the relationship was not significant at the .05 level. Thus, research hypothesis three was rejected.

In most conceptual models of student attrition, background and defining variables are based on the premise that past behavior and characteristics are expected to influence future behavior (3, 4, 5, 23, 29). In the model for nontraditional undergraduate student attrition the major defining variables—age, enrollment status, and residence—are included so that research on commuter students, for example, would evaluate the influence of these variables on persistence or nonpersistence (5).

The finding that background and defining variables did not have a significant direct effect on persistence or nonpersistence is generally consistent with the findings of Metzner and Bean (21). They reported that these variables exhibited an almost exclusively indirect rather than direct effect. Primarily, this variable set influenced dropout action through a direct effect on GPA.

The direct effect of background and defining variables on other variable sets and the resultant indirect effect on nonpersistence was not examined in this study. Further investigation of these indirect effects on dropout decisions to validate the model for nontraditional students in community colleges appears warranted.

The single variable of parents' education was not included in the original conceptual model of nontraditional
undergraduate student attrition due to the absence of research on the effects of parental education levels on persistence of older students. The variable was included in this study in an attempt to determine its direct effect on persistence. It appears that parental education level does not have a direct association with persistence and should remain excluded from the conceptual model.

4. Research hypothesis four and research question three addressed the selected psychological outcome variables in the conceptual model which were predicted to have a direct influence on persistence or nonpersistence. Research hypothesis four stated there would be a significant relationship between a selected psychological outcome (educational goal commitment) and persistence or nonpersistence of nontraditional students at a comprehensive community college. Chi square analysis revealed a significant relationship (p < .05). Thus, research hypothesis four was accepted.

This finding conflicts with the conclusions of Metzner and Bean (21). They found the psychological outcome variable of goal commitment to not be directly associated with dropout. Metzner and Bean's recommendation to re-analyze this variable was undertaken with this group of nontraditional students who were older than the nontraditional student group in Metzner and Bean's study.
The finding that educational goal commitment is significantly associated with persistence of community college students has been reported by other researchers (5, 10, 20, 26, 27, 31). These results provided additional evidence that making a commitment to accomplishing an educational goal enhances student persistence.

Research question three asked about the degree of satisfaction with the quality of instruction experienced by continuing and nonreturning students. For both students groups high levels of satisfaction were reported. Continuing students indicated they were moderately to extremely satisfied in 92.3 percent of the cases. The percentage of nonreturning students reporting these levels of satisfaction was 91.2 percent. It would appear that the degree of satisfaction is significantly related to persistence as well as nonpersistence.

In addition, none of the nonreturning students indicated dissatisfaction with the quality of instruction. This latter finding is in minor disagreement when compared to the academic reasons given for leaving college by the nonreturning students. A total of six students gave dissatisfaction with the quality of teaching or quality of learning environment as reasons for leaving. This finding reinforces the justification for exit interviews to more accurately determine reasons which may influence a student's dropout decision (2, 19, 22).
5. Research hypothesis five and research question two addressed the social integration factors in the conceptual model which were predicted to have only a minimal direct effect on persistence or nonpersistence. Research hypothesis five stated that there would be a significant relationship between institutional commitment and persistence or nonpersistence of nontraditional students at a comprehensive community college. Chi square analysis revealed a nonsignificant relationship at the .05 level. Thus, hypothesis five was rejected.

In the attrition models for traditional students social integration has demonstrated a strong relationship to persistence (3, 4, 5). However, for adult (nontraditional) students at commuter institutions, especially two-year colleges, social integration does not appear to significantly influence persistence or nonpersistence behavior (5, 20, 21, 25).

In this study, the majority (84.7%) of the persisting students indicated that Eastfield College was their first college choice. However, an almost equal percentage of nonreturning students (84.5%) had given the same response. These results were consistent with the findings reported by Metzner and Bean (21) who concluded that the social integration variables did not have a significant direct influence on dropout decisions.
Research question two asked about the frequency of contact with instructors outside the classroom experienced by continuing and nonreturning students. The majority (74.1%) of continuing students as well as nonreturning students (79.7%) reported no contact with faculty outside the classroom. Comparable responses were noted for faculty contact at a frequency of 1-2 times per week (continuing students = 21.8% and nonreturning students = 20.3%). This finding reaffirms the premise that adult students have such external demands on their time that they often do not avail themselves of the opportunity to interact with faculty except in the classroom (14, 28).

At Eastfield College faculty are expected to post and announce their office hours, times they are in their office for the primary purpose of being available to students. In spite of this effort, these results suggest only a small percentage of students take advantage of this opportunity. Nevertheless, it appears that informal contact with faculty does not significantly influence dropout decisions. This finding and the results of research hypothesis five confirm the minimal association of social integration variables with persistence or nonpersistence of the nontraditional students at Eastfield College.

6. Research hypothesis six addressed the academic outcomes (grade point average) of the conceptual model which were predicted to have a significant direct effect on
persistence or nonpersistence. Research hypothesis six stated that there will be a significant relationship between grade point average (GPA) and persistence or nonpersistence of nontraditional students at a comprehensive community college. Product-moment correlation was significant at p < .01 (r = 0.21).

Nonreturning students demonstrated significantly lower GPA's than did persisting students. Twenty-one nonreturning students (21.6%) had a cumulative GPA of less than 2.0 while only 5.1 percent of the persisters had a GPA in this range. The majority of students in both categories had a GPA in the 3.0 to 4.0 range. This finding is consistent with the conclusions of Metzner and Bean (21), thus confirming the expected association of GPA with persistence and nonpersistence. Other investigators have demonstrated the significant negative relationship between GPA and attrition (3, 4, 6). Pascarella, Duby, Miller, and Rasher (25) concluded that first quarter academic performance as measured by GPA provided a sharp distinction between persisters and voluntary withdrawals.

The explanatory power of the relationship between GPA and persistence in this study is only four percent. This may, in part, be due to the high GPA of many nonreturning students. Those that did not return for reasons such as transfer or completion of an educational goal may have a
higher GPA and yet were among the nonreturning student group.

7. Research hypothesis seven addressed a variable associated with the academic variables in the conceptual model, namely major certainty. In this case, the definition of major certainty was extended to include a differentiation between a major selected in a two-year or four-year program area. Research hypothesis seven state that there will be a significant relationship between choice of major (two-year versus four-year) and persistence or nonpersistence of nontraditional students at a comprehensive community college. Chi square analysis was not significant at the .05 level. Thus, research hypothesis seven was rejected.

The majority of students selected a major in a four-year program area (persisters = 68.5% and nonpersisters = 67.5%). This was not a surprising finding since almost 62 percent of the entering students reported a bachelor’s degree or a graduate degree as their ultimate educational goal. This compares to only 20 percent of the entering students who indicated the associate degree as their ultimate educational goal.

8. Research hypothesis eight and research question six addressed the intent to leave variable of the conceptual model which was predicted to have a significant direct effect on persistence or nonpersistence. Research hypothesis eight stated there will be significant relationship
between an expression of intent to leave at the end of a semester and persistence or nonpersistence of nontraditional students at a comprehensive community college. Chi square analysis revealed a significant relationship \( p < .05 \). Thus, hypothesis eight was accepted.

Almost 90 percent \((N = 189)\) of the students who persisted to the Spring semester indicated they did not intend to leave at the end of the Fall semester. This compares to 29 students \((29.9\%)\) who expressed an intent to return in the Spring and did not re-enroll. Only 26 persisting students \((12.1\%)\) intended to leave while 68 nonpersisting students \((70.1\%)\) intended not to leave at the end of Fall semester yet did so. Of the 312 entering student respondents, a total of 219 students \((70.2\%)\) exhibited a reenrollment or nonreenrollment behavior consistent with their expressed intent.

The expression of intent to leave may reflect an attitude to transfer, stopout, dropout, or that the individual’s educational goals have been met \((5, 21)\). Nevertheless, the significance of this variable as a predictor of persistence or nonpersistence has been clearly demonstrated \((4, 5, 21, 25)\). Pascarella, Duby, and Iverson \((25)\) have concluded that a student’s intentions to stay or leave exert the strongest single influence on persistence-withdrawal decisions for students at a nonresidential college. Voorhees \((30)\) found expression of intent to return
highly associated with persistence of community college students. Metzner and Bean (21) reported intent to leave significantly related to dropout in the study to estimate the conceptual model used here. Thus, the findings in the current study supported by the conclusions of Metzner and Bean.

