THE RELATIONSHIP OF SATISFACTION, ACADEMIC ACHIEVEMENT, AND GOAL COMMITMENT TO STUDENT RETENTION IN A BACCALAUREATE NURSING PROGRAM

DISSERTATION

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

For the Degree of

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By

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The problem in this investigation is retention of nursing students. The purpose is to identify, describe, and analyze existing relationships between satisfaction with college, academic achievement, and goal commitment for nursing majors in a baccalaureate nursing program that has high retention.

Data were collected using two survey instruments and student grade-point averages. The survey instruments that were completed by 222 generic nursing students (from an enrollment of 258) were used for data analyses.

The methods used to treat data include frequency counts, percentages, the Pearson product moment correlation coefficient, and the two-tailed t test. A .05 level of significance was required. Study findings show (a) the responding sample is primarily non-minority, female, 18-22 years old, enrolled full time, and live off campus; (b) a discrepancy exists between the number of lower-division students and upper-division students, indicating an influx of transfer students; and (c) there is a statistically significant correlation between satisfaction and goal commitment. The findings also show, when upper-division and
lower-division students are compared, that (a) lower-division students experience a significantly higher degree of satisfaction, particularly in social life, compensation, and quality of education; (b) upper-division students have a significantly higher cumulative grade-point average, with non-minority students having a significantly higher average than minority students; and (c) no significant difference is shown in the degree of goal commitment. This study concludes that (a) goal commitment and academic achievement may be factors in retention, but satisfaction in itself cannot be considered a major factor; (b) altered levels in satisfaction are due to perceived differences in social life, compensation, and quality of education; and (c) goal commitment and satisfaction are related.
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CHAPTER I

INTRODUCTION

The declining job market, the reduction in the number of high school graduates seeking a post secondary education, rising institutional costs, and changes in funding have all interacted to bring to an end the "golden age" of higher education. Higher education in the 1980's is facing new challenges to institutional vitality.

Many institutions are turning to retention efforts as the most cost effective means to offset the effect of rising costs and dwindling enrollments. With a 50 per cent attrition rate (24, p. 88), retention is a practical issue—one that can most effectively stabilize enrollment. While student attrition is certainly costly to the institution, it is also costly to the individuals. For some students, however, dropping out is a needed and desirable action, especially if they have fulfilled their objectives (4, 22). Nevertheless, Cope and Hannah (11, p. 4) note that an increasing number of students are voluntarily leaving higher education institutions due to dissatisfaction and general disillusionment.

Retention in nursing education particularly is a nationwide problem. Although the nursing profession
represents the largest sector of health care professionals, Astin (4, p. 38) states that nursing maintains one of the highest educational attrition rates of all academic disciplines. Although enrollments are currently stable, they are predicted to decline, with a continuing decline in the number of graduates and a shift from full- to part-time student status in baccalaureate nursing education (2). Yet the demand for the baccalaureate nursing graduate, which provides the only pool for graduate nursing students, remains heavy (30).

Research studies in higher education and those specific to nursing-student populations indicate that retention is a complex issue which involves the interaction of many variables and seldom has a single cause (4, 11, 25, 49, 52, 54). Recognized variables include factors related to student characteristics and student-institution interaction; the strongest variables include academic aptitude and performance; level of aspiration and motivation; institutional type, image, student services offered, and student involvement; and the development of a sense of belonging or degree of fit that results with student-institution interaction (5, 25). Retention appears to improve when retention efforts are directed at integrating the student's total educational experience. Therefore, this study examines the relationship between
several variables that have been identified through retention research.

Statement of the Problem

This study concerns the retention of nursing students enrolled in a baccalaureate nursing program.

Purpose of the Study

The purpose of this study is to identify, describe, and analyze existing relationships between satisfaction with college, academic achievement, and goal commitment for students who are enrolled in the nursing major of a baccalaureate nursing program. It examines differences in these relationships, which may occur for students at different stages of the undergraduate career, in order to provide data for the purpose of increasing retention in nursing programs.

Research Questions and Hypotheses

Based upon the problem and purposes of this study, the following research questions are addressed.

1. For students who are enrolled in a baccalaureate nursing program, what are the relationships between
   
   a. satisfaction with college and academic achievement,
b. goal commitment and satisfaction with college, and
c. academic achievement and goal commitment?

2. Do upper-division nursing students differ from lower-division nursing students in
   a. academic achievement,
   b. satisfaction with college, and
   c. goal commitment?

Based upon research question one for this study, the following hypotheses are tested.

1(a). For students who are enrolled in a baccalaureate nursing program, there will be no significant difference between degree of satisfaction [as measured by overall scores on the College Student Satisfaction Questionnaire, Form C (CSSQ)] and academic achievement [as measured by cumulative institutional grade-point averages at the end of the Fall Semester, 1983].

1(b). For students who are enrolled in a baccalaureate nursing program, there will be no significant difference between degree of goal commitment [as measured by the overall scores on the Goal Commitment Survey (GCS)] and degree of satisfaction [as measured by the overall scores on the CSSQ].

1(c). For students who are enrolled in a baccalaureate nursing program, there will be no significant difference between academic achievement [as measured by cumulative
institutional grade-point averages at the end of the Fall Semester, 1983], and the degree of goal commitment [as measured by the overall scores on the GCS].

Based upon research question two for this study, the following hypotheses are tested.

2(a). There will be no significant difference between lower-division and upper-division nursing students in their degree of satisfaction with college as measured by the overall scores on the CSSQ.

2(b). There will be no significant difference in the academic achievement of lower-division and upper-division nursing students as measured by the cumulative institutional grade-point averages.

2(c). There will be no significant difference between lower-division and upper-division nursing students in the degree of goal commitment as measured by the overall scores on the GCS.

Definition of Terms

The following terms have restricted meanings and are therefore defined for the purposes of this study.

Student satisfaction is one's general contentment or happiness with the total college experience as indicated by the overall satisfaction score on the College Student Satisfaction Questionnaire, Form C (47).
Goal commitment is one's desire to be a nurse and to complete the baccalaureate in nursing degree as indicated by the overall score on the Goal Commitment Survey.

Retention is the continuous enrollment of a generic nursing student from the Fall, 1983, semester into the Spring, 1984, semester.

Attrition is the failure of a generic nursing student to enroll for the Spring, 1984, semester.

Freshmen are generic nursing majors enrolled in the freshman nursing sequence and no other nursing courses, regardless of the number of hours earned.

Sophomores are generic nursing students enrolled in the sophomore nursing sequence regardless of the number of hours earned.

Juniors are generic nursing students enrolled in the junior nursing sequence regardless of the number of hours earned.

Seniors are generic nursing students enrolled in the senior nursing sequence regardless of the number of hours earned.

Leavers are generic nursing students who were enrolled Fall, 1983, but are not enrolled for classes at the beginning of the Spring, 1984, semester.

Persisters are generic nursing students who received grades for the Fall Semester, 1983, and are enrolled at the
beginning of the Spring Semester, 1984, regardless of prior or subsequent withdrawal.

Delimitations

This study is subject to several delimitations in generalizing from the data.

1. Although the study was conducted within a single institutional setting, support for such an approach is reported by retention researchers (25, 44, 46, 52).

2. This study was conducted in a private university. This approach is appropriate for a retention study in view of higher retention rates reported for private institutions (5, 24).

3. The study was limited to nursing majors. The fact that persistence rates differ by college major supports such an approach (4, 11).

4. The study was conducted for a single semester.

Limitations

The results of the study are limited by the subjectivity of the opinions of the respondents and by limitations inherent in the survey approach to research.

Basic Assumptions

It is assumed that the subjects recognized what was satisfying and need-fulfilling and that they responded
honestly to the instruments used to measure student satisfaction and goal commitment.

Background and Significance of the Study

Institutions of higher education today are threatened by declining enrollments, increasing costs, and the ever-present problem of student attrition. From the boom of 1950-1970, when students were waiting to fill empty spaces, enrollment now shows a steady decline that is predicted to continue through 1985 (9, 17). Increasing costs, which are primarily due to inflation and changes in funding are not in direct proportion to enrollment fluctuations (4). In light of enrollment, cost factors, and a 50 per cent attrition rate (24, p. 88), attrition becomes a major concern and retention a primary goal.

Administrators have traditionally seen recruitment as the principal means to sustain enrollments (4), but costs of recruitment may become prohibitive to most colleges and universities. Costs for recruitment today average between $200 to $800 for every freshman, depending on the type of institution; this is a $500 million investment nationally every year (14, p. 94). At the same time, retention efforts are being shown to be far more cost effective (4, 5, 24). Current research reports indicate that there are increased graduation rates where special retention efforts have been instituted (5, 17, 24). Any change that retains a student
potentially affects three classes of students at once, while recruiting efforts affect only one class in a given year (4). Retention efforts also contribute to the improvement of academic and non-academic programs, providing a service to those already enrolled. While institutions cannot control the birth rate, job market, and other external trends, they can affect enrollment through retention.

Costs for students in higher education have increased dramatically. Between 1964 to 1976, public institution tuition increased 145 per cent and private institution tuition increased 133 per cent (26, p. 12). Such increases are evidence of the increasing costs of institutional operations. Recent changes in federal support, including nursing education, have reduced the scholarship funds available to students. Many areas of the federal higher education budget have suffered budget cuts (24, p. 11). Generally, the portion of state income directed to higher education has also lost priority status to health, welfare, and energy (28). Endowment income is unlikely to rise as rapidly as institutional costs (15, p. 30). Projecting the average cost of services and goods by the 6 to 7 per cent average increase of the 1970s, a $1,000 expense will cost each student $3,444 by 1989 (10, p. 6).

Attrition affects the institution, faculty, students, and society in general. The institution loses revenue and future productive alumni. A negative image can also result
when the loss of students is interpreted by the public as a failure by the institution to meet its responsibilities to the students (12, p. 412). Attrition is demoralizing to both faculty and to students (6); it represents costs in time and energy that are not rewarded with students' successful completion. However, the effects on students are much more complex since attrition represents an immediate financial loss, psychological trauma, and a career and personal setback (4, 11). For some students, the sense of guilt and failure can be so devastating that they are too discouraged to pursue further higher education (4, 25, 38). To society, the loss of qualified students represents a waste of financial resources and potential human talent.

Attrition is particularly costly to the nursing profession in a time of limited funding, declining enrollments, and increased societal and professional demands for professional nurses. Hence, a high value is placed on each student. Johnson (22), director of the Division of Research for the National League for Nursing (NLN), notes that annual national surveys conducted by the NLN indicate both a steady decline in nursing graduates since 1974 and in the number of high school graduates who enter nursing. Both the total enrollment of baccalaureate nursing students and the number of graduates are down by approximately 5 per cent (2, 22, 53). Vaughn (53), director of annual surveys for the NLN, projects a downward trend to continue through 1987.
American Association of Colleges of Nursing data (2, p. 10) indicate that students are also taking longer to complete their degrees; the number of part-time students represents 44 per cent of enrollment while the number of full-time students continues to decline. Such shifts in enrollment can have a severe impact on the supply of professional nurses at a time when health demands are high. Such demands continue to be generated by changes in nationwide health trends, special services, third party reimbursement, population changes, increasing technology, and the development of expanded roles for nurses (20, 21, 22, 27).

Professional demand for nurse leaders is critical. In 1982, only 22 per cent of the nursing population had baccalaureate degrees (2, p. 8) and less than 5 per cent had doctorates (2, p. 3). It is within professional levels of practice that a serious national shortage of nurses continues to be recognized (20, 21, 32, 51), which poses a threat to the provision of health care and to the development of a young profession. The American Association of Colleges of Nursing, the National League for Nursing, and the American Nurses' Association are now all unified in the position that the baccalaureate degree is the entry level to professional nursing practice (2, p. 8). This level provides the foundation for the further development of the profession. The baccalaureate graduate is the only nursing graduate who is prepared to practice in all health care
settings. Her employment within the health care delivery system is believed to improve the quality of patient care (55, p. 71). It is also true that the nursing graduate with an initial baccalaureate degree is most likely to get an advanced degree (30, p. 1,748), which is an education qualification for leadership positions.

The severity of the nursing shortage of nurses prepared with baccalaureate or higher degrees can be more readily visualized when analyses are made of the impact of the shortage on health care delivery agencies, educational programs, and research. Hospital units have had to close due to registered nurse vacancies; the American Hospital Association reports about 100,000 vacancies nationally, which represents 80 per cent of the nation's hospitals (35, p. 63). New graduates as a whole add only 6 per cent annually to the registered nurse pool, which is insufficient to meet growing employer demands (22, p. 73). Sixty per cent of baccalaureate graduates work in hospital settings—a critical manpower source for this health delivery system (30, p. 1,750).

The shortage of graduate-level-prepared nurses is apparent in educational settings, where 19 per cent of nursing faculty have doctorates and 87 per cent of the deans of nursing programs have doctorates (2, p. 19). Only 3 per cent of all graduate-level-prepared nurses have research-focused degrees (30, p. 1,751). In recent years
the number of students who graduated from doctoral programs in nursing has declined. The total number of nurses prepared beyond the baccalaureate degree in nursing has shown only a 1 per cent increase since 1977 (2, p. 3). The professional and scholarly nature of nursing will improve only when the education and research preparation of faculty and deans increases, the body of knowledge essential to improve nursing practice is further developed by qualified nurse researchers, nurse executives and managers become qualified both by education and experience, and the number of qualified practitioners is sufficient to direct quality patient care. Priority must be given to the preparation that will foster the development of such leaders in nursing (21, 32, 51).

Every nursing program faces the challenge of helping to maintain institutional vitality. A nursing program is one of the most expensive educational units that an institution can support, and it is particularly vulnerable to enrollment fluctuations. Declines in the number of nursing students as well as the competition for qualified faculty has threatened the existence of college schools of nursing as institutions strive to meet budgetary demands. The American Nurse (36, pp. 1, 7) reports that the undergraduate program at the Duke University School of Nursing in Durham, North Carolina, will close in 1984; in addition, the Skidmore Department of Nursing in New York, the University of California in Los
Angeles School of Nursing, Wayne State University in Detroit, and Michigan State University School of Nursing at East Lansing are all facing serious threats to their current operations (36, p. 1).