Research question six asked about reasons nonreturning students gave for leaving college. These reasons were categorized by (1) academic, (2) financial, and (3) other on the SOIS Former-Student questionnaire. Students were asked to respond to all categories as appropriate.

In the Academic Reasons category 12 nonreturning students (17.4%) indicated they had achieved their academic goal and 3 students (4.3%) gave "transferred" as another reason. For purposes of calculating the semester-to-semester attrition rate, these 15 students should not be counted as attritors. Rather, they should be considered as completers, students who did not re-enroll since they completed their initial educational objective.

The other major academic reasons given for leaving college were "needed a break from college" (N = 19), "other academic reasons (N = 18), "answering my academic goals (N = 7), and "courses/programs not available".

In the Financial Reasons category, eight students (11.6%) gave "money" as their reason for leaving college. Only two students (2.9%) reported they could not earn enough
money to continue in college, while 13 students (18.8%) gave "other financial reasons" as their rationale for leaving.

Responses in the Other Reasons category provided as much insight into what influenced students to leave as did the other two categories combined. Thirty students (43.5%) reported "Other responsibilities became too great." This is an expected reason for adult students to withdraw from college and previous research has demonstrated other responsibilities, especially family responsibilities are significantly associated with attrition of adult students (8, 9, 11, 17, 28).

In this study, almost 50 percent of the nonreturning respondents did not have children at home, but over 25 percent (N = 18) had more than one child under the age of 18 years living at home. Additionally, over 80 percent (N = 57) of the nonreturning respondents were employed more than half-time. Thus, the combination of full-time employment and children appear to have played a role in effecting nonpersistence for a significant percentage of the nonreturning students. Other responses in the Other Reasons category included "could not work and go to school" (N = 12), "personal problems" (N = 8), "achieved my personal goals" (N = 7), and "other" (N = 10).

When asked to give the most important reason for leaving college, the three top reasons were (1) other responsibilities became too great, (2) "achieved my academic
goals," and (3) "needed a break from college." In contrast the lowest ranking responses were cited by only one student on each and included "course/programs not available," "transferred," "money," "could not earn enough money," "achieved my personal goal," and "personal problems."

Categorically, Academic Reasons and Other Reasons were cited more frequently as the most important reason for leaving while Financial Reasons were cited the least. These responses are generally consistent with previous research on adult students (28). Job and family responsibilities, course/program scheduling difficulties or unavailability, and financial concerns are often the most frequently given as reasons for leaving college (9, 11, 17, 19, 28).

It is also important to note that students often give reasons for leaving that are either superficial, protective of self-image, or socially acceptable (i.e. financial) (9, 11, 17). Rarely do students who leave because of their academic inadequacy cite this as a reason. Therefore, attempts to identify reasons for students leaving may not be as productive as developing systems to assist students with making a decision to leave (11, 17). Ensuring students have more frequent contact with counselors during the semester and requiring exit interviews for all students who withdraw prior to the end of a semester are only two examples of strategies designed to assist students not only to make a
well-thought-out decision but also to identify needed support which may avert the dropout decision (9, 17, 19).

Conclusions

Within the context of the population and findings of this study, the following conclusions appear warranted:

1. Nontraditional students are highly motivated to accomplish their educational goals. In addition, they demonstrate a high level of academic ability and perceive they have very good study skills.

2. Selected environmental factors such as finances, employment status and outside encouragement are not directly associated with nontraditional student persistence or nonpersistence at a comprehensive community college. However, data collection on these factors is warranted in order to develop accurate profiles of the nontraditional student population. Further research may demonstrate the indirect influences of the variables on persistence or nonpersistence and the resultant justification for specific intervention strategies.

3. Commitment to an educational goal, rather than institutional commitment, is more critical to the persistence of a nontraditional student. Also, the selection of and commitment to accomplishing that educational goal is more important than selection of a major, regardless of whether it is in a two-year or four-year program area.
4. Academic advising may play a limited role in student persistence. Nonreturning students may not be aware of this service, or may not use this service even if aware of its availability.

5. The conceptual model for nontraditional undergraduate student attrition provides a valid framework for research on persistence/withdrawal behavior of adult students in a comprehensive community college.

6. Accurate prediction of persistence and nonpersistence behavior of nontraditional students in a community college is quite difficult due to the significant diversity in this student population and their diverse educational goals. Research on subgroups such as minorities, part-time students, or those with a declared major in a two-year degree program area may result in the identification of specific intervention strategies to promote persistence for the particular subgroup.

7. The SOIS two-year institution series questionnaires are appropriate instruments to collect data on nontraditional students at a community college for the purpose of enrollment management and studying student persistence and nonpersistence behavior.

**Recommendations**

The following recommendations are based on the results of this study.
1. The SOIS two-year institution series questionnaires provided useful information on entering students, continuing students and nonreturning students. Therefore, it is recommended that these questionnaire sets be used in a comprehensive program of enrollment management and monitoring of student outcomes.

2. Research should be conducted that is longitudinal by design in order to differentiate those students who pursue their educational goals in an intermittent enrollment pattern from those who completely drop out of higher education. Also retention intervention programs need longitudinal research results to evaluate their effectiveness.

3. There is diversity within the population of nontraditional students in a comprehensive community college. Therefore, research should be conducted on subgroups within the nontraditional student population in order to more specifically identify correlates of persistence and nonpersistence and subsequently develop appropriate intervention strategies.

4. Additional research using the conceptual model for nontraditional undergraduate attrition should be conducted to examine the direct and interaction effects of the primary variables sets on academic outcomes, psychological outcomes, and intent to leave elements of the model and the resultant influence on dropout.
5. Further research is needed to examine the relationship between nontraditional students' study skills and study habits and persistence in college.

6. A study is warranted to determine the direct effect of the academic variables in the conceptual model on the GPA of nontraditional students in two-year colleges.

7. Additional research is warranted on reasons nontraditional students leave a particular college. It is important to differentiate between transfers, stop-outs, those who meet their educational goals before earning a certificate or degree, and those who leave higher education indefinitely. An accurate accounting of these differences will result in more accurate calculation of attrition rates. In addition, this clarification of reasons for leaving will provide an improved awareness of positive student outcomes as a reflection of initial educational goals.

8. Develop strategies to improve the frequency of contact between adult students and faculty outside of the classroom. Incentives for the faculty may be warranted to promote and reward this interaction.

9. Establish a program to conduct exit interviews with adult students deciding to withdraw from college. This may facilitate identification of appropriate support services and alter the decision to leave.

10. Encourage adult students to establish appropriate educational goals at the beginning of their enrollment in
college. This will identify motivational orientations of the students and promote a better understanding of resultant enrollment patterns and student outcomes.

11. Provide an effective academic advising program to ensure adequate assessment and placement of all adult students.

12. In spite of the complexities of attempting to identify predictors of nontraditional student persistence and nonpersistence in a community college, it is important to continue the search to better understand the numerous and diverse factors that exert direct and indirect influences on persistence or nonpersistence decisions.

Implications

The following implications are based on the findings of this study.

1. The primary implication of the SOIS two-year institution questionnaire set is that it provides important data which can facilitate identification of adult students who are less likely to persist from one semester to the next.

2. The diversity of subgroups within the adult student population may imply that programs and services designed to promote student persistence and educational goal accomplishment need to be closely matched to the specific student subgroup. While provision of these programs will
not guarantee students persistence or success, their specificity will enhance program effectiveness.

3. A finding in this study is that the majority of nonreturning and continuing students do not take advantage of academic advising as well as other student development services designed to facilitate student success. An implication of this finding is that a credit orientation course for a minimum of eight weeks be required for all first-time students. This may be only a one credit hour course designed to develop positive academic habits and an awareness of educational support services such as counseling, learning assistance, job placement, and financial aid.

4. The findings of this study imply that nontraditional students at Eastfield College are more likely to leave at the end of a semester for academic reasons than financial reasons. Therefore, exit interviews of those students planning to leave could be conducted to ascertain reasons for leaving. Students could be advised about available programs designed to assist with academic as well as financial problems. This action could further promote student persistence and academic success.

5. The implication of hypotheses one, two, and three is that environmental factors, academic factors, and background and defining factors are not significant predictors of persistence or nonpersistence of nontradi-
tional students. However, collecting data on these factors remains an appropriate practice in order to carry out research on the subgroups in the nontraditional student population.

6. The findings of hypotheses four and six imply that commitment to an educational goal and academic outcome as measured by cumulative grade point are predictive of nontraditional student persistence. In this study, the students reported a high level of confidence in their study skills, a perception verified by a generally high academic outcome.

7. The implication of the finding for hypothesis seven that a choice of major was significantly associated with student persistence is that it is of lesser importance that a nontraditional student selects a major in a two-year or four-year program, but that a major is selected and the student is committed to completing the course of study for that major.

8. An important implication of this study is that the educational goals selected by nontraditional students be identified when they first enter college so that appropriate academic advisement and related support programs may be provided to promote the greatest chance of a positive student outcome.

Another implication of identifying a student's educational goal is so that a more accurate calculation of
attrition may be made. It is imperative that colleges acknowledge that not all attrition is negative. In fact, some students may be better off leaving college for a period of time as they so determine. It also must be recognized that a student may not re-enroll in a subsequent semester because an educational goal has been met.

9. The implication of the finding of hypothesis eight is that expression of intent to re-enroll is significantly predictive of persistence. Expression of intent to not re-enroll is also significant predictive of the corresponding behavior. This latter finding could be used to determine what intervention strategies should be used to encourage the nontraditional student to re-enroll in those instances when an educational goal has not been met or the student was not planning to transfer to another college.

10. The finding that a majority of the nontraditional students selected Eastfield College as their first choice for a college to attend implies that this segment of the student market should be targeted for intense promotional programs. A concerted effort to recruit nontraditional students and provide educational and support services to ensure their success is warranted.
CHAPTER BIBLIOGRAPHY


8. Billson, Janet M. and Terry, Margaret B. "In Search of the Silken Purse: Factors in Attrition Among First-Generation Students." College and University 58 (Fall 1982): 57-75.


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APPENDIX A

COMMUNICATION WITH THE NATIONAL CENTER FOR
HIGHER EDUCATION MANAGEMENT SYSTEMS
June 1, 1987

Ms. Clara Roberts  
Publications Manager  
National Center for Higher Education Management Systems  
P.O. Drawer P  
Boulder, Colorado 80302

Dear Ms. Roberts:

Pursuant to our phone conversation on June 1, 1987, I am requesting approval of NCHEMS to use the following 2-year college questionnaires to collect data for my dissertation:

1. Entering - Student Questionnaire
2. Continuing - Student Questionnaire
3. Former - Student Questionnaire

As well, I am requesting permission to include a sample of each questionnaire on my research proposal and completed dissertation. I will be happy to make the results of this study available to NCHEMS.

Thank you in advance for your assistance.

Sincerely,

Mike Laman  
Assistant to the Vice Chancellor of Educational Affairs  
ML/js

NCHEMS is pleased to give you complete permission to use the questionnaires to collect data for your dissertation, and also to include samples of the questionnaires in your research proposal and completed dissertation. NCHEMS materials are in the public domain and we are pleased to have them used to benefit the higher education community in any way possible. Best wishes with your dissertation. We will appreciate mention for development of the questionnaires.

Clara Roberts  
Clara Roberts, Publications Manager  
6-15-87
APPENDIX B

THE NATIONAL CENTER FOR HIGHER EDUCATION MANAGEMENT SYSTEMS/COLLEGE BOARD STUDENT-OUTCOMES INFORMATION SERVICES (SOIS) QUESTIONNAIRES

1. Entering-Student Questionnaire
2. Continuing-Student Questionnaire
3. Former-Student Questionnaire
Entering-Student Questionnaire

(Two-Year Institutions)

**PERSONAL IDENTIFICATION SECTION**

Do not complete this section unless you are asked to do so. Please print.

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Any other name which may appear on your school or college records.

Student Identification Number: [ ]

Telephone Number: [ ]

Permanent mailing address:

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National Center for Higher Education Management Systems
The College Board Student-Outcomes Information Services
STANDARD QUESTIONS SECTION

INSTRUCTIONS:
Specific directions are given for completing many of the questions in this questionnaire. Where no directions are given, please circle the number or letter of the most appropriate response such as in the sample question below.

Sample

4. Are you currently married?
   0 Yes
   1 No
   If you are not currently married, you would circle the number 1.

1. What is your sex?
   0 Female
   1 Male

2. How do you describe yourself? Circle one
   0 American Indian or Alaskan Native
   1 Asian Pacific Islander or Hispanic
   2 Black or Afro-American
   3 Hispanic Chicano or Spanish-speaking American
   4 White or Caucasian
   5 Other

3. How old are you?
   0 Under 18
   1 18 to 22 years
   2 23 to 25 years
   3 26 to 30 years
   4 31 to 40 years
   5 41 to 50 years
   6 51 to 60 years
   7 61 years or more

4. Are you currently married?
   0 Yes
   1 No

5. Do you feel that you have a permanent handicap? Circle all that apply
   0 No
   1 Yes, restricted mobility
   2 Yes, restricted hearing
   3 Yes, restrictions vision
   4 Yes, but I prefer not to record it on this form
   5 Other

6. Have you previously enrolled in any postsecondary educational institution? If you have enrolled in more than one, please circle the most recent.
   0 No, I have not been previously enrolled
   1 Yes, at this institution
   2 Yes, at a public two-year college
   3 Yes, at a public four-year college or university
   4 Yes, at a private college or university
   5 Yes, at a vocational, technical, or hospital school of nursing, trade school, or business school
   6 Other

   b. If you have attended another college, please write in the name of the one you most recently attended

7. The following statements reflect the goals of many college students. Please circle the letters of all those goals that are important to you:

   A. To improve my knowledge and understanding in an academic field
   B. To obtain a certificate or degree
   C. To complete courses necessary to transfer to another educational institution
   D. Other

   Career Preparation Goals
   E. To discover my career interests
   F. To formulate long-term career plans
   G. To prepare for a new career
   H. Other

   Job or Career-Improvement Goals
   I. To improve my knowledge, technical skills, and competencies required for my job or career
   J. To increase my chances for a raise and/or promotion
   K. Other

   Social and Cultural Participation Goals
   L. To become actively involved in student life and campus activities
   M. To increase my participation in cultural and social events
   N. To meet people
   O. Other

   Personal Development and Enrichment Goals
   P. To increase my self-confidence
   Q. To improve my leadership skills
   R. To improve my ability to get along with others
   S. To learn skills that will enrich my daily life or make me a more complete person
   T. To develop my ability to be independent, self-reliant, and adaptable
   U. Other
8. From the list of goals in question 7, please select the three that are most important to you and enter their codes below. For example, if your most important goal is "To obtain a certificate or degree," enter the letter B in the first box.

Most Important □ Second Most Important □ Third Most Important □

9. What degree are you currently working toward at our college, and what is the highest degree you ultimately plan to earn? Circle a number in each column.

<table>
<thead>
<tr>
<th>Current</th>
<th>Ultimate</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
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<tr>
<td>1</td>
<td>1</td>
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<tr>
<td>2</td>
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<td>3</td>
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<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Not seeking a certificate or degree
Certificate of one year or less
Certificate of more than one year
Associate degree
Bachelor's degree
Graduate or professional degree

10. a. Please write in your intended major or area of study at our college.

b. Now look at list A: Majors and Areas of Study, and enter in the boxes below the code number of the category in which your major or area of study falls.

11. What is your intended enrollment status?

- Primarily for credit — full-time (12 or more hours each term enrolled)
- Primarily for credit — part-time (less than 12 hours each term enrolled)
- Primarily not for credit

12. What will your primary employment or occupation be during your first term at our college? Circle the most appropriate response.