Texas Christian University is an institution that has responded well to current pressures. It provides an excellent environment in which to investigate the relationship among retention variables. A private liberal arts university located in the southwest, Texas Christian University (TCU) offers a baccalaureate nursing degree through the Harris College of Nursing. This college of nursing is affected by current national trends but has reached both financial and enrollment stability. Of a total university enrollment of 6,881 in 1981-1982, there were 325 nursing majors, which represents approximately 5 per cent of the undergraduate majors (50, pp. 3, 11). The most recent retention survey for TCU nursing students was conducted in 1976-1978 (18). The average withdrawal rate reported in that survey for the Harris College of Nursing was 10 per cent—a percentage that is very low when compared to the overall national average of 33 per cent (27). The average rate for other baccalaureate programs of nursing of between 40 to 45 per cent is reported to be even higher than the overall average (31, 42, 49). In line with reported general education trends (11, 13, 33, 39, 46), the greatest percentages of nursing students withdrew in the freshman (20
per cent) and sophomore (19 per cent) years (18). During the junior and senior years, withdrawal rates of 5 and 3 per cent were reported (18). Despite the high retention rate, enrollment steadily declined from 482 in 1974 to a low of 319 in 1981, remaining stable through 1983 (50, p. 2). The recent increase in university enrollment has not appreciably altered the number of nursing majors. The leveling of enrollment at this college of nursing is representative of current national trends in nursing education, but retention is higher than the national average.

Retention is the result of the interaction of many variables. The three variables selected for study are satisfaction, academic achievement, and goal commitment. The literature indicates that these variables are frequently interrelated. The relationship between academic achievement and student performance has long been recognized (11, 39, 40, 46, 52). It has further been shown that when a student is dissatisfied with his environment, academic problems may result (3, 7, 8, 29, 48). Students are human beings who act according to emotion and feelings; dissatisfaction can result in attrition (11, 23, 46, 48, 52). Goal commitment is a factor increasingly related to student satisfaction and success. Cope and Hannah state that "personal commitment may deserve more attention . . . in research; . . . personal commitment to either an academic or occupational goal is the single most important determinant of persistence in college"
(11, pp. 18-19). The relationship of goal commitment and retention is further supported by other researchers (52, 54). Students who are more committed to a goal are more likely to be integrated into both the social and academic spheres of the university, and to experience a higher degree of satisfaction and academic success; thus they are more likely to persist (52).

Single institutional research is supported by retention researchers (25, 44, 46, 52). There is such a variation in institutional attrition—12 per cent to 82 per cent (46)—that the only results that are valid for a particular institution are those which are derived from representative data for that institution (1, 56). Knowledge of national retention and attrition agents helps very little with an individual institution's retention problems (34). Different institutions have different images and appeal to different types of students, which give rise to different reasons for retention and attrition (19, 39, 48).

Student characteristics interact with a particular institutional environment and lead to a certain level of integration into the academic and social system of that institution (52). It is therefore most productive to direct research studies to specific institutions and to confine recommendations to a specific campus (44).

A profile of students who persist successfully at a particular institution can help that institution recruit for
retention (44), since there is stability in patterns of attrition and persistence within each institution (33). If a pattern or characteristic can be shown to correlate positively with retention for nursing students in a baccalaureate program in a private university, such a pattern can be considered an indicator of retention for such students in other similar institutions (25). Furthermore, such correlations can be used as a basis for recruitment and retention efforts.

At the same time a study is not unique just because it is within a single institution. It can be compared to other institutions with common characteristics and add to the overall picture of attrition and retention (25). Lenning, Beal, and Sauer (25, p. 84) state that retention statistics for analogous institutions can also be helpful in interpreting an individual institution's statistics.

Continuing study is needed so that colleges and universities which have limited resources will have a better knowledge of how to foster maximum intellectual development for the maximum number of students (46). Summerskill (46, p. 64) suggests that a student's motivation for a specific college with specified characteristics and objectives is more important than whether or not a student has motivation for college.

Lenning, Beal, and Sauer (25, p. 101) suggest that further research should be completed on student
subpopulations, which is particularly timely for nursing. Further retention research needs to be conducted for nursing students in baccalaureate nursing programs (37). Such research appropriately places emphasis on how students can be encouraged to stay.

Retention efforts are among the most cost effective investments to maintain and enhance institutional enrollment. Attention is directed at variables the institution can most likely manipulate (5). Through such efforts the number of baccalaureate nursing graduates can be increased, which increases the pool for graduate nursing education and the development of future leaders for the nursing profession.

This study has significance because

1. It determines the relationship of satisfaction, academic achievement, and goal commitment for students enrolled in a baccalaureate nursing program;

2. It provides information regarding a profile of nursing students and institutional strengths and weaknesses to help determine the direction of recruitment and retention efforts.

Instruments

Two instruments are used for this study, the College Student Satisfaction Questionnaire, Form C (47), and the Goal Commitment Survey. The level of student satisfaction
was measured by the **College Student Satisfaction Questionnaire, Form C (CSSQ)**, which is a copyrighted survey instrument which uses a five-choice, Likert-type response scale. This survey instrument, which is based on research on the satisfaction of employees in business and industry, consists of seventy items that are selected to measure five dimensions of satisfaction that include a) working conditions, b) compensation, c) quality of education, d) social life, and e) recognition.

The **Goal Commitment Survey** is used to determine student commitment to becoming a nurse and earning a baccalaureate degree in nursing. The instrument was developed for this study after an extensive review of both higher education and nursing literature to identify factors associated with commitment. The four major areas covered by the fifty-five item survey instrument are a) desire to be a nurse, b) parental influence, c) desire for a baccalaureate degree and job relatedness, and d) thoughts and feelings regarding choice of major. The survey was submitted to a panel of five experts who are currently active in higher education to establish content validity and readability. A pre-test including twenty volunteer nursing students was conducted utilizing test-retest to establish instrument reliability (41, 43).
Procedures for Data Collection

Nursing students enrolled in nursing courses at Texas Christian University, Harris College of Nursing, were given the opportunity to participate voluntarily in this study. Permission was granted by the dean of the college and by the chair of each level to administer the surveys during regularly scheduled classes. The instruments were administered early during the Spring Semester, 1984, by the researcher. Approximately thirty minutes were required for students to complete both survey instruments. From a sample of 258 students, 241 students completed the research surveys. Final data analyses were based on the responses of 222 students, as only scores were used for persisters for whom grade reports for the Fall, 1983, term were available.

Procedures for the Analyses of Data

The data were prepared for automatic data processing using the Statistical Package for the Social Sciences (45). Each research question is restated in null hypotheses and tested for significance. The data is treated as interval data. Research question one was tested using the Pearson product moment correlation coefficient to determine the relationship between satisfaction, academic achievement, and goal commitment. Research question two was tested using a two-tailed t-test to determine the difference in the means of the independent samples for satisfaction, academic
achievement, and goal commitment. The .05 level of significance was used (41).

Summary

Chapter I presents an outline of this study that includes a statement of the problem, the purpose of the study, the research questions and hypotheses, definition of terms, delimitations, limitations, basic assumptions, and the background and significance of the study. Also included are brief descriptions of the survey instruments, the procedures for collection, and analyses of data.

Chapter II contains a review of related literature from both higher education and nursing studies that is relevant to retention of baccalaureate nursing students. Chapter III presents the methods and procedures for data collection and analyses. Chapter IV presents the statistical analysis of the data. Chapter V includes the summary, findings, conclusions, and recommendations that were derived from the analyses of the data obtained from this study.
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CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

A review of the literature was conducted to provide background information and research related to this investigation on retention. The literature relevant to this study is grouped into four major topics (a) theoretical formulations, (b) satisfaction, academic achievement, and goal commitment, (c) background used in the development of the Goal Commitment Survey, and (d) benefits and effects of retention programs.

Theoretical Formulations

The researchers and theorists who have analyzed retention from various perspectives generally conclude that retention and attrition result from the interactions between people and institutions. According to Lenning, Beal, and Sauer (97), Spady (167), and Tinto (186), the student and the institution cannot be meaningfully investigated separately, for it is the interaction between them that affects the student's decision to stay or leave. The decision to remain in school represents the fit of a variety of factors relating to both the student and the environment;
the students who leave are casualties due to a lack of fit between the student and the institution.

Although the interaction is a complex one, there are several major theoretical models that attempt to clarify the interaction. These models describe attrition as a longitudinal process, include both the social and academic integration as a basis, and are complex in nature. Aitken (5) and Bean (20) agree that no one model can be consistently used to explain attrition for all institutions of higher education. Models are important, however, as pointed out by Lea, Sedlacek, and Stewart (94), to tie theory to specific situations since they are generally constructed with the intent of practicality and allow the researcher the opportunity to explain rather than simply describe behavior.

Spady (167, 168) is credited by Bean (20) and Tinto (186) with formulating the first theoretical model of the dropout process in which he applied Durkheim's (47) theory of suicide to the phenomenon of dropout to produce a sociological model. According to Spady,

Although dropping out is clearly a less drastic form of rejecting social life than is suicide, we assume that the social conditions that affect the former parallel those that produce the latter: a lack of consistent, intimate interaction with others, holding values and orientations that are dissimilar from those of the general social collectivity, and lacking a sense of compatibility with the immediate social system. However, since the student's academic role has many parallels with his future occupational role, it would not be
inappropriate to extend this analogy a step farther. Poor performance in one's occupational role (viz. low grades) and inadequate identification with the norms of the occupational group (viz. low intellectual development) are also plausible additions to this system, since Durkheim views the occupational role as a critical component of the integration process (167, p. 78).

Spady's (167) model proposes five independent variables that affect attrition, four of which influence the fifth, social integration, which in turn interacts with the other four to influence attrition. The link between social integration and dropping out is seen as indirect, with satisfaction with the college experience and commitment to the social system acting as intervening variables. In Spady's model, Bean (20) explains that grade performance, normative congruence, and friendship support are expected to lead to increased social integration. Increased social integration leads to increased satisfaction, which in turn increases institutional commitment, which reduces the likelihood of dropping out.

Several other explanatory theories of attrition have been advanced by Bean (21), Kamens (81), Pascarella (131), Rootman (146), and Tinto (186). The most widely cited model of the student attrition process is by Tinto (Figure 1). Tinto's conceptual model (186) extends Spady's (167,168) earlier works. Whereas the principle element in Spady's model is social integration, Tinto's longitudinal model regards persistence or dropout behavior primarily as a
Figure 1—Tinto's conceptual schema for dropout from college
(186, p. 95)
function of the quality of a student's interactions with the academic and social systems of the college. These interactions continually modify his goal and institutional commitments in ways that lead to persistence or to varying forms of dropout. Tinto believes retention is more clearly conceptualized when the academic and social domains are distinguished in a model, as a person may be able to achieve integration into one domain without doing so in the other. Tinto states,

> a person can conceivably be integrated into the social sphere of the college and still drop out because of insufficient integration into the academic domain of the college (e.g., through poor grade performance). Conversely, a person may perform adequately in the academic domain and still drop out because of insufficient integration into the social life of the institution (e.g., through voluntary withdrawal). Nevertheless, one would expect a reciprocal functional relationship between the two modes of integration such that excessive emphasis on integration in one domain would, at some point, detract from one's integration into the other domain. Too much time given to social activities at the expense of academic studies springs to mind as one example of such a relationship (186, p. 92).

Tinto (186) contends that students have a variety of background characteristics when they enter a particular institution (e.g., family background, individual attributes, and pre-college schooling). These characteristics interact with each other and are expected to influence both goal commitment (graduation) and institutional commitment. Bean (20) contends that in the academic system of Tinto's model, goal commitment leads to higher grade performance and
intellectual development; it enhances academic integration, which in turn leads to greater goal commitment, and increases the likelihood of remaining in college. In the social system, institutional commitment produces peer group and faculty interaction; it enhances social integration, which in turn increases institutional commitment, and reduces the likelihood of dropping out. Thus it is the student's characteristics and goal commitments that eventually influence not only how the student will perform in college but also how he will interact with the social and academic systems of the institution. Given such individual differences, Tinto states, "It is the individual's integration into the academic and social systems of the college that most directly relates to his continuance in that college" (186, p. 96). Furthermore, Tinto believes that as the degree of integration of the individual into the college system increases, the greater the commitment to the institution and to the goal of college completion.

The model by Tinto has been empirically tested more extensively than earlier models, particularly through the research efforts of Pascarella and Terenzini (133, 134, 136, 137, 179, 180). In a cross-sectional study of students at a large private university, these researchers (180) focused on the differences between students who continued their enrollment into their sophomore year and those who voluntarily withdrew at the end of their freshman year.
Academic integration was measured by student perceptions of their academic program and grade-point average; assessment of social integration was determined on the basis of their perceptions of their non-academic lives, extracurricular activity participation, and informal faculty interactions. Both social and academic integration were found to be significantly and independently related to voluntary freshman attrition. Pascarella and Terenzini conclude that the results of the study indicate that "sizeable reductions in attrition may be possible only through options which touch both the social and academic dimensions of the institutional environment" (180, p. 25).

Further support is given to the model by Tinto through investigations by Pascarella and Terenzini (135, 136) of the patterns of relationships between different types of student-faculty interaction beyond the classroom and college persistence. After controlling for sex, academic aptitude, and personality attributes, freshmen persisters are reported to have a significantly higher frequency of interaction than do voluntary leavers. The results of these studies provide additional evidence to support the aspect of the model by Tinto which asserts that informal student-faculty contact is a significant predictor of college persistence. Frequency of informal contact with faculty is positively related (a) to student achievement and intellectual gains in studies by Centra and Rock (34) and Wilson, Woods, and Gaff (195), (b)
to integration into the institution's social structure in studies by Camson (61) and Vreeland and Bidwell (190), and (c) to persistence in college in studies by Gekoski (62), Pascarella and Chapman (132), Pascarella and Terenzini (133), and Spady (168). The model by Tinto is further supported in the literature. Pascarella and Chapman (132) and Terenzini and Pascarella (179) report on the relationship of precollege student characteristics to attrition and interactions between precollege traits and the freshman year experience. Pascarella and Terenzini (134, 137) report on the influence of the validity of student-faculty informal contact, and Chapman and Pascarella (36) report on the patterns of student involvement according to institutional type.

Extensive research by Pascarella (131), which is based on Tinto's model, led to the development of his own conceptual model that emphasizes the importance of student informal contact with faculty members. In this model, Bean (20) explains that background characteristics interact with institutional image, administrative policies and decisions, size, admissions, academic standards, and other variables. These factors then influence informal contact with faculty members, other college experiences, (e.g., peer culture, class, leisure activities), and educational outcomes (e.g., academic performance, intellectual development, personal development, educational and career aspirations, college
satisfaction, and integration). Educational outcomes directly influence persistence or withdrawal decisions. Background characteristics have a direct influence on institutional factors, informal contact with faculty, other college experiences, and educational outcome. Informal contact with faculty influences and is influenced by college experiences. Informal contact with faculty is also believed to influence and be influenced by educational outcomes.

According to Bean (21), both of the models by Spady and Tinto possess an inherent weakness from the use of the link between dropping out of school and suicide as a theoretical basis. Bean does not believe that there is sufficient evidence for using this premise, and he further contends that another weakness lies in the fact that the definition of variables used in the analysis renders the models unsuitable for path analysis. Bean (21) proposes a causal intent-to-leave model, which is based on previous research on both employee turnover in work organizations and on student attrition, and which contains four categories of variables that include (a) the dependent variable of dropout, (b) the intervening variables of satisfaction and institutional commitment, (c) the organizational determinants, and (d) background variables. Variables reflecting student interactions with the institution (e.g., grades, having close friends, membership in campus organizations) are expected to influence satisfaction, which
in turn decreases the intent to leave. Bean tested this model with freshmen at a major midwestern university, using a questionnaire specifically developed for this research. Intent to leave was found to be related positively to dropout in this research, and two variables external to the organization—opportunity to transfer and likelihood of marrying—were found to be related directly and positively to intent to leave. Using the variables within this model in his study, Bean (20, 21) accounts for about 50 per cent of the variance in dropout in the particular institution. Bean and Creswell (22) further tested this model at a women’s liberal arts college, and their findings support the premise that intent to leave is related positively to dropout. They also report that three intervening variables—a sense of self-development, usefulness of education for getting a job, and loyalty (commitment to the institution)—correlate to retention.

Despite the theoretical support given current models, Lenning, Beal, and Sauer (96) and Pascarella and Terenzini (134) also suggest a need for models which are more specific and rigorous. Tinto states,

We remain in the middle range where our theoretical models serve to explain only a portion of the wide range of behaviors that constitute the universe of social interactions. This is the case whether we refer to disengagement in higher education or to other domains of social behavior in or out of schools. . . . Current theory cannot do or explain everything. . . . Given the limits of current theory, we should not be surprised or
chagrined when our models fail to account for a very large proportion of the statistical variance in measured dropout behavior. Within reason, models . . . were not designed to account for all variations in student leaving behaviors. Rather they were designed to highlight in the clearest explanatory terms specific types of relationships between individuals and institutions that may account for particular types of dropout behavior (187, pp. 166-167).

Tinto (187) concludes that with the recognition that the theoretical limits of current models can serve as a basis for future research, existing models can be improved and even replaced as new data become available. Areas that need to be more thoroughly incorporated into retention models include according to Tinto (187) (a) the role of finances in student decisions regarding higher education persistence, (b) distinguishing between behaviors leading to institutional transfer versus those leading to permanent withdrawal, (c) recognizing differences in educational careers that mark the experiences of students of different gender, race, and social status background, and (d) identifying forms of disengagement within the two year college sector. Lenning, Beal, and Sauer (96) point to the importance of a more precise specification of variables and relationships. Bean (21) and Pantages and Creedon (130) include the importance of the use of path analytic techniques in testing causal linkages.

All of the major models of student retention stress the importance of student integration into the social and
academic systems of the university. The roles of satisfaction, academic achievement, and goal commitment are also evident within the models' structures, and these areas represent recognized forces that influence student retention.

Satisfaction, Academic Achievement, and Goal Commitment

The student's decision to remain in college or to leave is a complex process—not an event. A multitude of variables interact and influence the integration of the student into the social and academic systems of the institution. As presented in the theoretical formulations, the three variables of satisfaction, academic achievement, and goal commitment are frequently interrelated. For example, student satisfaction can be seen as a sign of social integration which increases institutional commitment and enhances academic integration. On the other hand, the student who is dissatisfied with the social environment is likely to experience academic difficulties and to be less committed to the institution and his educational goals; the student who is experiencing problems in any one of these three areas is more likely to drop out. To aid in understanding the relationship of these variables, this section discusses each of the variables with an emphasis on the reported research that demonstrates a relationship between each variable and retention.
Satisfaction

Although the importance of student satisfaction with the college environment is supported by numerous research studies [Aitken (5), Bean (21), Betz, Klingensmith, and Menne (23), Betz, Starr, and Menne (25), Hallenbeck (67), Hecklinger (71), Hoyt (77), Pervin and Rubin (140), Spady (167, 168), Starr, Betz, and Menne (169), and Sturtz (175)], the landmark 1947 study by Iffert (79) was the first to identify satisfaction as a variable that needed further investigation. Iffert reports that many students who withdraw rate satisfaction with college facilities and services very low. At the same time, however, a high number of persisters are also dissatisfied. Iffert questions whether withdrawal from college is associated with dissatisfaction or the inability or unwillingness to endure dissatisfactions. Pantages and Creedon (130) acknowledge that the survey by Iffert prompted such studies as those by Astin (9, 10), Barger and Hall (14), Farwell, Warren, and McConnell (55), Savicki, Schumer, and Stanfield (152), Thistlewaite (182), and Williams (193) which provide evidence that the college environment plays a major role in determining the persistence of students. Prior to Iffert's (79) study, the effects of the college environment on student retention had been treated as a constant for all students at a given college. Pantages and Creedon conducted
a comprehensive review of the relevant literature that was published between 1950-1975, and they conclude from the self-reports on withdrawal by students that "dissatisfaction with college is given often enough to warrant its separate classification. . . . This includes dissatisfaction with the size of the college, its social or academic environment, etc." (130, p. 82).

Betz, Klingensmith, and Menne (23), Betz and others (24), Betz, Starr, and Menne (25) and Starr, Betz, and Menne (169), provide additional evidence to support the college fit theory, but they also propose that the college environment can influence the motivational level of the student as demonstrated by perceived satisfaction. Betz, Klingensmith, and Menne (23) believe that prior to their research no systematic research had been done on college student satisfaction as a significant variable in itself. Their work is based on the premise that the study of college student satisfaction can draw upon principles and methods used in studying employee satisfaction in business and industry. Using a theory of work adjustment that is integrated with previous educational theories of college fit and student personality, the researchers theorize that student satisfaction will occur when (a) the individual fulfills the requirements of the environment and (b) the environment meets the needs of the student. This model stresses the need for congruence not only between the
values, goals, and attitudes of both the student and the institution but also between the reinforcement structure of the institutional environment and the needs of the student.

Starr, Betz, and Menne (169) provide empirical evidence to support the relationship between satisfaction and attrition based on the preceding model. A sample of 1,968 university students was administered a measure of college student satisfaction, and dropouts in the sample were identified the following year. When the satisfaction scores of dropouts and nondropouts were compared, the nondropouts were found to have significantly higher scores.

The same study by Starr, Betz, and Menne (169) identifies a correlation between dissatisfaction and poor academic achievement, which is later supported by Morstain (116). Research findings by Steele (170) also support this relationship and he suggests that dissatisfaction with progress toward career and academic goals is an area most likely to be a cause of attrition. Spady (168) also reports a link between academic achievement and satisfaction; grade performance was found to be a determinant of satisfaction for both men and women but more so for men.

Hallenbeck (67), Roelf (145), and Sturtz (175) report positive correlations between satisfaction and age, with lower levels of satisfaction occurring among the traditional age group of students as opposed to adult students. Hallenbeck (67) also positively correlates satisfaction with
classification through his finding that graduate students are more satisfied than undergraduates. Furthermore, such data may be linked to findings of Hecklinger (71) and Roelf (145) which indicate that students with definite career plans are more satisfied; these findings are supportive of other studies [Astin (11), Cope and Hannah (42), Demitroff (44), Elton and Rose (53), and Newlon and Gaither (121)] that report a higher dropout rate among students who are undecided about their major. Such characteristics are more likely to be found among lower division students since they have not become strongly involved in their majors and may still be seeking career decisions while they test beginning courses in tentative majors.

Aitken (5) proposes a mathematical model of retention and offers empirical data that indicate there is a positive correlation between satisfaction, residential living, and retention. The model, recommended for use by individual institutions, uses academic satisfaction, living satisfaction, and academic performance as major components. Aitken presents a multiequation formula that contains most of the variables previously identified by Spady and Tinto with the addition of some environmental variables, and he represents the interactions mathematically. The model is based on the premise that a decision by the student to remain at a specific institution is directly determined by major aspects of the student's experiences. Each of the
major aspects of these experiences is in turn hypothesized to depend on a number of specific factors. The model differentiates between variables that have a direct effect on retention and those that affect retention only indirectly. Retention is assumed to be a function of student satisfaction with the academic program, the living environment, student academic performance, the level of involvement in extracurricular activities, and external factors. To test the model Aitken conducted a study of first-year students at a state university to predict how many students would return the following year. The research data support the model and demonstrate that the degree of student satisfaction with residential living experiences is second only to grade performance in determining retention.

Betz, Klingensmith, and Menne (23) and Hallenbeck (67) also found a positive relationship between satisfaction and type of residence. Their studies report that students who live in residence halls have a lower level of satisfaction (undergraduates, particularly freshmen, are more likely to live in residence halls). This finding may partially account for the reduced social and academic integration among lower division students and their subsequent high rates of withdrawal.

A longitudinal study by Lokitz and Sprandel (103) adds a different dimension to the relationship between social integration and place of residence. Students who were
followed throughout their undergraduate careers were found to be most concerned with academic performance during their first semester; their second semesters include an increased interest in social concerns. It appears that students become more concerned with achieving a balance between academic and social needs once their academic ranking becomes more evident. Lokitz also reports that the place of residence is very influential in providing a nucleus for satisfying social experiences during the first year, especially for those living in residence halls. Once this social relationship in the residence hall is established and academic abilities more evident, students move more freely to other social and academic experiences, which is a concept supported by Alfert (6). Although satisfaction may be linked positively to place of residence, a significant variable influencing that socialization process is the perceived priorities of the student in balancing environmental demands in both the social and academic spheres.

Munro (119), using the model by Tinto, found that high levels of satisfaction with the college social life are correlated negatively with persistence in higher education. Although social integration has direct positive effects, negative effects can result without adequate academic integration.
Two studies (82, 117) link the degree of satisfaction to student expectations about the educational experience. Katzell (82, 108) investigated the relationship between first-year withdrawal and student expectations and experiences of stresses and satisfactions among nursing students. The expectations and experiences ofpersisters and dropouts were compared. Findings of that study indicate that it is the failure to experience "expected satisfactions," rather than stress or dissatisfaction in itself which is related to the decision to withdraw. Persisters have more realistic expectations than do dropouts of both the stresses and satisfactions to be anticipated as a nursing student. Mowbray and Taylor (117) support this finding in a study of baccalaureate nursing students. They conclude that whatever the underlying motive behind the decision to study nursing, the satisfaction of remaining depends on a realistic assessment of nursing.

Lokitz and Sprandel (103) also report that satisfaction increases with length of stay, or persistence, in the institution and they attribute part of the change to students' development of more realistic expectations of the college experience. This positive correlation is supported by Barger and Hall (15) and Hegarty (72), who suggest that satisfaction is influential in determining whether students withdraw early in their studies. Bayer (16), Fullmer (60), and Kohen, Nestel, and Karmas (90) report that the factors
which determine persistence change as the student progresses in the undergraduate career. These findings may be linked with the observations of Freedman (59) and Sexton (158), who report that freshman dropouts were usually unable to adapt to the total college milieu, whereas solidarity in terms of social and academic integration apparently increases with the length of stay. Williams (193) suggests that students become increasingly like their environment with time, which influences their integration and retention.

Research by Bean (21) in support of a causal model demonstrates a relationship between sex, satisfaction, commitment, and retention. Although institutional commitment is the most important retention variable for both men and women, both sexes leave the university for different reasons. Men may leave the university even though they are satisfied, whereas women who are satisfied are more committed to the institution and are more likely to stay. Satisfaction is a significant intervening variable for women, with dissatisfaction being positively correlated to withdrawal.

In a retrospective examination of retention-attrition research Hoyt (77) contends [as do Beal and Noel (18), Cope (41), Lea, Sedlacek, and Stewart (94), Lenning, Beal, and Sauer (96), Noel (122), and Pantages and Creedon (130)] that studies aimed at predicting attrition are disappointing. Many studies are only directed at one or two factors, use
inadequate methodology, or use inconsistent definitions of attrition. Correlations have been low, and the reasons for such correlations remain unexplained. The disappointing status of knowledge and understanding produced by attrition research probably reflects the complexity of variable identification and interaction. Hoyt, however, suggests that researchers may also be asking the wrong questions and offers six general assumptions.

Persistence in college represents a choice that is available to most students. . . . Persistence will be chosen when satisfactions (both realized and anticipated) associated with it exceed those associated with any other choice. . . . Lacking satisfaction in a given situation, individuals, will "experiment" with alternative choices and select one that is judged to have the highest probability of providing satisfaction. . . . Satisfactions arise from two sources: a sense of progress (including expected progress) in reaching personal goals and a sense of comfort with the environment (acceptance, security, freedom from pressure). . . . Enduring satisfactions (sound choices) requires support from both sources of satisfaction. . . . The process of finding satisfaction is threatened by barriers that, in fact, can be removed (77, pp. 78-79).

Hoyt (77), who concludes that the central problem is one of maximizing satisfaction, proposes a classification system for persisters and nonpersisters based on concepts of satisfaction and commitment. This system is meant to guide retention research and data interpretation. Research results can then be directed toward interventions that facilitate a sense of satisfaction for the student and thereby indirectly increase retention.
The relationship between satisfaction and goal commitment and retention has been presented earlier. Major research directed toward model development by Bean (21), Spady (167, 168), and Tinto (186) indicates that satisfaction and goal commitment have a positive relationship to retention and interact with each other. This relationship is further supported by Hoyt (77) with the development of a classification system of persisters and nonpersisters.