- Employed more than half time
- Employed half time or less
- Homemaker, not employed outside of the home
- Not employed but would like to work
- Not employed and do not care to work while attending college

13. The decision to attend a particular college is usually influenced by a variety of factors. Please circle all of the factors that influenced your choice to attend our college.

- A. Academic reputation of our college
- B. Course offerings
- C. Former student's advice
- D. Teacher's or friend's advice
- E. Counselor's advice
- F. Employer's suggestion
- G. Will help me retain my current employment
- H. Costs
- I. Availability of financial aid
- J. Institution's social reputation
- K. Close to home
- L. Wanted a change-in scenery, or location
- M. Range and availability of student services
- N. I can identify with fellow students
- O. Inconvenient to go elsewhere

14. How did you learn about our college? Please circle all items that apply.

- From people at my high school
- From relatives, friends, or acquaintances
- From a representative of this college
- From a college placement service or some other education-information service
- From a college catalog
- From material I received in the mail
- From material I read in a newspaper or magazine
- From a radio or TV advertisement
- From an information display at an education fair, shopping center, county fair, or similar location
- Other

15. a. Was our college your first choice?

- Yes
- No

b. If no, what kind of college was your first choice?

- A public two-year college
- A public four-year college or university
- A private college or university
- A vocational technical school, hospital school of nursing, trade school, or business school
- Other

What was the name of the college that was your first choice?

16. Do you plan to apply for financial aid at our college?

- Yes, I have already applied
- Yes, I plan to apply
- No, I do not think I will ever apply
17. When would you most prefer to take your classes?

Circle one:
0 Weekday mornings
1 Weekday afternoons
2 Weekday evenings
3 Anytime during the week
4 Anytime during the weekend
5 No preference

18. Do you plan to enroll at our college next term?

Circle one:
0 Yes
1 No, I will complete my program this term
2 No, but I plan to return at some future date
3 No, I plan to transfer to another college
4 No, I have no plans for additional education at this time
5 I do not yet know my plans for next term

ADDITIONAL QUESTIONS SECTION

Additional questions may have been added to this printed form by your college. If you have been asked to answer additional questions, please use the boxes below to record your responses.

[Blank boxes for responses]

Please use the space below for any comments you have about our college, this questionnaire, or anything else you care to share with us.
# LIST A: MAJORS AND AREAS OF STUDY

**Programs usually requiring four or more years of study**

<table>
<thead>
<tr>
<th>Code</th>
<th>Majors and Areas of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>0100</td>
<td>Agriculture and Natural Resources</td>
</tr>
<tr>
<td>0200</td>
<td>Architecture and Environmental Design</td>
</tr>
<tr>
<td>0300</td>
<td>Area Studies (includes Asian Studies, Black Studies, etc.)</td>
</tr>
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<td>Biological and Life Sciences</td>
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<tr>
<td>0500</td>
<td>Business and Management</td>
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<td>Education</td>
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<tr>
<td>0900</td>
<td>Engineering</td>
</tr>
<tr>
<td>1000</td>
<td>Fine and Applied Arts (includes Art, Dance, Drama, Music, etc.)</td>
</tr>
<tr>
<td>1100</td>
<td>Foreign Languages</td>
</tr>
<tr>
<td>1200</td>
<td>Health Professions</td>
</tr>
<tr>
<td>1300</td>
<td>Home Economics (includes Clothing and Textiles, Institutional Housekeeping and Food Service Management, etc.)</td>
</tr>
<tr>
<td>1400</td>
<td>Law</td>
</tr>
<tr>
<td>1500</td>
<td>Letters (includes Creative Writing, Literature, Philosophy, Speech, etc.)</td>
</tr>
<tr>
<td>1600</td>
<td>Library Science</td>
</tr>
<tr>
<td>1700</td>
<td>Mathematics</td>
</tr>
<tr>
<td>1800</td>
<td>Physical Sciences (includes Chemistry, Physics, Earth Sciences, etc.)</td>
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<tr>
<td>1900</td>
<td>Psychology</td>
</tr>
<tr>
<td>2100</td>
<td>Public Affairs and Social Services</td>
</tr>
<tr>
<td>2200</td>
<td>Social Sciences (includes Anthropology, Economics, History, Political Science, Sociology, etc.)</td>
</tr>
<tr>
<td>2300</td>
<td>Theology and Religion</td>
</tr>
<tr>
<td>4900</td>
<td>Interdisciplinary Studies</td>
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<td>6600</td>
<td>Other</td>
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<tr>
<td>7900</td>
<td>Undecided but probably program of four or more years</td>
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</table>

**Programs usually requiring less than four years of study**

<table>
<thead>
<tr>
<th>Code</th>
<th>Majors and Areas of Study</th>
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</thead>
<tbody>
<tr>
<td>5000</td>
<td>Business and Commerce Technologies (includes Accounting, Banking, Commercial Art, Hotel and Restaurant Management, etc.)</td>
</tr>
<tr>
<td>5003</td>
<td>Secretarial Technologies (includes Office Supervising and Management, Stenographic and Typing Technology, etc.)</td>
</tr>
<tr>
<td>5006</td>
<td>Personal Service Technologies (includes Stewardess Training, Cosmetologist, etc.)</td>
</tr>
<tr>
<td>5100</td>
<td>Data Processing Technologies (includes Computer Programming, Keypunching, etc.)</td>
</tr>
<tr>
<td>5200</td>
<td>Health Services and Paramedical Technologies (includes Dental and Medical Assistant Technology, LPN, Occupational and Physical Therapy, Technology, etc.)</td>
</tr>
<tr>
<td>5300</td>
<td>Mechanical and Engineering Technologies (includes Aeronautical and Automotive Technology, Welding Electronics, Architectural Drafting, etc.)</td>
</tr>
<tr>
<td>5317</td>
<td>Construction and Building Technologies (includes Carpentry, Plumbing, Sheet Metal, Heating, etc.)</td>
</tr>
<tr>
<td>5400</td>
<td>Natural Science Technologies (includes Agriculture Technology, Environmental Health Technology, Forestry, and Wildlife Technology, etc.)</td>
</tr>
<tr>
<td>5404</td>
<td>Food Service Technologies (includes Food Service Supervising, Institutional Food Preparation, etc.)</td>
</tr>
<tr>
<td>5500</td>
<td>Public Service Technologies (includes Law Enforcement Technology, Teacher Aide Training, Fire Control Technology, Public Administration Technology, etc.)</td>
</tr>
<tr>
<td>5506</td>
<td>Recreation and Social Work Related Technologies</td>
</tr>
<tr>
<td>8000</td>
<td>Other</td>
</tr>
<tr>
<td>9000</td>
<td>Undecided but probably less than four year program</td>
</tr>
</tbody>
</table>
**Entering-Student Questionnaire**

Please record your answers to the following questions in the appropriate boxes provided for in the ADDITIONAL QUESTIONS SECTION of the questionnaire.

19. Which of the following is the primary financial aid program you have applied for? (Enter your response in box 19)

0. G. I. Bill  
1. Scholarships  
2. Grants  
3. Student loan  
4. Part-time work on campus  
5. Other  
6. None

20. What is your family’s approximate annual income before taxes? (Enter your response in box 20)

0. $0 - $5,000  
1. $5,001 - $7,500  
2. $7,501 - $10,000  
3. $10,001 - $15,000  
4. $15,001 - $20,000  
5. $20,001 - $25,000  
6. $25,001 - $30,000  
7. $30,001 - $35,000  
8. $more than $35,000

21. Which of the following characterizes your study skills? (Enter your response in box 21)

0. Poor  
1. Minimal  
2. Good  
3. Excellent

22. Would you be interested in assistance to develop better study skills? (Enter your response in box 22)

0. No  
1. Yes

23. What was your approximate high school grade average? (Enter your response in box 23)

0. 90 - 100 (A)  
1. 80 - 89 (B)  
2. 70 - 79 (C)  
3. less than 70 (D)
24. What was your class rank upon graduation from high school? (Enter your response in box 24)

0. Top quartile
1. Second quartile
2. Third quartile
3. Bottom quartile
4. Do not know

25. What is the highest grade level your father has completed? (Enter your response in box 25)

0. Less than high school graduate
1. High School graduate
2. GED diploma
3. One year of college
4. 2-3 years of college
5. Associate Degree (2 year college graduate)
6. Bachelor’s Degree (4 year college graduate)
7. Graduate work
8. Graduate degree (Masters or Doctorate)

26. What is the highest grade level your mother has completed? (Enter your response in box 26)

0. Less than high school graduate
1. High School graduate
2. GED diploma
3. One year of college
4. 2-3 years of college
5. Associate Degree (2 year college graduate)
6. Bachelor’s Degree (4 year college graduate)
7. Graduate work
8. Graduate degree (Masters or Doctorate)

27. When did you register for the Fall semester? (Enter your response in box 28)

0. Regular registration
1. Late registration

29. How important is it to you to complete your educational goals? (Enter your response in box 29)

0. not important
1. minimally important
2. moderately important
3. extremely important
Continuing-Student Questionnaire
(Two-Year Institutions)

PERSONAL IDENTIFICATION SECTION
Do not complete this section unless you are asked to do so. Please print.

LAST NAME

FIRST NAME

MIDDLE INITIAL

ANY OTHER NAME WHICH MAY APPEAR ON YOUR SCHOOL OR COLLEGE RECORDS

STUDENT IDENTIFICATION NUMBER

TELEPHONE NUMBER

PERMANENT MAILING ADDRESS

CITY

STATE

ZIP CODE

National Center for Higher Education Management Systems
The College Board
Student-Outcome Information Services
STANDARD QUESTIONS SECTION

INSTRUCTIONS:
Specific directions are given for completing many of the questions in this questionnaire. Where no directions are given, please circle the number or letter of the most appropriate response, such as in the sample question below.

Sample
4. Are you currently married?
   0 Yes
   1 No
If you are not currently married, you would circle the number 1.

1. What is your sex?
   0 Female
   1 Male

2. How do you describe yourself? Circle one
   0 American Indian or Alaskan Native
   1 Asian, Pacific Islander, or Filipino
   2 Black or Afro-American
   3 Hispanic, Chicano, or Spanish-speaking American
   4 White or Caucasian
   5 Other

3. How old are you?
   0 Under 18
   1 18 to 22 years
   2 23 to 25 years
   3 26 to 30 years
   4 31 to 40 years
   5 41 to 50 years
   6 51 to 60 years
   7 61 years or more

4. Are you currently married?
   0 Yes
   1 No

5. Do you feel that you have a permanent handicap? Circle all that apply
   0 No
   1 Yes, restricted mobility
   2 Yes, restricted hearing
   3 Yes, restricted vision
   4 Yes, but I prefer not to record it on this form
   5 Other

6. How long have you been at our college?
   0 One term
   1 One year
   2 Two years
   3 Three years
   4 Four years
   5 More than four years

7. The following statements reflect the goals of many college students. In the first column, please circle the letters of those goals that are important to you at this time. In the second column, circle the letters of those goals that you feel you are achieving or have achieved.

These goals are important to me at this time

These goals I am achieving or have achieved

Academic Goals
   0 A  90 A To increase my knowledge and understanding in an academic field
   91 B  92 B To obtain a certificate or degree
   93 C  94 C To complete courses necessary to transfer to another educational institution
   95 D  96 D Other

Career-Preparation Goals
   97 E  98 E To discover career interests
   99 F  100 F To formulate long-term career plans and goals
   101 G  102 G To prepare for a new career
   103 H  104 H Other

Job- or Career-Improvement Goals
   105 I  106 I To improve my knowledge, technical skills, and/or competencies for my job or career
   107 J  108 J To increase my chances for a raise and/or promotion
   109 K  110 K Other

Social- and Cultural-Participation Goals
   111 L  112 L To become actively involved in student life and campus activities
   113 M  114 M To increase my participation in cultural and social events
   115 N  116 N To meet people
   117 O  118 O Other

Personal Development and Enrichment Goals
   119 P  120 P To increase my self-confidence
   121 Q  122 Q To improve my leadership skills
   123 R  124 R To improve my ability to get along with others
   125 S  126 S To learn skills that will enrich my daily life or make me a more complete person
   127 T  128 T To develop my ability to be independent, self-reliant, and adaptable
   129 U  130 U Other
8. From the list of goals in question 7, please select the three that are most important to you at this time and enter their codes below. For example, if your most important goal is "To obtain a certificate or degree," enter the letter B in the first box.

Most Important [ ] Second Most Important [ ] Third Most Important [ ]

9. What degree are you currently working toward at our college, and what is the highest degree you ultimately plan to earn? Circle a number in each column.

<table>
<thead>
<tr>
<th>Current</th>
<th>Ultimate</th>
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<tbody>
<tr>
<td>0</td>
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<td>5</td>
<td>5</td>
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</tbody>
</table>

10. a. Please write in your intended major or area of study at our college:

b. Now look at List A: Majors and Areas of Study and enter in the boxes below the code number of the category in which your major or area of study falls.

11. What is your intended enrollment status?

-0 Primarily for credit — full-time (12 or more hours each term enrolled)
-1 Primarily for credit — part-time (less than 12 hours each term enrolled)
-2 Primarily not for credit

12. What is your primary employment or occupation status at this time? Circle the most appropriate response.

-0 Employed more than half time
-1 Employed half time or less
-2 Homemaker, not employed outside of the home
-3 Not employed but would like to work
-4 Not employed and do not care to work while attending college

13. When would you prefer to take your classes?

-0 Weekday mornings
-1 Weekday afternoons
-2 Weekday evenings
-3 Anytime during the week
-4 Anytime during the weekend
-5 No preference

14. Do you plan to enroll at our college next term?

-0 Yes
-1 No, I will complete my program this term
-2 No, but I plan to return at some future date
-3 No, I plan to transfer to another college
-4 No, I have no plans for additional education at this time
-5 I do not yet know my plans for next term

15. Concerning financial aid, which of the following is true for you?

-0 I have received financial aid
-1 I have applied for financial aid but was denied
-2 I have not applied for financial aid but plan to apply in the future
-3 I do not think I will ever apply

16. The following are services provided by colleges. How would you evaluate these services as provided by our college? For each service, circle the number of the response that is most appropriate.

<table>
<thead>
<tr>
<th>Service</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<td>Guidance, counseling, and testing</td>
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<tr>
<td>Reading, writing, math, and study-skills</td>
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<td>improvement</td>
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<td>Tutoring</td>
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<td>Minority affairs</td>
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<tr>
<td>Other</td>
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</tbody>
</table>

Other: ____________________________
### ADDITIONAL QUESTIONS SECTION

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<th>18</th>
<th>19</th>
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</table>

Please use the space below for any comments you have about our college, this questionnaire, or anything else you care to share with us.
## LIST A: MAJORS AND AREAS OF STUDY