A positive correlation between satisfaction and retention is supported by numerous studies. In a causal study by Bean (21) a relationship is reported among sex, satisfaction, commitment, and retention. Research on satisfaction is limited when compared to research involving other variables, particularly for purposes of this study. Links are identified between satisfaction and age, sex, place of residence, commitment, academic performance, and expectations. The research review by Cope and Hannah (42) reveals that many students are leaving institutions due to dissatisfaction in both the academic and social system. This observation is further supported by Lenning, Beal, and Sauer (96), and by Summerskill (176). Pantages and Creedon state that "the extent to which the student can meet the demands of the college and derive satisfaction from doing so is the degree to which the student may be expected to persist at the college" (130, p. 94).
Academic Achievement

Spady (167, 168) and Tinto (186) report that formal academic performance is clearly the dominant factor in accounting for attrition both in males and females. Central to both theories is academic integration, consisting of both grade performance and intellectual development. Tinto (186) believes that intellectual development represents an intrinsic form of reward, or even the evaluation by the individual of the academic system, where grades are the most visible extrinsic reward of the academic system, and represent an evaluation of student attributes and achievements in relation to the system values and objectives. Grade performance is seen as a reflection of both the ability of the student and the preference by the institution for particular types of academic behavior. Grade performance is also important, Aitken (5) says, because institutions set a minimal level which must be met for the student to remain and because it provides a direct message as to how well the student is doing relative to both an absolute standard and to peers. Thus grade performance is the variable most commonly used in studying academic integration. Predinger supports this research approach by concluding that other "measures appear to predict persistence only because they predict the grades a student will receive" (141, p. 66).
Substantial evidence supports not only the correlation between grade performance and attrition, but also identifies grade performance as the single most important factor in predicting student persistence. Such supportive data are found in studies by Achord and McCary (2), Aitken (5), Astin (8, 11), Blanchfield (26), Bragg (28), Conner (39), Fullmer (60), Hayes (70), Knopke (89), Lenning (95), Lenning, Beal, and Sauer (96), Little (102), Miller (111), Morrisey (115), Munro (119), Pedrini (139), Raderman (142), Rever and Kojaku (144), Rottkamp (149), Slocum (162), and Tate (177). After reviewing thirty-five studies on college grades and attrition, Summerskill (176) reports that one out of three dropouts occurs for academic reasons; he concludes that "the relationship between grades and attrition appears to be continuous in that the probability of dropping out varies inversely with grade point averages throughout the whole distribution of grades at a given college" (176, p. 636).

However, the relationship between grades and retention is not as clearly understood. While poor academic performance correlates positively to attrition, satisfactory grades are not necessarily a predictor of retention. Summerskill (176) reports that prediction of dropout is more easily distinguished at the lower end of the grade scale. Spady (168) points out that while students with poor grades are highly likely to drop out, students with excellent grades may also drop out, especially women. Pantages and
Creedon (130) believe that the students who are forced to drop out for academic or disciplinary problems are the ones who account for many of the negative traits attributed to dropouts as a whole. Yet, according to Eckland (49, 51), students who withdraw for other reasons are more likely to be successful persisters "eventually." Hegarty (72), Lenning, Beal, and Sauer (96), and Summerskill (176) agree that the majority of students leave college voluntarily for non-academic reasons involving motivational forces such as goals and satisfaction. Furthermore, according to many researchers [Cope and Hannah (42), Hackman and Dysinger (66), Lea, Sedlacek, and Stewart (94), Pantages and Creedon (130), Rossman and Kirk (148), Sexton (158), and Tinto (186)], these students generally demonstrate higher grade performance than the average persister.

Tinto (186) suggests that it is the lack of congruency between academic integration and social integration and institutional commitment that fosters voluntary withdrawal in the academically competent student. Hackman and Dysinger (66) report data to distinguish between persisters, transfers, academic withdrawals, and academic dismissals in terms of interaction between an individual's level of commitment to completing college and his level of academic performance. Students who are academically competent but who have moderately low commitment tend to withdraw voluntarily, whereas students who have higher levels of
commitment tend to persist despite low academic competence. Voluntary withdrawers also tend to transfer or re-enroll at a later date as opposed to permanent withdrawal.

Research in baccalaureate nursing programs identifies academic integration as a powerful predictor of success. Munro (119), using the model by Tinto, conducted a longitudinal five-year study with a nationwide sample of nursing students who entered nursing programs in the Fall of 1972. She reports that academic integration, including both grade-point average and intellectual development assessment, is the strongest predictor of persistence in nursing.

Other research by Burgess and Duffey (31), Burgess, Duffey, and Temple (32), Hayes (70), Stronck (174), and Wittmeyer, Camiscioni, and Purdy (196) with nursing students demonstrate that the prenursing grade-point average is the most significant predictor of subsequent grade performance in the major, which is consistent with the conclusion by Summerskill (176) that poor grades at the beginning of a college career are highly predictive of attrition. Burgess and Duffey (31) and Burgess, Duffey, and Temple (32) report multiple correlations as high as .84 in a series of three studies that use the first two years of prenursing grades as part of a battery to predict the final two years' performance in a baccalaureate program of nursing. Lewis and Welch (101) further report that the strongest
correlations exist when grades in required prenursing courses are considered.

Owen and Feldhusen (128) developed and tested several models for predicting academic achievement among nursing majors. All models incorporate immediate prior academic success. However, the model that incorporates previous semester grade averages shows the best predictive efficiency.

Other studies [Alichnie and Bellucci (7) and Rottkamp (149)] that use nursing majors point more specifically to performance in the science courses required for the nursing curriculum as being significant in predicting success and persistence. In particular, Alichnie and Bellucci (7) found that students who perform poorly in both science and nursing courses are more likely to withdraw. Montgomery and Palmer (113) report that students are more likely to be successful in nursing courses if they have had a physics or chemistry course in high school.

Many studies attempt to determine attrition by identifying the reasons that students themselves report. Although Chickering and Hannah (37), Hackman and Dysinger (66), and Pantages and Creedon (130) question the value of this information, Lenning, Beal, and Sauer (96) contend that student perceptions represent variables in the dropout rationale that also may operate for persisting students who may become dropouts. According to Blanchfield (26),
Chickering and Hannah (37), Cope and Hannah (42), Katzell (82), Levitt, Lubin, and Dewitt (100), and Pantages and Creedon (130), students' dissatisfaction with their grades is one of the major reasons they cite for leaving. Grassi-Russo and Morris (64) found that "fear of failure" is a prevalent feeling for many beginning nursing students who later withdraw. Nevertheless, Eckland (49) says, academic difficulty usually results in transfer or temporary dropout instead of permanent withdrawal; this observation may be linked with the findings by Slocum. Although Slocum (162) reports that 51 per cent of his research sample of dropouts had poor scholastic records in college, only 34 per cent considered this to be a major factor in their decision to withdraw.

The positive correlation between dissatisfaction and poor academic performance is discussed in the previous section, and poor academic performance is shown to have a positive correlation to a low self esteem, which can hamper student integration into the social environment of the institution and decrease satisfaction within the total environment. Munro (119) reports empirical data to support the role of positive self esteem in promoting persistence in nursing for baccalaureate students. Attrition is also correlated negatively to student self-concept and self-satisfaction by Achord and McCary (2) and Timmons (184). The interaction between satisfaction and grade
performance is significant in studies on the retention of college students. While poor academic performance may precede dissatisfaction, it may also be an outcome of dissatisfaction. Although grade performance is important in studying retention, it is not completely diagnostic, especially among women, and must be viewed within the total process of withdrawal and retention.

Goal Commitment

Data presented by Summerskill (176) indicate that the majority of students who withdraw do so for other than academic reasons. Hackman and Dysinger say that "almost all the problems reported as reasons for withdrawal by students who leave college are shared by large numbers of students who do not withdraw" (66, p. 312). Thus, there must be other factors that differentiate between those who let their problems get the better of them and those who persist despite difficulty. The degree of commitment, both in terms of educational expectations and institutional commitment, are therefore seen as significant variables in retention.

The models by Bean (21), Spady (167, 168), and Tinto (186), discussed previously all include goal and institutional commitment as major variables in studying student retention. Tinto contends that these commitments are both predictors and reflections of a person's experiences—his disappointments and satisfactions in the
collegiate environment. The student who enters the institution with a sense of commitment is not only more likely to become better integrated into the social and academic systems of the college environment but also to enhance his commitment to both the institution and his goals as a result of total integration. In the end, it is the interaction between goal commitment and institutional commitment that eventually determines the degree of student persistence (186).

Commitment can compensate for lack of congruency with the academic and social systems, whereas low goal commitment or low institutional commitment can lead to withdrawal. High goal and high institutional commitment can lead to persistence even in the event of poor academic or social integration. For example, high institutional commitment in the absence of high educational goal commitment can foster retention but result in "getting by" behavior. High goal commitment without institutional commitment can increase persistence due to the perceived need for the degree, increasing the tolerance for dissatisfaction (186).

Tinto (186) argues that both goal and institutional commitment increase as a function of advancement toward completion of the degree. Perceived benefits increase as graduation nears, according to Sexton (158), and the perceived ratio of benefits to costs increase as the student progresses; this concept is supported by the fact that
voluntary withdrawal becomes less of a retention problem as individuals approach college graduation. Tinto (186) further argues that levels of goal and institutional commitment can be used to distinguish between transfers and permanent dropouts in both dismissals and voluntary withdrawal. High goal commitment with low institutional commitment can lead to transfer whereas low goal commitment is more associated with permanent withdrawal. When the congruence is poor, high commitment can compensate and increase persistence, whereas poor congruence and low commitment leads to withdrawal. The more congruence between the needs and goals of the student and the demands and resources of the college, the less importance is attached to commitment. This concept is supported by the research findings of Hackman and Dysinger (66) presented earlier.

Kamens (81) reports increased retention rates as student commitment to the college increases. He argues that student commitment can be strengthened by the institution.

To the extent that a college can facilitate the status transition from "studenthood" to adult economic and occupational roles that its students value, it gains in its capacity to influence their commitments and self-concepts (81, p. 271).

Though the relationship between institutional commitment and satisfaction and retention has been demonstrated with empirical data discussed earlier, the relationship between institutional commitment and grade performance and retention is less evident. Spady (168)
reports that institutional commitment is largely generated early during the college career. Academic performance has no bearing on the sense of loyalty and commitment the student feels toward the institution; he suggests, instead, that institutional commitment represents an intrinsic set of attitudes and as such is not sensitive to the extrinsic academic reward system. Yet, Spady reports that women develop institutional commitment early in their undergraduate career, and this is a stronger determinant of retention than academically related variables.

Bean (21) offers data to support the premise that institutional commitment is the most important variable in explaining dropout for both men and women. Spady concludes, greater commitment can be generated, if at all, by providing them with experiences that affect the intrinsically meaningful spheres of their lives as human beings (as opposed to as just students) rather than by attempting to modify the academic reward structure itself (168, p. 60).

Background Used in the Development of the Goal Commitment Survey

The following presents data to support the development of the Goal Commitment Survey that is used in this study. The discussion is organized by the four major areas utilized to develop the survey. These areas are (a) desire to be a nurse, (b) parental influence, (c) desire for a baccalaureate degree and job relatedness, and (d) choice of major.
Desire to be a Nurse

Commitment to an academic or occupational goal.—Cope and Hannah (42) state that personal commitment to an academic or occupational goal is the single most important determinant of college persistence. Such commitment improves motivation to achieve a goal. This view is shared by Muskat (120) and Rose and Elton (147). Muskat followed 767 freshmen through their sophomore year and found that persisters are more likely to have decided on their academic and career goals. Barger and Hall (15) indicate that withdrawers tend to be uncertain and vague about their long-term goals.

Heins and Davis (73) report that motivated and committed nursing students can be successful even though their academic credentials are not strong. Munro (119), after a nationwide longitudinal study of nursing students, concludes that goal commitment has the largest total effect on persistence for baccalaureate students. Teal and Fabrizio (178) report that persisters and academic dropouts express a stronger desire to be a nurse than non-academic dropouts. However, research findings by Barger and Hall (15), Panos and Astin (129), and Slocum (162) found no significant effects of vocational goals on attrition. Pantages and Creedon (130) state that such inconsistency among research findings may be a reflection of the
difficulty measuring the strength of vocational goals and interests (129).

Realistic concept of role.--According to Hardy and Conway (69), role refers to both the expected and actual behaviors associated with a position. Krupka and Vener (91) and Teal and Fabrizio (178) conclude that students often enter a major without a realistic view of the work role the degree will prepare them to assume. To be successful in a chosen major, however, the major must meet the student's expectations of it, or the student must be able to adapt expectations to reality and identify with the major. Numerous research studies [Fox and others (58), Hardy and Conway (69), Hegarty (72), Katzell (82), Kibrick (87), Mowbray and Taylor (117), Munro (119), and Teal and Fabrizio (178)] support the concept that a realistic assessment of the nursing role is correlated positively with satisfaction and success in the nursing major.

Warnecke (191) contends that many women choose nursing (a traditional female occupation) because the role is an extension of other traditional female tasks such as tending the sick, caring for children, and helping the poor. Such identification is not based on an identification with the content of the work role, but simply on the "suitability" of the occupation. Commitment to the profession is lacking
from the beginning. The degree is viewed as an end in itself with no plans to practice.

According to Warnecke (191) most students come to nursing with an image of nursing similar to that held by the layman. Students often expect immediate emersion into the nursing role with patient contact. Yet the curriculum of the baccalaureate program is built on a strong theory base in related fields (which may take up to two years to complete) as well as on the changing and expanding role of the nurse. Those who experience conflict between their expectations and actual experience are dissatisfied, frustrated, and tend to transfer to other nursing programs. Hegarty (72) adds support to this concept by reporting that nursing student attrition is decreased by early socializing activities and incorporation of early patient contact into the curriculum.

Warnecke (191) also presents considerable support for the premise that the occupational role must be compatible with the primary roles of wife and mother. Of the nursing students who withdraw, many experience conflict between their expectations about the nursing program and the fulfillment of personal expectations related to marriage. When forced to choose, they choose marriage or a less demanding nursing program than the baccalaureate program. Warnecke supports his premises on the basis of an exploratory study, in which he found that the major cause of
attrition from baccalaureate nursing is a lack of intrinsic commitment to the nursing role. Students who have a narrow image of the role, or who set a higher priority on marriage, either transfer to other types of nursing programs or temporarily delay their education. They are not necessarily lost to the nursing profession since they remain committed to becoming a nurse.

Kibrick (87) reports that persisters in nursing have less role conflict than withdrawers. Klahn (88) reports that nursing persisters also have more positive self concepts and have made progress toward being their "ideal" selves. Dropouts, however, become more negative about themselves. These findings may be related both to the development of role socialization among the persisters and to the lack of role socialization among the dropouts, which causes conflict and eventual withdrawal.

Concern for the welfare of others.—Teal and Fabrizio (178), Fox and others (58), and Munro (119) report that a loss of interest in nursing is one of the most frequently cited reasons for dropout or changing majors, and they relate this change of interest to the lack of a clear understanding of the helping role of the nurse. Grassi-Russo and Morris found that the image of the nurse expressed by many nursing students is "a helping person who is also well-educated and highly skilled professional" (64,
A study of nursing students by the United States Department of Health, Education, and Welfare (189) reports that nursing students give top priority to helping others as part of their life goals. They choose nursing because of the opportunities to help others, to contribute to society, and to work with other people. They are also more altruistic and people-oriented than freshmen in general. Other studies [Grassi-Russo and Morris (64), Morris and Grassi-Russo (114), Slavinsky, Diers, and Dixon (161), Smith (164), Smith (165), and Teal and Fabrizio (178)] support the dominance of such intrinsic values among nursing students.