### Programs usually requiring four or more years of study

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<td>1200</td>
<td>Health Professions</td>
</tr>
<tr>
<td>1300</td>
<td>Home Economics (includes Clothing and Textiles, Institutional Housekeeping, and Food Service Management, etc.)</td>
</tr>
<tr>
<td>1400</td>
<td>Law</td>
</tr>
<tr>
<td>1500</td>
<td>Letters (includes Creative Writing, Literature, Philosophy, Speech, etc.)</td>
</tr>
<tr>
<td>1600</td>
<td>Libran Science</td>
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<tr>
<td>1700</td>
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</tr>
<tr>
<td>1800</td>
<td>Military Sciences</td>
</tr>
<tr>
<td>1900</td>
<td>Physical Sciences (includes Chemistry, Physics, Earth Sciences, etc.)</td>
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<tr>
<td>2000</td>
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<td>2100</td>
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<tr>
<td>2200</td>
<td>Social Sciences (includes Anthropology, Economics, History, Political Science, Sociology, etc.)</td>
</tr>
<tr>
<td>2300</td>
<td>Theology and Religion</td>
</tr>
<tr>
<td>4900</td>
<td>Interdisciplinary Studies</td>
</tr>
<tr>
<td>5000</td>
<td>Business and Commerce Technologies (includes Accounting, Banking, Commercial Art, Hotel and Restaurant Management, etc.)</td>
</tr>
<tr>
<td>5005</td>
<td>Secretarial Technologies (includes Office Supervising and Management, Stenographic and Typing Technology, etc.)</td>
</tr>
<tr>
<td>5006</td>
<td>Personal Service Technologies (includes Stewardess Training, Cosmetologist, etc.)</td>
</tr>
<tr>
<td>5100</td>
<td>Data Processing Technologies (includes Computer Programming, Keypunching, etc.)</td>
</tr>
<tr>
<td>5200</td>
<td>Health Services and Paramedical Technologies (includes Dental and Medical Assistant Technology, LPN, Occupational and Physical Therapy Technology, etc.)</td>
</tr>
<tr>
<td>5300</td>
<td>Mechanical and Engineering Technologies (includes Aeronautical and Automotive Technology, Welding, Electronics, Architectural Drafting, etc.)</td>
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<tr>
<td>5317</td>
<td>Construction and Building Technologies (includes Carpentry, Plumbing, Sheet Metal, Heating, etc.)</td>
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<tr>
<td>5400</td>
<td>Natural Science Technologies (includes Agriculture Technology, Environmental Health Technology, Forestry and Wildlife Technology, etc.)</td>
</tr>
<tr>
<td>5404</td>
<td>Food Services Technologies (includes Food Service Supervising, Institutional Food Preparation, etc.)</td>
</tr>
<tr>
<td>5500</td>
<td>Public Service Technologies (includes Law Enforcement Technology, Teacher Aide Training, Fire Control Technology, Public Administration Technology, etc.)</td>
</tr>
<tr>
<td>5506</td>
<td>Recreation and Social Work Related Technologies</td>
</tr>
<tr>
<td>6000</td>
<td>Other</td>
</tr>
<tr>
<td>7000</td>
<td>Undecided but probably program of four or more years</td>
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</tbody>
</table>

### Programs usually requiring less than four years of study

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</tr>
<tr>
<td>5005</td>
<td>Secretarial Technologies (includes Office Supervising and Management, Stenographic and Typing Technology, etc.)</td>
</tr>
<tr>
<td>5006</td>
<td>Personal Service Technologies (includes Stewardess Training, Cosmetologist, etc.)</td>
</tr>
<tr>
<td>5100</td>
<td>Data Processing Technologies (includes Computer Programming, Keypunching, etc.)</td>
</tr>
<tr>
<td>5200</td>
<td>Health Services and Paramedical Technologies (includes Dental and Medical Assistant Technology, LPN, Occupational and Physical Therapy Technology, etc.)</td>
</tr>
<tr>
<td>5300</td>
<td>Mechanical and Engineering Technologies (includes Aeronautical and Automotive Technology, Welding, Electronics, Architectural Drafting, etc.)</td>
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<td>5317</td>
<td>Construction and Building Technologies (includes Carpentry, Plumbing, Sheet Metal, Heating, etc.)</td>
</tr>
<tr>
<td>5400</td>
<td>Natural Science Technologies (includes Agriculture Technology, Environmental Health Technology, Forestry and Wildlife Technology, etc.)</td>
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<td>5404</td>
<td>Food Services Technologies (includes Food Service Supervising, Institutional Food Preparation, etc.)</td>
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<td>Public Service Technologies (includes Law Enforcement Technology, Teacher Aide Training, Fire Control Technology, Public Administration Technology, etc.)</td>
</tr>
<tr>
<td>5506</td>
<td>Recreation and Social Work Related Technologies</td>
</tr>
<tr>
<td>8000</td>
<td>Other</td>
</tr>
<tr>
<td>9000</td>
<td>Undecided but probably less than four year program</td>
</tr>
</tbody>
</table>
Continuing Student Questionnaire

Please record your answers to the following questions in the appropriate boxes provided in the ADDITIONAL QUESTIONS SECTION of the questionnaire.

Please indicate the level of encouragement you received from the following individuals to remain in college: (Enter your responses in boxes 17 - 20)

N/A None Minimal Moderate Significant

17. Parents 0 1 2 3 4
18. Spouse 0 1 2 3 4
19. Employer 0 1 2 3 4
20. Close friends 0 1 2 3 4

21. What is your family’s approximate annual income before taxes? (Enter your response in box 21)

0. $0 - $5,000
1. $5,001 - $7,500
2. $7,501 - $10,000
3. $10,001 - $15,000
4. $15,001 - $20,000
5. $20,001 - $25,000
6. $25,001 - $30,000
7. $30,001 - $35,000
8. $more than $35,000

Please indicate the degree of difficulty you have budgeting time for your studies, social life, work, and family responsibilities. (Enter your responses in boxes 22-25)

None Minimal Moderate Significant

22. studies 0 1 2 3
23. social life 0 1 2 3
24. work 0 1 2 3
25. family responsibilities

26. Which of the following characterizes your perception of how difficult it would be to transfer to another college or university? (Enter your response in box 26)

0. Easy
1. Minimally difficult
2. Moderately difficult
3. Extremely difficult
Please indicate the degree of difficulty you encountered during the Fall semester with the following: (Enter your responses in boxes 27-28)

<table>
<thead>
<tr>
<th>None</th>
<th>Minimal</th>
<th>Moderate</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

27. Keeping up with class assignments

28. Understanding lectures

29. Courses are scheduled at times I am available to enroll. (Enter your response in box 29)

0. strongly disagree
1. disagree
2. uncertain
3. agree
4. strongly agree

30. Please indicate the degree of satisfaction you experienced, in general, with the quality of instruction. (Enter your response in box 30)

0. not satisfied
1. minimally satisfied
2. moderately satisfied
3. extremely satisfied

31. What was the frequency of contact you had with instructors outside of class. (Enter your response in box 31)

0. none
1. 1-2 times/week
2. 2-4 times/week
3. 4 or more times/week
**Former-Student Questionnaire**  
*(Two-Year Institutions)*

<table>
<thead>
<tr>
<th><strong>PERSONAL IDENTIFICATION SECTION</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Do not complete this section unless you are asked to do so. Please print.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>LAST NAME</strong></td>
<td></td>
</tr>
<tr>
<td><strong>FIRST NAME</strong></td>
<td></td>
</tr>
<tr>
<td><strong>MIDDLE INITIAL</strong></td>
<td></td>
</tr>
<tr>
<td><strong>STUDENT IDENTIFICATION NUMBER</strong></td>
<td></td>
</tr>
<tr>
<td><strong>TELEPHONE NUMBER</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PERMANENT MAILING ADDRESS NUMBER AND STREET</strong></td>
<td></td>
</tr>
<tr>
<td><strong>CITY</strong></td>
<td></td>
</tr>
<tr>
<td><strong>STATE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ZIP CODE</strong></td>
<td></td>
</tr>
</tbody>
</table>

National Center for Higher Education Management Systems  
The College Board  
Student-Outcomes Information Services
STANDARD QUESTIONS SECTION

INSTRUCTIONS:
Specific directions are given for completing many of the questions in this questionnaire. Where no directions are given, please circle the number or letter of the most appropriate response, such as in the sample question below.

Sample

4. Are you currently married?
   0 Yes
   1 No

If you are not currently married, you would circle the number 1.

1. What is your sex?
   0 Female
   1 Male

2. How do you describe yourself? Circle one
   0 American Indian or Alaskan Native
   1 Asian, Pacific Islander, or Filipino
   2 Black or Afro-American
   3 Hispanic, Chicano, or Spanish-speaking American
   4 White or Caucasian
   5 Other

3. How old are you?
   0 Under 18
   1 18 to 22 years
   2 23 to 25 years
   3 26 to 30 years
   4 31 to 40 years
   5 41 to 50 years
   6 51 to 60 years
   7 61 years or more

4. Are you currently married?
   0 Yes
   1 No

5. Do you feel that you have a permanent handicap? Circle all that apply:
   0 No
   1 Yes, restricted mobility
   2 Yes, restricted hearing
   3 Yes, restricted vision
   4 Yes, but I prefer not to record it on this form
   5 Other

6. How long did you attend our college?
   0 One term
   1 One year
   2 Two years
   3 Three years
   4 Four years
   5 More than four years

7. The following statements reflect the goals of many college students. In the first column, please circle the letters of those goals that were important to you when you attended our college. In the second column, circle the letters of those goals you feel you are achieving or have achieved as a result of your experiences at our college.

   These goals were important to me
   
   These goals I am achieving or have achieved
   1 Academic Goals
      89 A 90 A To increase my knowledge and understanding in an academic field
      91 B 92 B To obtain a certificate or degree
      93 C 94 C To complete courses necessary to transfer to another educational institution
      95 D 96 D Other
   2 Career-Preparation Goals
      97 E 98 E To discover career interests
      99 F 100 F To formulate long-term career plans and goals
      101 G 102 G To prepare for a new career
      103 H 104 H Other
   3 Job- or Career-Improvement Goals
      105 I 106 I To improve my knowledge, technical skills, and/or competencies in my job or career
      107 J 108 J To increase my chances for a raise and/or promotion
      109 K 110 K Other
   4 Social- and Cultural-Participation Goals
      111 L 112 L To become actively involved in student life and campus activities
      113 M 114 M To increase my participation in cultural and social events
      115 N 116 N To meet people
      117 O 118 O Other
   5 Personal-Development and Enhancement Goals
      119 P 120 P To increase my self-confidence
      121 Q 122 Q To improve my leadership skills
      123 R 124 R To improve my ability to get along with others
      125 S 126 S To learn skills that will enrich my daily life or make me a more complete person
      127 T 128 T To develop my ability to be independent, self-reliant, and adaptable
      129 U 130 U Other
From the list of goals in question 7, please select the three that were most important to you when you attended our college. For example, if your most important goal was "To obtain a certificate or degree," enter the letter B in the first box.

<table>
<thead>
<tr>
<th>Most Important</th>
<th>Second Most Important</th>
<th>Third Most Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

What degree were you seeking when you attended our college?

- 0 Not seeking a certificate or degree
- 1 Certificate of one year or less
- 2 Certificate of more than one year
- 3 Associate degree
- 4 Other

F. What degree were you seeking when you attended our college?

- 0 Not seeking a certificate or degree
- 1 Certificate of one year or less
- 2 Certificate of more than one year
- 3 Associate degree
- 4 Other

Please write in your major or area of study at our college.

Now look at List A: Majors and Areas of Study and enter in the boxes below the code number of the category in which your major or area of study falls.

| 135 | 136 | 137 |

Was our college your first choice?

- 0 Yes
- 1 No

If no, what kind of college was your first choice?

- 0 A public two-year college
- 1 A public four-year college or university
- 2 A private college or university
- 3 A vocational/technical school, hospital school of nursing, trade school, or business school
- 4 Other

What was the name of the college that was your first choice?

When you left our college, what was your overall grade point average (GPA)?

- 0 4.00 to 3.01
- 1 3.00 to 2.01
- 2 2.00 to 1.01
- 3 1.00 or less
- 4 Unknown or did not have one

What was your primary enrollment status when you attended our college?

- 0 Primarily for credit — full-time (12 or more hours each term enrolled)
- 1 Primarily for credit — part-time (less than 12 hours each term enrolled)
- 2 Primarily not for credit

While you were enrolled, how many hours did you normally work when classes were being held?

- 0 I was not employed
- 1 Employed 1-10 hours per week
- 2 Employed 11-20 hours per week
- 3 Employed 21-35 hours per week
- 4 Employed 36 hours or more per week

Did you apply for financial assistance (loan or scholarship) while at our college?

- 0 Yes, and I received it
- 1 Yes, but I did not receive it
- 2 Yes, but I left before I found out if I received it
- 3 No

The decision to leave a particular college can be motivated by a variety of reasons. Please circle the letters of all of the reasons that contributed to your decision to leave our college.

**Academic Reasons:**

- A Achieved my academic goals
- B Transferred to another college
- C Needed a break from college
- D Courses/programs I wanted were not available
- E Dissatisfied with my academic performance
- F Dissatisfied with the quality of teaching
- G Dissatisfied with the learning environment
- H Course work not what I wanted
- I Unsure of my academic goals
- J Other

**Financial Reasons:**

- K Did not have enough money to continue
- L Could not obtain sufficient financial aid
- M Could not earn enough money while enrolled
- N Other

**Other Reasons:**

- O Achieved my personal goals
- P Accepted a job or entered the military
- Q College experience not as I expected
- R Few people I could identify with
- S Moved out of the area
- T Could not work and go to school at the same time
- U Other responsibilities became too great
- V Personal problems
- W Other
17. From the list of reasons in question 16, please select the three most important reasons and enter their codes below. For example, if the most important reason was that you "Transferred to another college," enter the letter B in the first box.

<table>
<thead>
<tr>
<th>Most Important</th>
<th>Second Most Important</th>
<th>Third Most Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>168</td>
<td>169</td>
<td>170</td>
</tr>
</tbody>
</table>

18. The following are services provided by colleges. How would you evaluate these services as provided by your college? For each service, circle the number of the response that is most appropriate.

- I did not know about this service
- I knew about this service but did not use it
- I used this service and was satisfied with it
- I used this service but was not satisfied with it

<table>
<thead>
<tr>
<th>Service</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<td>Admissions</td>
<td>171</td>
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<td>173</td>
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<tr>
<td>Registration</td>
<td>175</td>
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<td>177</td>
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<td>Business Office</td>
<td>179</td>
<td>180</td>
<td>181</td>
<td>182</td>
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<tr>
<td>Academic advising</td>
<td>183</td>
<td>184</td>
<td>185</td>
<td>186</td>
</tr>
<tr>
<td>Counseling and testing</td>
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<td>188</td>
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<tr>
<td>Reading, writing, math, and study-skills</td>
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<td>192</td>
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<tr>
<td>Tutoring</td>
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<tr>
<td>Minority affairs</td>
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<td>200</td>
<td>201</td>
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<td>College cultural programs</td>
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<tr>
<td>Recreation and athletic programs</td>
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<td>Financial aid</td>
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<td>Student employment</td>
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<tr>
<td>Career planning</td>
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<td>Job placement</td>
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<td>Housing services</td>
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<td>Other</td>
<td>259</td>
<td>260</td>
<td>261</td>
<td>262</td>
</tr>
</tbody>
</table>

19. a) Do you currently have plans for additional education?  
[ ] No. not at this time  
[ ] 1 Yes. I plan to reenroll at this college  
[ ] 2 Yes. I have already enrolled at another college  
[ ] 3 Yes. I plan to enroll at another college  
[ ] 4 I am currently undecided about any additional education

b) If you circled responses 2 or 3, please write in the name of the college you plan to attend or are attending.
Former-Student Questionnaires

Please record your answers to the following questions in the appropriate boxes provided for the ADDITIONAL QUESTIONS SECTION of the questionnaire.

20. Please indicate the degree of satisfaction you experienced, in general, with the quality of instruction. (Enter your response in box 21)

0. not satisfied
1. minimally satisfied
2. moderately satisfied
3. extremely satisfied

21. What was the frequency of contact you had with instructors outside of class. (Enter your response in box 22)

0. none
1. 1-2 times/week
2. 2-4 times/week
3. 4 or more times/week

Please indicate the level of encouragement you received from the following individuals to remain in college: (Enter your responses in boxes 22 - 25)

<table>
<thead>
<tr>
<th></th>
<th>N/A</th>
<th>None</th>
<th>Minimal</th>
<th>Moderate</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. Parents</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. Spouse</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. Employer</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. Close friends</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

26. What is your family’s approximate annual income before taxes? (Enter your response in box 25)

0. $0 - $5,000
1. $5,001 - $7,500
2. $7,501 - $10,000
3. $10,001 - $15,000
4. $15,001 - $20,000
5. $20,001 - $25,000
6. $25,001 - $30,000
7. $30,001 - $35,000
8. $more than $35,000
27. How many children under the age of 18 years are living at home with you? (Enter your response in box 26)

0. 0 children
1. 1 child
2. 2 children
3. 3 children
4. 4 children
5. 5 children
6. more than 5 children

Please indicate the degree of difficulty you have budgeting time for your studies, social life, work, and family responsibilities. (Enter your responses in boxes 28-31)

<table>
<thead>
<tr>
<th>None</th>
<th>Minimal</th>
<th>Moderate</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

28. studies
29. social life
30. work
31. family responsibilities

Please indicate the degree of difficulty you encountered during the Fall semester with the following: (Enter your responses in boxes 32-33)

<table>
<thead>
<tr>
<th>None</th>
<th>Minimal</th>
<th>Moderate</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

32. Keeping up with class assignments
33. Understanding lectures

34. In an average week how many hours per week did you spend studying? (Enter your response in box 34)

0. less than 1 hour
1. 1-2 hours per week
2. 2-3 hours per week
3. 3-4 hours per week
4. 4-5 hours per week
5. 5-6 hours per week
6. 6-7 hours per week
7. 7-8 hours per week
8. 8-9 hours per week
9. more than 9 hours per week
APPENDIX C

COVER LETTER AND FOLLOW-UP LETTERS
WITH INFORMED CONSENT FORM
Eastfield College

(Cover letter for Entering-Student Questionnaire)

Dear Student:

Welcome to Eastfield College. On behalf of the faculty and staff, I am pleased you chose Eastfield College to pursue your educational goals.