Kibrick (87) reports that withdrawers from nursing have a strong motivation for independence and are less concerned with patient welfare in contrast to the nursing program persisters who have a strong interest in the welfare of others, are proud of their profession, and are more conformist in behavior. Seegars, Rogers, and Denny (154) also report that successful nursing students are more conventional in their behavior. May (108) reports that persisters score closer to the norm in a comparison of values than do dropouts. Wittmeyer, Camiscioni, and Purdy (196) report that students who are more "independent" and "venturesome" tend to have less knowledge of the nursing role and eventually transfer to another major.
Parental Influence

Commitment to complete degree.--Strong parental aspirations or expectations for the student to attend and complete college are correlated positively to persistence by Astin (8), Bayer (16), Hackman and Dysinger (66), Panos and Astin (129), Sewell and Shah (156), Sexton (158), Slocum (162), and Trent and Medsker (188). Fundamental to determining student commitment is the influence of his family, which conditions personal expectations. The model by Tinto (186) emphasizes that commitment includes both commitment to graduation and the institution, both of which are important to persistence and dependent on personal characteristics and background experiences. This is viewed as a multidimensional process of interaction between the individual, his family, and his prior school experiences.

Trent and Medsker (188) report that one's success in college is rooted in parental encouragement and expectation, the acceptance of one's family's values placed on college attendance, and the interiorization of these norms and aspirations. Slocum (162) reports that only 35 per cent of his dropout sample felt their parents were very interested in their completing college as compared to 80 per cent of the parents of student persisters. MacMillan and Kester (105) also report that dropouts feel less parental support than persisters of their educational goals. After reviewing
conflicting research results, Pantages and Creedon (130) conclude that the relationship between parental aspirations and persistence holds true primarily when there is a quality relationship between parents and student or when the student feels an inner pressure to conform to the wishes of his parents. Conversely, dropping out can be one way in which some students assert their independence when a good parent-child relationship is lacking.

While family characteristics also appear to be related to persistence, the literature reports mixed findings according to Pantages and Creedon (130), Summerskill (176), and Tinto (186). Family characteristics that are linked with persistence include (a) parent occupation [Astin (10), Eckland (50), Kibrick (87), and Sexton (158)], (b) high expectations [Hackman and Dysinger (66) and Sewell and Shah (155)], (c) affluency [Astin (10), Astin and Panos (13), Bean (20), Eckland (48, 49, 50), Gosman and others (63), Iffert (79), Lenning and others (97), Panos and Astin (129), Sewell and Shah (157), and Sexton (158)], and (d) educated family members [(Astin (10, 12), Eckland (50), Lenning and others (97), Panos and Astin (129), Sewell and Shah (155), Sexton (158), Slocum (162), and Spady (167)].

Kibrick (87) reports that the conditions of having a mother who is a nurse or a family member who represents an occupation concerned with the welfare and health of society are related positively to persistence in nursing students,
regardless of social class. Morris and Grassi-Russo (114) report that "nurses in the family" is an important motive for choosing a career in nursing although their study does not relate such motivation to persistence.

Family approval of the major is also an important variable that influences student persistence according to Bean (20) and Lenning (95). The student who chooses a major that is compatible with the desires of his parents is more likely to receive positive reinforcement and encouragement as he progresses in college. Patton (138), Scearse (153), and Slavinsky, Diers, and Dixon (161) state that since careers which have been traditionally male are opening to females and there is slow progress in changing the layman's image of nursing, many parents either discourage bright young women from choosing a nursing major or do not lend strong support to their efforts. In the presence of difficulties that are coupled with negative parental pressure, students may change majors, transfer, or even withdraw.

Timmons (184) says that entering college simply to please one's parents is another factor associated with withdrawal, and Slater (160) agrees that anytime the decision to attend college is made by a person other than the student, the probability of dropping out is greater. While Iffert (79) did not find this to be a major reason for withdrawal in his landmark study, Hackman and Dysinger (66)
and Marks (107) report findings that indirectly support this premise. Hackman and Dysinger (66) report that such students are less committed, while Marks (107) reports that dropouts are more concerned with parental attitudes and expectations, which indicates a lower internal commitment, and they also have low aspirations and educational values. Marks (107) writes that dropouts in general have difficulty resolving conflicts concerning their commitment to educational values, and Chickering and Hannah (37) note that dropouts are frequently plagued with ambiguous feelings, inner conflicts, and a lack of purpose.

Tinto (186) contends that goal commitment, whether measured in terms of educational plans and expectations or career expectations is highly related to college persistence. According to numerous researchers [Astin and Panos (13), Bayer (16), Beal and Noel (18), Cope and Hannah (42), Hackman and Dysinger (66), Marks (107), Sewell and Shah (155), and Slocum (162)], the student who has definite plans to graduate upon college entry is more likely to persist, whereas Hackman and Dysinger (66) and Marks (107) point out that dropouts have lower educational aspirations. Cope and Hannah (42) report that approximately 25 per cent of the students who withdraw from college consider doing so before they ever enroll; graduation is never a firm goal. Sewell and Shah (155) report that educational plans are the strongest independent influence on college persistence, once
family social status and ability are controlled. Trent and Medsker's (188) findings confirm that college persisters are more intent on attending and graduating from college, are more selective in choosing an institution, and see more reasons for attending college.

The relationship between educational aspiration and persistence is linked to sex. Although women are more likely to be voluntary dropouts, women persisters are also more likely to graduate "on time." Bayer (16), Sewell and Shah (157), and Trent and Medsker (188) report graduation statistics to support the premise that educational aspirations are more closely tied to actual attainment for women than for men. Women who plan to finish college are more likely to do so than men with similar aspirations. Bean (21) also reports that goal commitment is a significant variable for determining institutional commitment for women.

**Commitment to the institution.**--Spady (168) offers research data that demonstrate institutional commitment to be the most powerful determinant of attrition for women. For both men and women commitment to the college is also supported by Beal and Noel (18), Hackman and Dysinger (66), Lenning, Beal, and Sauer (96), Munro (119), and Spady (168). This variable may often account for student persistence and endurance of dissatisfaction even when there is a lack of congruence between the student and college environment.
According to Beal and Noel (18) and Lenning (95), such congruence is often dependent on whether the student's expectations of the total college environment are in accordance with the reality of the environment. A desire to graduate from a particular institution increases commitment and persistence despite dissatisfaction, but low commitment combined with dissatisfaction can lead to dropout.

A government study (189) shows that parents can also strongly influence student choice of institution, particularly when they are providing the financial support, which is true of seven out of ten aspiring nursing students. Beal and Noel (18) note that when the student is not satisfied with the choice of institution, or it is not their first choice, low commitment can result and be the basis of early attrition. Interestingly, Tinto (186) says, the higher commitment for students in private institutions may be attributed to the greater financial investment made by the student to obtain an education.

Trent and Medsker (188) conducted a study of over 10,000 high school students from several states over a six-year period. They conclude that persistence in college is basically a function of (a) the importance that undergraduates themselves assign to the completion of a degree, (b) their having decided by the second year of high school or earlier that they would go to college, and (c) the
fact that their parents definitely want them to attend (188, p. xi).

Desire for a Baccalaureate Degree and Job Relatedness

Level of degree aspirations.—Lysaught (104), in a national analysis of the status of the nursing profession, discusses the need for nurses to have baccalaureate or post-graduate preparation. Kalisch (80) reviews the historical development of nursing and agrees that educational preparation is important to the continuing development of the profession. The expanded clinical roles in nursing that have developed over the last fifteen years require a baccalaureate degree or higher, and the need for doctorate preparation to meet qualifications for teaching and administrative positions at the university level is also recognized. With these changes in the level of preparation for professional nurses, many students are more aware of career opportunities and enter nursing with definite career goals. The recent influx of college graduates into nursing programs is an indication of the changing image of nursing and the excellent job market for professional nurses, particularly at the baccalaureate and graduate level. According to Holtzclaw (76), Slavinsky (161), and Smith (165), these students are seeking a nursing degree to develop a marketable skill, prepare for expanded nursing roles, or to complete an original occupational goal.
According to Astin (8), Astin and Panos (13), and Munday and Hoyt (118), students aspiring for doctoral or professional degrees are more likely to persist than those with lower degree aspirations. Astin (10), and Panos and Astin (129) report that students who persist and eventually graduate from college are more likely to have had plans to attend graduate school than were those students who withdrew.

Preparation for employment.— Astin (8), Astin and Panos (13), and Spady (167) suggested that the reason academically competent women account for the majority of voluntary withdrawals is due to a lower goal commitment. According to Spady (167) and Tinto (186) men are more likely to perceive educational attainment as being directly related to the need for a job and economic security, thus they experience higher goal commitment. Spady (167) reports that women are more concerned with the intrinsic rewards (intellectual development) of a college education than the extrinsic rewards (grades and preparation for a vocation). However, in view of the changes brought about by the feminist movement the last ten years, this trend may change. Bean and Creswell (22) report (from their study of 135 women at a liberal arts college in which they use a causal model) that the three intervening variables which are significantly related to intent to leave, are (a) a sense of
self-development, (b) usefulness of education for getting a job, and (c) loyalty to the particular institution. Bean (21) also reports that the opportunity for a job is a significant variable in determining institutional commitment for women.

Newlon and Gaither (121) suggest that students in various disciplines have a greater or lesser commitment to their educational goals based on the probability of successful employment after graduation. Mishler (112), Reehling (143), and Smallwood (163) also offer data that support the need for future employment as a major factor for college attendance among adult women.

A study by the United States Department of Health, Education, and Welfare (189) reveals that job consideration is a factor in choosing nursing as a career. The fact that nursing students (a) tend to come from lower socioeconomic backgrounds than college students in general, (b) have parents who are less educated, blue-collar workers, and (c) whose parents' median income is less than any other career group in this study may be influential in determining the value placed on employment following graduation. Morrisey (115) reports that students from families with low social status have higher retention rates, and he relates this to social mobility factors (improving one's position). However, Sewell and Shah (157) and Tinto (186) report the opposite relationship between social status and attrition.
Choice of Major

Certainty of choice.--The interests and goals of young college age men and women are not static. Yet, the relationship between the academic major, career decision and certainty of decisions, and retention is demonstrated by Abel (1), Astin (8), Cope and Hannah (42), Muskat (120), Rose and Elton (147), and Thompson (183). Students who are uncertain about their college major and career goals are more likely to withdraw according to Cope and Hannah (42), Demitroff (44), Hecklinger (71), Muskat (120), Newlon and Gaither (121), Steele (170), Thompson (183), and Wessell (192). Timmons (184) reports that the absence of clear objectives is one of the most frequently cited reasons for withdrawal. Flannery and others describes attrition as "the discrepancy between student expectation and attainment" (57, p. 4), thus it is the "responsibility and duty of the college to make every effort to help the student determine his educational goals and attain them" (57, p. 5). Student expectation is the most important factor in determining retention.

Although many students declare a major early in their college career, the majority of these students change this decision before graduation according to Astin and Panos (13), Iffert (79), Krupka and Vener (91), and Panos and Astin (129). Iffert (79) documents the fact that
approximately 55 per cent of all undergraduate students change their major at least once. Astin (8) and Cope and Hannah (42) report that nursing maintains one of the highest attrition rates among college majors. In a follow-up study by the United States Department of Health, Education, and Welfare (189) of freshmen declared majors, nursing was found to experience a 30 per cent loss—a percentage comparable to other health professions, by the date of graduation. Munro (119) reports a loss of 41 per cent in baccalaureate nursing due to change of major alone.

More students are probably undecided about their major than indicated by their declared major status; they are simply "testing" a major by enrolling in the lower-level courses. Declaring a major in itself cannot be seen as a commitment to a particular career. Pantages and Creedon (130) believe that whether or not changing majors is a measure in itself of educational uncertainty, which is correlated to dropout, is debatable; in their review of the related research, Pantages and Creedon conclude that the evidence is contradictory. Choice of major is, however, an accepted and widely used measure of determining satisfaction with educational goals, and it is an indirect measure of goal commitment.

Wilson and Levy (194) report characteristics for nursing students who ultimately change majors. Those who "switch out" feel a deep disaffection with nursing, have no
career or educational plans, express low commitment to nursing prior to entry, and are still searching when they leave. Teal and Fabrizio (178) report that the mean age when students decide to enter nursing is 16.3 years with non-academic dropouts having a mean age of 18.8 years. In contrast, Elton and Rose (52) report a negative correlation between early choice of major and persistence if the choice is made during high school; students who choose nursing after entering college are more persistent in this particular study.

**Goal direction.**—A strong desire to complete a goal is associated with commitment. Kibrick (87) reports that nursing student persisters are more goal directed and evidence strong ego control to help in that accomplishment. Smith (164) and the U. S. Department of Health, Education, and Welfare (189), also report a strong desire for achievement among nursing students. At the same time, according to Hegarty (72) and Hess and Coon (75), changing career goals is the most common reason for dropping out of nursing. Astin (9) and Astin and Panos (13) report that the chances of a student eventually choosing a particular type of career is increased if he attends a college that has a relatively high proportion of other students who are planning similar careers; a student tends to conform to the dominant career choice in the institutional environment.
Compatibility with program.—Spady (168) contends that satisfaction has a direct influence on student institutional commitment; dissatisfaction can lead to low commitment and withdrawal. Demitroff (44) reports empirical data that confirms the premise that dropouts are more dissatisfied with their major than are persisters. Dissatisfaction with curriculum and personal motivational problems (such as uncertainty about educational goals and lack of interest) are among the most frequently cited reasons for dropping out according to Demitroff (44), Eckland (51), Munro (119), Teal and Fabrizio (178), and Timmons (184). Munro (119) reports loss of interest as the most frequently cited reason for changing majors for baccalaureate nursing students. Eckland (51) reports that lack of interest and boredom play a significant role in determining dropout and whether dropout is permanent. Students who are disillusioned with their initial exposure to college will most likely drop out permanently. While disillusionment is not necessarily related to academic difficulties, it may be related to the choice of major or lack of integration into the total environment.

Chickering and Hannah (37) found that lack of satisfaction with the faculty or college is a reason for leaving. There may be a discrepancy between the institution's professed beliefs and its actual practices, a
dislike of the general atmosphere, or limited curricular offerings. In general, dissatisfaction and incompatability with the program indicate a lack of congruence with the institution.

Many researchers, among whom are Centra and Rock (34), Gamson (61), Gekoski and Schwartz (62), Hutcheson, Garland, and Prather (78), Panos and Astin (129), Pascarella and Terenzini (134, 135, 136), Sexton (158), and Spady (167), report that high levels of faculty-student interaction, both in terms of frequency and quality, are linked positively with increased satisfaction and social integration, which is believed to increase institutional commitment as well as academic integration and persistence. Hannah (68) and Slocum (162) report that dropouts are more dissatisfied than persisters with their relationships with their professors. Slocum (162) reports that 66 per cent of the student dropouts and 49 per cent of the persisters in his study are dissatisfied with faculty relationships.

The outcomes of faculty-student interaction seem to vary with sex and academic area in which the interactions occur. Spady (167) acknowledges a greater importance of intellectual development for female persisters, which may indicate that the quality of faculty-student interaction may be more important for females than for males. Vreeland and Bidwell (190) conclude that student interaction with faculty is a powerful means of socializing the student into the
occupational role, but they also found marked differences in the extent of faculty-student interactions among academic departments.

Commitment to a goal and institution are strong determiners of student persistence. Research reported in both the nursing and higher education literature supports the positive correlation between commitment and persistence, especially for women. Parental influence, level of educational aspiration, certainty of choice, role expectations, and job preparation are specific variables demonstrated to influence commitment. Commitment is a strong force in integrating a student into the total environment of the institution and can even compensate for lack of congruence in the academic or social system.

Benefits and Effects of Retention Programs

Among the authors who report enrollment declines for the next ten to twelve years are Centra (33), the Chronicle of Higher Education (35), Leslie (98), Mangelson and others (106), Millard (110), Norris (124), and O'Toole (127). Centra (33) and Demitroff (44) contend that institutions of higher education no longer need to focus primary attention on the problems associated with the rapid expansion experienced from 1950 to 1970. According to Beal and Noel (18), Centra (33), and the Chronicle of Higher Education (35), such stability in enrollment can be viewed positively.
because institutions will have the opportunity to improve the quality of education they provide with an increased emphasis on student retention.

While the obvious pool of currently enrolled students has been previously overlooked as a means of maintaining enrollment, Astin (11) states that current trends demand an increased interest in this pool to alleviate budgetary problems. No longer can institutions simply look to new recruits to fill empty spaces. Owen and Feldhusen (128) estimate it will take 300 new recruits to produce 200 graduates. Such changes have led educators and researchers to look at attrition research with a new emphasis. Kohen, Nestel, and Karmas (90) note that the focus is now directed not only at recruiting those deemed most likely to complete college but also at how to retain students once they are enrolled. The longer a student remains enrolled, the more likely the student will remain to complete a degree.

In a national enrollment survey by Kemerer, Baldridge, and Green (84), 85 per cent of college presidents, representing all types of institutions, agree that their institutions should devote more attention and resources to the issues of student retention and reducing the dropout rate. Cope states,

Until a few years ago, the dominant assumption was that there was something wrong with the raw material when a degree was not in hand in four years. Only in about the last five years has the literature reported seriously on what institutions
do to "discourage" completion. We have discovered millions of men and women who do a lot of stopping out and transferring as they seek more satisfying college and noncollegiate environments (40, p. v).

Cope (40), Lea, Sedlacek, and Stewart (94), and Lenning, Beal, and Sauer (96) agree that the emphasis has clearly shifted to improving the quality of higher education in order to enhance retention by maintaining confidence of students once they have matriculated.

Retention in Focus

With more emphasis on retention, it is important that retention be viewed as more than simply the opposite of attrition. Beal and Noel note that,

each institution is unique and calls for unique measures. But . . . retention problems can seem more complex than they are. Retention efforts should, after all, not even attempt 100 per cent success. There are many sound and valid reasons why individual students should transfer, interrupt their formal education for a period of time, or pursue endeavors better suited to their particular needs and interests. Colleges and universities can assist these students to leave on the basis of better information; in so doing, they can increase the student's awareness of available alternatives. Attempts to retain all such students at any cost would be misguided and would justifiably fail (18, p. 89).

In support of this view, Cope and Hannah state that "leaving college will be a necessary action for some students as part of on-going lifelong learning" (12, p. 110). The primary goal of higher education is the education--not simply the schooling--of individuals according to Tinto (185). Thus, Tinto states that retention efforts are best planned with
educative consequences in mind, in order to serve the best interests of both the individuals and the institutions.

According to Lenning, Beal, and Sauer (96), too often retention is equated with success and attrition with failure. In reality, the research focus is different, state Lea, Sedlacek, and Stewart (94); attrition research focuses on the student and why he left, while retention research focuses on the institutional role. In addition, retention efforts incorporate more than the traditional measures of attrition—such as enrollment and graduation figures. Beal and Noel (18), Lea, Sedlacek, and Stewart (94), and Lenning, Beal, and Sauer (96) agree that these quantitative measures must be coupled with a commitment to develop programs that modify the educational process and help students make sound decisions regarding their college careers. Though retention efforts help institutions reach numeric goals that reflect student retention, Lenning, Beal, and Sauer (96) say that the aim should be to help students resolve problems that serve their best interests as well as those of society and the institution they choose to attend. According to Noel (123), such a philosophy extends into all levels of the institution, affecting all areas of student-institution interaction. Retention can then be measured in terms of total program effectiveness, both quantitatively and qualitatively.
Retention begins in the pre-enrollment phase with recruitment; honest and accurate recruitment is essential for retention. Recruitment has usually received the most emphasis when attrition is high, and then additional funds are allocated to recruitment in an effort to bolster enrollment. Recruitment efforts, which Fiske (56) estimates to average between $200 to $800 per student, at times cost the institution as much as one-half the yearly tuition paid by each student according to Kemerer, Baldridge, and Green (84). Yet, there is no guarantee that the student will return, and by subsequent matriculation offset the initial recruitment investment.

Noel (122, 123) reports that when recruiting efforts are intense, as in times of declining enrollments, the number of high-risk students increases. Unfortunately, this frequently occurs when institutions have inadequate support to meet the special needs of these students and they, therefore, become part of the attrition statistics. Recruitment must be carried out with an awareness of the long- and short-term results of recruitment practices. Recruitment should focus on students who can be happy and successful at a particular institution. If not, expectations will be unmet, frustration will occur, and dropout is likely. Noel (122) discusses one school that lost 30 to 50 per cent of their new students between the freshman and sophomore year. He suggests that, in this
case, the school's exceedingly capable and persuasive admissions and financial aid staffs may actually have increased attrition due to overselling.

Noel (122) points out that misleading recruitment practices are also detrimental to future recruitment efforts since satisfied students are the best salesmen for the college. Satisfied students communicate positive attitudes and feelings to their peers, hometown, and former high schools, which help in future recruitment efforts. Satisfied students become alumni who support the institution through financial gifts, services, and recruitment efforts. Thus, retention both sustains and increases enrollment.

It is generally agreed [Astin (11), Beal and Noel (18), Cope (41), Green (65), Kemerer, Baldridge, and Green (84), and Lenning, Beal, and Sauer (96)] that intervention strategies are associated with improved student retention and that such improvements persist over a period of time. Retention bolsters institutional budgets through tuition stability, auxiliary service support, less demanding recruiting efforts, and an improved public image. Retention interventions not only maintain enrollment [Beal (17), Green (65), Kemerer, Baldridge, and Green (84), and Noel (122)], but can have a positive impact on the campus environment [Beal and Noel (18) and Beal and Pascarella (19)] as well as improve academic achievement [Adams (3), Bragg (27), Burgess and Duffey (31), Drice, Hunter, and Smith (46), Kulik,
Kulik, and Shwalb (92), and Silver (139)]. Yet, the costs, time, and effort are probably less than most administrators fear [Beal and Noel (18) and MacMillan (105)]. In the follow-up study by Beal and Pascarella (19) funding was not found to be one of the major reasons listed for program failures; many programs do not need major funding to be effective.

According to Beal and Noel (18), and Kemerer, Baldridge, and Green (84), most institutions have taken little effective action to reduce student attrition despite the benefits attributed to retention. Kemerer, Baldridge, and Green (84) compared three national surveys that were conducted in an effort to identify retention activities and their impact at institutions of higher education. They report that although numerous strategies were identified, few have been tried, and most are judged to be ineffective. Advising and academic support programs are the thrust of most efforts.

Astin (11) concludes from his 1975 multi-institutional study that a wide range of institutional practices could help students complete college. As important areas to consider, he identifies recruitment and admission policies, residence requirements, allocation of financial aid, selection of students for residence halls, availability of jobs on campus, grading policies, granting leaves of absences, transfer policies and the establishment of work
study programs. Gekoski and Schwartz (62) support the importance of retention efforts in reducing attrition. In a well controlled experimental study of dropouts, they report that 50 per cent of the withdrawing students felt that some action on the part of the university might have been instrumental in their remaining enrolled.

**Retention Strategies**

Beal and Noel (18), in a major national study conducted jointly by the National Center for Higher Education Management Systems and the American College Testing Program, identify the successful retention programs that emphasize (a) special courses (e.g., career planning), (b) group counseling and orientation, (c) individual counseling, (d) learning skills and tutoring, (e) institutional policies and procedures (e.g., withdrawal policies), and (f) faculty development and training. The researchers also identify and analyze retention efforts in two- and four-year institutions across the country. Retention programs that are identified in this comprehensive study as having the most influence on retention are (a) new policies and structures, (b) new learning and academic support programs, (c) orientation, (d) early warning systems, and (e) curricular developments. Several other programs are identified as indirectly improving retention by affecting attitudes and feelings;
these are programs that emphasize student-peer involvement, career assistance, and faculty-staff development.

The nursing literature includes many reports that support the need for retention programs [Brown (29), Brunclick and Thurston (30), Esparza (54), Oshin (126), Rubin and O'Mahoney (151), Smith (166), Stark (171), Teal and Fabrizio (178), Wray (197), and Wynn (198)]. Retention efforts include a variety of programs that are helpful to students and are believed to increase retention. Though little scientific evaluation is reported, retention efforts linked positively to retention include (a) individual counseling, (b) curricular flexibility, (c) financial assistance, (d) faculty development, (e) learning centers, (f) remedial services, (g) tutoring, (h) group counseling, (i) special courses, (j) orientation programs, both pre-enrollment and post-enrollment, and (k) socialization activities, as reported by Aiken (4), Cohen and Gesner (38), de Tornyay and Russell (45), Drice, Hunter, and Smith (46), Hegarty (72), Heins and Davis (73), Hess and Coon (75), Lambert and Wehrle (93), Merritt (109), Rubin and Cohen (150), Stephenson (172), and Story (173). As with higher education efforts in general, most programs are directed at freshmen and minority students, the acknowledged high-risk groups.

The Texas Nursing Education Advisory Committee (181) conducted a state-wide investigation of the nursing
education programs in Texas. One of the recommendations from this study is "that nursing schools develop comprehensive programs which will improve student retention by addressing the academic, financial and personal needs of students" (181, p. 11). This group reports that baccalaureate nursing programs utilize the university counseling center, faculty as counselors, and program materials as the major retention methods; full-time counselors, remedial courses, parallel study, and tutoring are given "the smallest ineffectiveness ratings" (181, p. C22). Baccalaureate programs employ more retention strategies than other types of nursing programs, which may be related to the higher attrition rate found in these programs and the perceived need to increase retention in this area.

Okimi (125) conducted a survey of nationally accredited generic baccalaureate programs to determine the retention strategies employed. She reports that the five most frequently used retention strategies in the supporting institutions are financial aid, special orientation programs for new students, academic advising programs, learning center programs, and occupational-career counseling programs. The five most frequently used strategies within the schools of nursing also include academic advising and special orientation programs for new students; in addition,
exit interviews, flexibility in the nursing curriculum, and planned faculty advising–interaction efforts outside the classroom-clinical setting are employed. Although the schools of nursing report that academic advising is perceived as the single most important strategy to improve retention, special orientation programs for new students is the only strategy reported to be statistically significant in this study. Special services are believed to be used by less than 5 to 10 per cent of the student population, and over 80 per cent of the respondents indicate there is no allocation of the current budget to strengthen student retention efforts through special programs.

Case Studies

Although the literature is not prolific with studies on retention interventions, it is even more sparse in reporting well evaluated retention efforts. Beal and Noel (18) report that while some colleges fear that they will undermine their academic integrity by assisting those students they may otherwise lose, others recognize that even a slight percentage change in retention can have budget implications that make retention programs cost effective. Beal and Pascarella (19) conducted a follow-up study of a previous major research project entitled What Works in Student Retention? (18). Ninety per cent of the respondents indicated that their programs still have a positive impact
on retention or a positive general impact on the campus, but very few schools engage in evaluations sufficient to determine the effectiveness of their programs with scientific certainty. Kulik, Kulik, and Shwalb (92) investigated sixty special college retention programs and also report the need for better evaluative efforts to properly monitor program effects. However, several well organized, documented, and evaluated projects are reported that strongly support the value of retention programs.

In 1981 the Kellogg Foundation funded a consortium of eight southern California private institutions as reported by Green (65) and Kemerer, Baldridge, and Green (84). The purposes of the consortium were to (a) assess the dimensions of the student dropout problem, (b) plan strategies for cutting attrition, (c) implement those strategies, and (d) evaluate the effectiveness of the program. The colleges implemented new retention efforts in six areas that include (a) early warning systems for potential dropouts, (b) residence life and social integration, (c) curriculum innovations (e.g., remedial programs, learning skills centers, orientation programs), (d) advising, (e) commuter students, and (f) linking recruitment and retention. Within two years, preliminary data shows an improvement in retention rates for the eight campuses, especially for freshmen. Two institutions cut freshman attrition rates by 50 to 65 per cent. Other effects include increased
undergraduate enrollment and increased four-year graduation rates. One institution estimates that improved retention has actually contributed $130,000 in additional income. Three other universities have experienced a stabilizing of enrollments, and they attribute such stability to retention efforts because each had experienced concurrent cuts in financial aid.