We are committed to providing you high quality educational programs and services. In order to do so, we need your assistance. I am asking that you complete the enclosed confidential questionnaire as soon as possible and return it to your instructor at the next class meeting. The questionnaire is numbered to assist us in keeping track of questionnaires returned and those not returned.

You will notice that this questionnaire requests personal data about yourself and your family. I assure you this information will remain confidential and all of your responses will become part of our statistical report. Please do not complete the Personal Identification Section of the questionnaire.

Although this is a standard questionnaire, additional questions have been added which will provide us with very important institution-specific information. Please record your responses in the spaces labeled Additional Questions Section provided on the questionnaire.

If you agree to participate in this data collection project, please complete the enclosed form and give it to your instructor. The information provided by your responses will be particularly helpful in our planning and evaluation of programs and services to meet the needs of our students.

Your cooperation and assistance in completing and returning this questionnaire as soon as possible is greatly appreciated.

Thank you.

Sincerely,

Dan Sundermann
President

Enclosure
Eastfield College

(Follow-up Post Card/Letter)

Dear Student:

Recently you were given a confidential questionnaire entitled Entering-Student Questionnaire. As of today, I have not received your response to this questionnaire.

To help us plan educational programs and services to meet the needs of our students, it is essential we receive as many completed questionnaires as possible, including yours.

If you have already returned your completed questionnaire, please disregard this reminder. If you have not completed the questionnaire, please take a few moments to do so.

Thank you for your assistance and cooperation.

Sincerely,

Dan Sundermann
President

Vice Presidents

Jerry C. Henson, Ph. D.

Dean of Student Development

Felix A. Zamora, M.P.A.

Dean of Business Services

Victor J. Razo, Ph.D.
Eastfield College

(Cover letter for Continuing-Student Questionnaire)

Dear Student:

As the Fall Semester draws to a close, I hope you have enjoyed and benefited from your educational experience at Eastfield College.

At the beginning of the semester, I asked you to complete an Entering-Student Questionnaire. The information you and many of your fellow students provided was of significant assistance in the planning and evaluation of educational programs and services to meet student's needs.

Again your assistance is needed. Thus, I am asking you to complete the enclosed confidential questionnaire as soon as possible and return it to your instructor at the next class meeting. The questionnaire is numbered to assist us in keeping track of who has responded and who has not.

As with the previous questionnaire, you will notice this questionnaire requests personal data about yourself and your family. I assure you this information will remain confidential and all of your responses will be part of our statistical report. Please do not complete the Personal Identification Section of the questionnaire.

Although this is a standard questionnaire, additional questions have been added which provide us with very important institution-specific information. Please record your responses in the spaces labeled Additional Questions section provided on the questionnaire.

Your cooperation and assistance in completing and returning this questionnaire as soon as possible is greatly appreciated.

Thank you.

Sincerely,

Dan Sundermann
President
Dear Student:

Recently you were given a confidential questionnaire entitled Continuing-Student Questionnaire. As of today, I have not received your response to this questionnaire.

To help us plan educational programs and services to meet the needs of our students, it is essential we receive as many completed questionnaires as possible, including yours.

If you have already returned your completed questionnaire, please disregard this reminder. If you have not completed the questionnaire, please take a few moments to do so.

Thank you for your assistance and cooperation.

Sincerely,

Dan Sundermann
President
Eastfield College

(Cover letter for Former-Student Questionnaire)

Dear Former Student:

Our institutional records indicate that you have not re-enrolled at Eastfield College for the Spring semester. We are interested in determining the reasons why you left Eastfield College and the degree of your satisfaction with the various aspects of the college. This information will be particularly helpful in our planning and evaluation processes as we strive to meet the needs of our students.

To assist us in this regard, I am asking that you complete the enclosed confidential questionnaire and return it in the enclosed stamped, self-addressed envelope. The envelope is numbered to assist us in keeping track of questionnaires returned and those not returned.

You will notice that this questionnaire requests personal data about yourself and your family. This information is very important in order for us to verify our institutional records and for statistical purposes. I assure you this information will remain confidential and all of your responses will become part of our statistical report. Please do not complete the Personal Identification Section of the questionnaire.

Although this is a standard questionnaire, additional questions have been added which will provide us with very important institution-specific information. Please record your responses in the spaces labeled Additional Questions Section provided on the questionnaire.

If you have re-enrolled at Eastfield College, receipt of this questionnaire in no way affects that re-enrollment. You were selected to receive this questionnaire because you had completed previous questionnaires as part of this information gathering process, and were not continuously enrolled at Eastfield College during the 1987-88 academic year.

Your cooperation and assistance in completing and returning this questionnaire as soon as possible is greatly appreciated.

Sincerely,

Dan Sundermann
President

Enclosures
Eastfield College

(Follow-up Post Card/Letter)

Dear Student:

Recently you were mailed a confidential questionnaire entitled Former-Student Questionnaire. As of today, I have not received your response to this questionnaire.

To help us plan educational programs and services to meet the needs of our students, it is essential we receive as many completed questionnaires as possible, including yours.

I am enclosing another Former-Student Questionnaire for you to complete and return to us. If you have already mailed your completed questionnaire, please disregard this reminder. If you have not completed the questionnaire, please take a few moments to do so.

Thank you for your assistance and cooperation.

Sincerely,

Dan Sundermann
President
INFORMED CONSENT

NAME: ____________________________

SOCIAL SECURITY NUMBER: ____________________________

I hereby agree to voluntarily participate in a data collection project at Eastfield College, Mesquite, Texas during the 1987-88 academic year.

I understand my responses will remain confidential and become part of a statistical report.

DATE

SIGNED: ____________________________ STUDENT
APPENDIX D

APPROVAL LETTERS FROM PRESIDENT OF EASTFIELD COLLEGE, MESQUITE, TEXAS AND VICE CHANCELLOR OF EDUCATIONAL AFFAIRS, DALLAS COUNTY COMMUNITY COLLEGE DISTRICT, DALLAS, TEXAS
June 20, 1987

Jack E. Stone, Ph.D.
Vice Chancellor of Educational Affairs
Dallas County Community College District
701 Elm Street
Dallas, Texas 75202-3299

Dear Jack:

I, along with Jerry Henson, Felix Zamora, and Bobbie Trout, our Registrar, have met with Mike Laman for the purpose of discussing his proposed attrition study to be conducted at Eastfield College. At this time we are willing to support Mike's study and I hereby give approval for Mike to conduct the study during the 1987-88 academic year at Eastfield College.

We look forward to working with Mike.

Sincerely,

Dan Sundermann
President

cc: Mike Laman
TO: Mike Laman
FROM: Jack Stone
SUBJECT: Dissertation Study at Eastfield College
DATE: August 21, 1987

Upon recommendation of the District Office of Planning, Research and Evaluation, the Executive Cabinet has approved your request to conduct your dissertation study on student persistence/withdrawal at Eastfield College during the 1987-88 academic year.

I wish you every success in this endeavor. If I may be of any assistance, please feel free to contact me.

js

cc: Bill Tucker
    Dan Sunderrmann
    Nancy Armes
BIBLIOGRAPHY

Books


**Articles**


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Instruments