Kemerer, Baldridge, and Green (84) report on a retention program instituted at Bradley University, a private, largely undergraduate university of 5,500 students. This university developed a student planning concept that was incorporated into a complete organization of student service units. Within the Division of Student Planning are housed the office of admissions; office of financial assistance; center for orientation, advisement, and retention; and the center for career development. Each unit developed activities and services to meet student needs, including a student aide program. The student aide program utilizes students for tutoring, career exploration, recruitment contacts, computer-matching with campus interests, and other student linked activities. Bradley reports increases in applications for admission, new student enrollment, ACT scores, and graduation rates. This is an excellent example of the cyclic process of retention—retention fosters retention.
The Northern California Cooperative Research Project (NORCAL) is an example of a highly sophisticated program designed to improve retention as described by Beal and Noel (18), Dallas (43), Kester (85, 86), Lenning, Beal, and Sauer (96), and MacMillan and Kester (105). Twenty-three junior colleges are involved in the project, eleven of which are developing experimental action-oriented programs to test the effect of various retention programs. MacMillan and Kester (105) identify five different intervention strategies used as (a) group testing, counseling, and orientation, (b) individual counseling, (c) tutoring, (d) basic skills courses, and (e) college readiness programs. In each of the eleven colleges using experimental designs experimental groups receive special treatment and control groups receive no treatment. In all programs, positive results are reported. Students in the experimental groups have lower attrition rates, and all of the programs are showing higher re-enrollment from the experimental groups. The value of counseling services is the most consistent finding.

The problem in initiating retention strategies in the NORCAL project was identified as one of wanting to solve the attrition problem rather than one of "means." The ability to conduct the retention programs was already present in their existing courses and resources without additional needs for funds or staff. McMillan ad Kester state that "the provision of special services and attention to the high
risk student can cut the attrition rate in half" (105, p. 46).

As described by Kelly (83), Jefferson Community College in Louisville, Kentucky, began a retention program based on "seeing things from the student's perspective." They identified four phases of student campus life—pre-enrollment, campus enrollment, class attendance and post-class—and special retention efforts were directed toward each phase. Such strategies include high school-faculty outreach activities, development of a central advising program, reducing registration time, faculty-staff orientation, development of a library-use pamphlet, development of a faculty handbook of teaching tactics, special programs for students on probation and suspension, and identifying potential dropouts. Such efforts increased retention 7 to 10 per cent on the two campuses of the college.

Henderson (74) reports on the retention efforts of eight colleges and universities, two of which have evaluated their efforts and report increased retention due to counseling efforts. Duke University developed a special counseling program for high-risk freshman students identified for that campus. Not only did Duke reduce the attrition rate, but the institution also significantly reduced the transfer-out rate, which was a major cause of attrition for that university. Delaware State College
identifies potential freshman dropouts through predictive testing and the target group receives personal and career counseling. In addition, all freshmen are required to take an orientation course. Attrition for Delaware State College has been reduced by 20 per cent.

These project reports indicate that institutions are aiming at improved services and programs to improve retention. Commitment to retention efforts by the entire institution may be the key to promoting retention since many retention programs are within the existing resources of the institution and place little, if any, resource or financial demands on the institution. Noel (122) believes that institutional resources must be mobilized in new ways to meet specific student needs to create a "staying environment" (121).

According to Hannah (68) and Lea, Sedlacek, and Stewart (94), withdrawal is a process and not an event. Hannah (68) and Terenzini and Pascarella (180) indicate that the campus-wide programs that are designed to intervene at an early stage of withdrawal are most likely to be effective in increasing retention. Such programs also create conditions that foster more frequent contact with faculty, staff, and administration. College personnel become involved in the withdrawal process, an involvement that is traditionally lacking. Chickering and Hannah (37) and Hannah (68) report that university personnel (faculty, staff, and
administrators) rarely are involved in student decision-making prior to withdrawal; yet, students who report interaction with college personnel find the interaction valuable. Thus retention programs can increase the potential benefits of student-personnel interaction for a greater number of students.

Lea, Sedlacek, and Stewart (94) believe that although the major motivation for directing retention efforts may have quantitative goals to increase enrollment, the most important changes may be qualitative in terms of improving educational services. Increased retention efforts serve students already enrolled, contribute to improved academic and non-academic programs, help decrease recruitment pressures, and yield financial benefits. Through such efforts students can have confidence that their investment in attending college is worth the perceived benefits.

Summary

Current economic and demographic trends have increased institutional commitment to implement retention programs. Institutional efforts to increase retention are increasing and are being shown to be effective. Programs are most effective when they are campus-wide and incorporate both academic and non-academic interventions. They should be well planned, well coordinated, and continually evaluated. Planning should include short- and long-term goals that are
both quantitative and qualitative in nature. Part of the planning should include institutional assessment to identify strengths and weaknesses as well as characteristics of the student population. The last fifty years of research has identified the complexity of student attrition but has done little to identify why students withdraw or why they persist. Even so, dropouts are easier to predict than persisters.

Despite the high attrition rate in baccalaureate nursing programs, there are few reports of retention efforts other than those directed toward minorities. Most nursing schools have focused research efforts on predictive studies for purposes of selective admissions. Although nursing students benefit from campus-wide retention efforts, they may have some special needs that can be met through special retention efforts within their college.

Satisfaction, goal commitment, and academic achievement are variables strongly linked both theoretically and empirically to student retention. By identifying relationships between these variables, information may be revealed that will aid in planning retention programs for nursing students, especially when such data is derived from student persisters. Research data, including the development of a student profile for persisters, can allow retention to begin appropriately with recruitment and extend throughout the undergraduate career.


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CHAPTER III

METHODS AND PROCEDURES

Introduction

The purpose of this chapter is to present the methods and procedures used to obtain and analyze the descriptive data in this survey study. The purposes of this study are (a) to identify, describe, and analyze any existing relationships between satisfaction with college, academic achievement, and goal commitment for students enrolled in the nursing major of a baccalaureate nursing program, and (b) to examine differences in these relationships that may occur for students at different stages of their undergraduate careers.

The survey method of research is used because it is the most efficient means of contacting all members of the large group that comprise the sample of the study. This method also makes it possible to obtain responses to a variety of questions in an efficient manner. In addition, the Likert scale, the response format used for both instruments, is considered superior to other attitude scales (26). Attitude scales, however, are direct self-report measures that have as a primary disadvantage an uncertainty of the degree to which the responses of the subjects reflect true attitudes.
Though less direct attitude measures are needed to overcome this problem, few such reliable measures have been developed (6, p. 184).

Sample

The sample for this study is the total enrollment of 258 generic nursing students at Harris College of Nursing, Texas Christian University, who are currently enrolled in a nursing course. The sample that responded consists of 222 generic nursing students from this program.

The Survey Instruments

The College Student Satisfaction Questionnaire

The level of student satisfaction is measured by the College Student Satisfaction Questionnaire, Form C (CCSQ), which is a copyrighted survey instrument (4) that uses a five-choice, Likert-type response scale. This survey instrument, which is based on research on the satisfaction of employees in business and industry, consists of seventy items that are selected to measure five dimensions of satisfaction that include (a) working conditions, (b) compensation, (c) quality of education, (d) social life, and (e) recognition. The CSSQ Manual further defines these five scales.

Working Conditions: The physical conditions of the student's college life, such as the cleanliness and
comfort of his place of residence, adequacy of study areas on campus, quality of meals, facilities for lounging between classes;

**Compensation:** The amount of input (e.g., study), required relative to academic outcomes (e.g., grades), and the effect of input demands on the student's fulfillment of his other needs and goals;

**Quality of Education:** The various academic conditions related to the individual's intellectual and vocational development, such as the competence and helpfulness of faculty and staff, including advisors and counselors, and the adequacy of curriculum requirements, teaching methods, and assignments;

**Social Life:** Opportunities to meet socially relevant goals, such as dating, meeting compatible or interesting people, making friends, participating in campus events and informal social activities;

**Recognition:** Attitudes and behaviors of faculty and students indicating acceptance of the student as a worthwhile individual (30, p. 4).

Reliability coefficients are reported in the CSSQ Manual for each of the five scales tested as well as the total score for private and for public institutions. Internal consistency reliabilities have a median of .82, ranging from .78 to .84 (30, pp. 5-6).

Several validity studies are reported which test the basic assumption that student satisfaction can be viewed as analogous to job satisfaction. Job satisfaction research shows a consistent negative correlation between job satisfaction and turnover. Starr, Betz, and Menne (31) found comparable results with college students; the satisfaction scores of dropouts were lower than those ofpersisters.

Other studies (3, 5) show that CSSQ scores are positively related to age, residence, and type of
institution. Hallenbeck (13) also reports a positive relationship to college and classification, as well as age and type residence. Further validity is offered by a factor analytic study of the CSSQ by Betz and others (5).

Construction of the Goal Commitment Survey

One instrument (Appendix E) which was used to conduct a part of this survey, was specifically designed and developed to answer the research questions related to goal commitment. Four broad areas were identified in the nursing and higher education literature that are recognized to influence goal commitment and that therefore affect retention.

The four area framework used to construct the goal commitment survey is stated below. A brief outline of the concepts forming the basis for survey statements also follows.

Framework for Goal Commitment Survey

Desire to be a Nurse (7, 11, 14, 15, 16, 36, 37):

A. Commitment to an academic or occupational goal
B. Realistic concept of role
C. Concern for the welfare of others

Parental Influence (10, 12, 20, 23, 27, 28, 33, 35):

A. Commitment to complete degree
B. Commitment to the institution
Concept of Need for a Baccalaureate Degree and Job Relatedness (1, 2, 17, 21, 22, 24):

A. Level of degree aspirations
B. Preparation for employment

Choice of Major (8, 9, 18, 19, 24, 32):

A. Certainty of choice
B. Goal direction
C. Compatibility with program

The previous chapter presented the background information and research related to each of these areas. Representative references are given.

Evaluation of Goal Commitment Survey

The instrument was then developed using a five-choice Likert-type scale response format (22). There were forty-eight items on the preliminary instrument (Appendix C). The instrument was submitted for evaluation to a panel of five experts (Appendix B) who are actively involved in higher education. The panel of experts consists of one nursing dean, one nursing associate dean, two undergraduate nursing faculty members, and one educator in charge of university advisement for freshmen and premajors. All have doctoral degrees and experience in research methodology; each panel member returned a completed evaluation of the survey instrument with recommendations.

The experts were asked to scrutinize the survey instrument for both content validity and clarity (Appendix
D). The content validity of the tool was determined from the experts' reports that the survey items represent content that is relevant to the subject and that the sample of items is adequate (6). Suggestions and recommendations made by all participants were carefully reviewed. Several editorial changes were made for the sake of clarity and seven items were added to the survey on the basis of the recommendations of the expert reviewers.

The revised instrument and a brief profile questionnaire (Appendix E) was then administered to twenty volunteer nursing students for purposes of establishing reliability. The test-retest method was used, with a delay of fourteen days between test administrations. In order to conduct the study, it was predetermined that a reliability coefficient of .70 or higher, using the Pearson product moment correlation coefficient would be needed for continued use of the survey in the research study. Borg and Gall advise that such a measure is "useful in research studies where analysis is concerned with groups" (6, p. 360). All twenty students completed the survey instrument at both sessions as scheduled. An .86 reliability coefficient was derived using the Pearson product moment correlation coefficient. Several editorial changes were made following the test-retest to clarify ambiguous items as recommended by the participants.
Survey

There are 258 generic students that constitute the sample. Two-hundred and forty-one of the 258 generic students enrolled in nursing classes completed the surveys. Seven students could not be contacted to participate in the study. Nineteen students who participated in the study were eliminated as Fall, 1983, grades were not available. Therefore, 222 generic nursing students from this program constitute the sample that responded.

The profile and revised Goal Commitment Survey, the College Student Satisfaction Questionnaire, a consent form (Appendix F), and computer answer sheets for each survey were gathered into packets for each individual participant. Administrative approval was obtained (Appendix A), and arrangements for administration of the research surveys were made with each teacher in each nursing class. Every class was tested during the first two weeks of the semester, with all students present participating except for ten generic nursing students who had participated in the test-retest; the other ten students who comprised the test-retest group had graduated in December or were not members of the generic student enrollment. Nine students who had been absent during the class survey period also completed the instruments on an individual basis during the following four weeks. Table I data show the response rates by each nursing class.
### TABLE I

RESPONSE RATES BY CLASS PERCENTAGES

<table>
<thead>
<tr>
<th>Class</th>
<th>Number Enrolled</th>
<th>Number Completing Surveys</th>
<th>Per Cent Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upper Division</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior II</td>
<td>38*</td>
<td>28</td>
<td>74</td>
</tr>
<tr>
<td>Senior I</td>
<td>30</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>Junior II</td>
<td>48</td>
<td>48</td>
<td>100</td>
</tr>
<tr>
<td>Junior I</td>
<td>47</td>
<td>47</td>
<td>100</td>
</tr>
<tr>
<td><strong>Lower Division</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic II</td>
<td>32</td>
<td>32</td>
<td>100</td>
</tr>
<tr>
<td>Basic I</td>
<td>31*</td>
<td>26</td>
<td>84</td>
</tr>
<tr>
<td>Nursing 1101</td>
<td>32</td>
<td>30</td>
<td>94</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>258</td>
<td>241</td>
<td>93</td>
</tr>
</tbody>
</table>

*Excluding five test-retest students

Table I indicates that 241 of the 258 generic nursing students enrolled in nursing classes completed surveys. The responding sample of 241 students represents 93 per cent of the total generic nursing student enrollment.

Grade-Point Average Determination

The grade-point average of each subject for credits taken at Texas Christian University was provided by Harris College of Nursing. These were listed by code number and course of enrollment, since only these students comprised the sample used for data analyses. The data in Table II
show the sample of generic nursing students as determined by the availability of Fall, 1983, grade-point averages.

**TABLE II**

**SAMPLE AS DETERMINED BY FALL, 1983, GRADE-POINT AVERAGE**

<table>
<thead>
<tr>
<th>Class</th>
<th>Number Completing Surveys</th>
<th>Number with Fall Grades</th>
<th>Per Cent for Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Division</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior II</td>
<td>28</td>
<td>28</td>
<td>100</td>
</tr>
<tr>
<td>Senior I</td>
<td>30</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>Junior II</td>
<td>48</td>
<td>48</td>
<td>100</td>
</tr>
<tr>
<td>Junior I</td>
<td>47</td>
<td>45</td>
<td>96</td>
</tr>
<tr>
<td>Lower Division</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic II</td>
<td>32</td>
<td>31</td>
<td>97</td>
</tr>
<tr>
<td>Basic I</td>
<td>26</td>
<td>13</td>
<td>50</td>
</tr>
<tr>
<td>Nursing 1101</td>
<td>30</td>
<td>27</td>
<td>90</td>
</tr>
<tr>
<td>Total</td>
<td>241</td>
<td>222</td>
<td>92</td>
</tr>
</tbody>
</table>

Table II indicates that 222 students of the 241 students who completed the survey instruments had prior Texas Christian University credits (92%). The usable response rate is, therefore, 86 per cent of the total enrollment of 258 students.

**Statistical Treatment of Data**

The data were prepared for automatic data processing using the Statistical Package for the Social Sciences (29). Students responded to each item on the survey instruments on
computer answer sheets. All answer sheets were examined for any discrepancies that would render the answer sheets unusable for computer analysis. The final total of 222 sets of answer sheets were used for tabulating the data.

Each item on the answer sheet was coded numerically to yield numerical scores. Data from the profile questions 1 through 9 yield information regarding the responding sample characteristics. Percentage and frequency counts were used to analyze these data. This method permits summarization of the large amount of data into manageable form and allows an overview of the data relating to sample characteristics (25).

The Pearson product moment correlation coefficient, which is an index of the relationship between two variables, was used to treat data responding to research question one. Since this question seeks to determine the relationship between satisfaction, academic achievement, and goal commitment for students enrolled in a baccalaureate nursing program, the Pearson product moment correlation coefficient is an appropriate method of analysis (25). Observations of all three variables are available for all individuals in each group being studied, and all can be expressed in numerical scores. These data were tested in the null form at the .05 level of significance.

A two-tailed t test was used to treat data responding to research question two. Since this question seeks to
determine the difference in the means of two independent samples—upper-division students and lower-division students—for satisfaction, academic achievement, and goal commitment, the two-tailed \( t \) test is an appropriate method of analysis. The \( t \) test is used to determine whether the criterion means for the two groups differ significantly (25). These data were tested in the null form at the .05 level of significance.

Summary

The survey method of research is used to study the relationship of satisfaction, academic achievement, and goal commitment to student retention in a baccalaureate nursing program. Two-hundred and fifty-eight students enrolled at Harris College of Nursing, Texas Christian University constitute the sample for this study. The nursing students were surveyed through the use of two Likert-type response scales designed for the purposes of answering the proposed research questions. Academic achievement was determined by previous cumulative grade-point average at Texas Christian University. Two-hundred and twenty-two respondents from the 241 students that completed both survey instruments comprise the sample for data analyses. Eighty-six per cent of the total student body of 258 generic nursing students were included in the final data analysis. Chapter IV presents the results of the analyses of data, using percentages,
frequency counts, Pearson product moment correlation coefficients, and two tailed t test values.
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CHAPTER IV

PRESENTATION AND ANALYSES OF DATA

Introduction

The purpose of this chapter is to present the methods used to analyze data collected for this study and to present the results. The statistical analyses are based on the research questions stated in Chapter I. Research question one is analyzed by the Pearson product moment correlation coefficient. Research question two is analyzed by a two-tailed t-test. The use of the .05 level of significance is appropriate for the research method and data obtained.

Description of the Sample

In the Spring Semester, 1984, 241 generic nursing students were surveyed from a sample of 258 such students. Completed surveys from 222 generic nursing students were used in the data analysis. Data describing demographic characteristics of the responding sample were derived from questions one through nine of one of the research tools.

Demographic Data Analyses

Table III presents the demographic data for the student sample that responded. Variables examined include age, sex, ethnicity, classification, residence, and transfer status.
To further identify characteristics of transfer students, questions identifying the number of transfer hours and the number of semester hours completed by transfer students were included. Since an occasional respondent failed to answer all items, a no-response category is added to some variable analyses. The use of the term sample in the discussion of the data analyses refers to the responding sample.

**TABLE III**

**DEMOGRAPHICS ON GENERIC NURSING STUDENTS**

(N=222)

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age Groups:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-22 years</td>
<td>154</td>
<td>69.4</td>
</tr>
<tr>
<td>23-27 years</td>
<td>38</td>
<td>17.1</td>
</tr>
<tr>
<td>28-32 years</td>
<td>11</td>
<td>5.0</td>
</tr>
<tr>
<td>33-37 years</td>
<td>4</td>
<td>1.8</td>
</tr>
<tr>
<td>Over 37 years</td>
<td>15</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>222</td>
<td>100.0</td>
</tr>
</tbody>
</table>

| **Sex:**                      |    |       |
| Female                        | 204| 91.9  |
| Male                          | 18 | 8.1   |
| **Total**                     | 222| 100.0 |

| **Ethnic Minority:**          |    |       |
| Yes                           | 21 | 9.5   |
| No                            | 199| 89.6  |
| No response                   | 2  | 0.9   |
| **Total**                     | 222| 100.0 |
### Table III--Continued

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hours of Enrollment:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 or more</td>
<td>202</td>
<td>91.0</td>
</tr>
<tr>
<td>9-11</td>
<td>8</td>
<td>3.6</td>
</tr>
<tr>
<td>8 or less</td>
<td>12</td>
<td>5.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>222</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Classification:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>27</td>
<td>12.2</td>
</tr>
<tr>
<td>Sophomore</td>
<td>45</td>
<td>20.3</td>
</tr>
<tr>
<td>Junior</td>
<td>91</td>
<td>40.9</td>
</tr>
<tr>
<td>Senior</td>
<td>59</td>
<td>26.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>222</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Residence:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campus housing</td>
<td>102</td>
<td>45.9</td>
</tr>
<tr>
<td>Own housing</td>
<td>62</td>
<td>27.5</td>
</tr>
<tr>
<td>Home/relatives</td>
<td>58</td>
<td>26.1</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>222</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Transfer Status:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>94</td>
<td>42.3</td>
</tr>
<tr>
<td>No</td>
<td>127</td>
<td>57.2</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>222</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Transfer Status by Classification:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman and sophomore</td>
<td>16</td>
<td>17.0</td>
</tr>
<tr>
<td>Junior and senior</td>
<td>78</td>
<td>83.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>94</td>
<td>100.0</td>
</tr>
</tbody>
</table>
### TABLE III—Continued

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
</table>

**Transfer Hours:**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>128</td>
<td>57.7</td>
</tr>
<tr>
<td>Under 12</td>
<td>0</td>
<td>00.0</td>
</tr>
<tr>
<td>12-23</td>
<td>12</td>
<td>5.4</td>
</tr>
<tr>
<td>24-35</td>
<td>9</td>
<td>4.0</td>
</tr>
<tr>
<td>36-47</td>
<td>14</td>
<td>6.3</td>
</tr>
<tr>
<td>Over 47</td>
<td>59</td>
<td>26.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>222</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**TCU Semesters Completed by Transfer Students:**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 semesters</td>
<td>41</td>
<td>43.6</td>
</tr>
<tr>
<td>3-4 semesters</td>
<td>33</td>
<td>35.1</td>
</tr>
<tr>
<td>5-6 semesters</td>
<td>15</td>
<td>16.0</td>
</tr>
<tr>
<td>Over 6</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>95</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Age

The majority of the sample (69.4%) are between the ages of 18 to 22 years, and 86.5 per cent are under 27 years old. This percentage is comparable to the total parent institution student body characteristics for 1982-1983 which shows that 75 per cent of the students were under 25 years of age (24, pp. 2, 15).

### Sex

Female students comprise 91.9 per cent of the sample, a percentage comparable to the national average of 95 per cent, as reported by the National League for Nursing (NLN).
(14, p. 69), for students enrolled in baccalaureate nursing programs.

Ethnicity

Students who do not consider themselves as members of an ethnic minority represent 89.6 per cent of the sample. For all baccalaureate programs in nursing in the United States, the minority enrollment is 11 per cent according to data reported by the NLN (14, p. 69). The minority enrollment for the sample is 9.5 per cent. Although this percentage is lower than the national average for nursing programs, college minority enrollment is comparable with minority enrollment reported by the parent institution of 8 per cent according to 1982-1983 institutional statistics (24, p. 14).

Hours of Enrollment

Students who carry twelve hours or more comprise 91 per cent of the sample. This coincides with the national average of 90 per cent, as reported by the American Association of Colleges of Nursing (AACN) (1, p. 7) for most generic baccalaureate programs. This percentage may be strongly influenced by the requirement that students be enrolled in twelve hours or more to be eligible for financial aid. At the institution under study, over 60 per cent of the nursing students receive some form of financial aid according to the dean of the college (17).
Classification

Juniors and seniors comprise 67.5 per cent of the sample, and 32.5 per cent are classified as freshmen and sophomores. If the upper-division enrollment is to remain stable, an influx of transfer students must occur, which appears likely judging the presence of 78 transfer students who comprise 52 per cent of the upper-division enrollment.

Residence

The majority (54.1%) of the sample arrange their own housing, living in an apartment, at home, or with relatives. This may be a reflection of the facts that the majority of the sample are upper-division students, campus housing is only required of freshmen, and campus dormitory facilities are limited. Institutional statistics for 1982-1983 (24, p. 43) indicate that 57 per cent of the total enrollment lived off-campus.

Transfer Status

Although the majority of the sample (57.2%) are not transfer students, a large number (42.3%) transferred from other institutions, 32.9 per cent of whom completed over thirty-six hours at another institution. Transfer students who have completed two semesters or less at this institution make up 43.6 per cent of the sample. Most transfer students enter into the upper division; 83 per cent of the transfer students in the sample are classified as juniors and
seniors. Institutional statistics (24) indicate that 25 per cent of the 1982-1983 admissions were transfers, a percentage below that found in this college of nursing sample.

The data in Table III indicate that the typical generic nursing student at this institution is between the ages of 18 to 22 years, female, non-minority, enrolled full time, classified in the upper division, lives off-campus, and has attended only this institution. Factors that may have influenced these demographics include requirements for financial-aid eligibility, limited campus residence facilities, the influx of transfer students into the major that increased the number of upper-division students, and the college being part of a private university. These findings vary considerably with those reported by Zorn (28) in a study of a major Ohio public university; the typical baccalaureate nursing student in Zorn's study is a working registered nurse, 32 years old, female, and is a married part-time student who lives off-campus.

However, the findings from this study are supported by data published by the NLN for 1982; the typical baccalaureate graduate is described as female, 20 to 24 years old, Caucasian and single (14, pp. 132-133). According to the AACN (2, p. 16) students who are registered nurses comprise only 24.7 per cent of the total national baccalaureate student enrollment. The sample at Harris
College of Nursing can be considered representative of the national profile of baccalaureate nursing students according to age, sex, and ethnicity.

Data Analyses by Research Questions

Research Question One

The first research question of this study is designed to explore the relationships between (a) satisfaction with college and academic achievement, (b) goal commitment and satisfaction with college, and (c) academic achievement and goal commitment for students who are enrolled in a baccalaureate nursing program. For testing purposes, this research question is translated into three null hypotheses, as follows.

1(a). For students who are enrolled in a baccalaureate nursing program, there will be no significant difference between degree of satisfaction [as measured by overall scores on the College Student Satisfaction Questionnaire, Form C (CSSQ)] and academic achievement [as measured by cumulative institutional grade-point averages at the end of the Fall Semester, 1983];

1(b). For students who are enrolled in a baccalaureate nursing program, there will be no significant difference between goal commitment [as measured by overall scores on
the Goal Commitment Survey (GCS) and degree of satisfaction [as measured by overall scores on the CSSQ];

1(c). For students who are enrolled in a baccalaureate nursing program, there will be no significant difference between academic achievement [as measured by cumulative institutional grade-point averages at the end of the Fall Semester, 1983] and degree of goal commitment [as measured by overall scores on the GCS].

Table IV presents the statistical analysis of these data using the Pearson product moment correlation coefficient.

**TABLE IV**

**CORRELATION MATRIX FOR SATISFACTION, ACADEMIC ACHIEVEMENT, AND GOAL COMMITMENT**

(N=222)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Satisfaction</th>
<th>Academic Achievement</th>
<th>Goal Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction</td>
<td>1.00</td>
<td>.09</td>
<td>.33*</td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>..</td>
<td>1.00</td>
<td>.03</td>
</tr>
<tr>
<td>Goal Commitment</td>
<td>..</td>
<td>..</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*Significant at the .001 level*
A statistically significant relationship is found by using the Pearson product moment correlation coefficient between satisfaction and goal commitment; a coefficient of .33 is found, which is significant at the .001 level. On the basis of the data, hypothesis 1(b) is rejected, and hypotheses 1(a) and 1(c) are accepted. The data show a significant relationship between the degree of goal commitment and the degree of satisfaction as measured by the overall scores on the CSSQ and GCS.

This result supports conclusions by Bean (5), Spady (19), and Tinto (25) that levels of satisfaction and commitment are related. Spady (20) states that higher levels of satisfaction increase commitment and thus increase retention. Bean (5) reports that satisfaction is a variable that influences commitment, and the greater the commitment, the less chance of attrition. Tinto (25) contends that the higher the degree of integration of the individual into the college system, the greater the commitment and the greater the likelihood of retention. Satisfaction can be viewed as a measure of social integration.

Correlations between (a) satisfaction and academic achievement and (b) goal commitment and academic achievement are not demonstrated in this study. Spady (19) contends that satisfactory grade performance leads to increased social integration, which increases satisfaction and in turn
increases commitment and retention. Tinto (25) argues that goal commitment leads to higher grade performance, which further enhances goal commitment and retention. Bean (5) states that grade performance influences satisfaction and thereby influences retention. Baccalaureate nursing students, however, may differ from typical university students in these relationships. Academic achievement may not be a factor in determining satisfaction and goal commitment. The fact that nursing students have a strong commitment to help others [as demonstrated in research by Morris and Grassi-Russo (13), Smith (18), Teal and Fabrizio (23), and the U. S. Department of Health, Education, and Welfare (26)], may influence this relationship. The strength of the commitment is emphasized by Warnecke (27) who reports that nursing school dropouts remain committed to nursing and frequently return later to complete a nursing education.

Spady (20) suggests that academic performance is not directly related to commitment, since commitment represents an intrinsic set of attitudes which are not sensitive to the extrinsic reward system. Spady (20) also reports that women are more concerned with intrinsic rewards which may be a factor operating in this predominantly female responding sample and which would modify the influence of academic achievement on satisfaction and goal commitment.
Research by Hecklinger (9) and Roelf (16) also indicates that students who have definite career plans are more satisfied, which may also modify the effects of academic achievement for this responding sample. Teal and Fabrizio (23) report that nursing students typically make their decision to become nurses before the age of seventeen, which is indicative of early career plans and goal direction.

**Research Question Two**

The second research question of this study explores differences between upper-division and lower-division nursing students as measured by (a) satisfaction, (b) academic achievement, and (c) goal commitment. For testing purposes, this research question is restated in null form, as follows.

2(a). There will be no significant difference between lower-division and upper-division nursing students in their degree of satisfaction with college as measured by the overall scores on the CSSQ;

2(b). There will be no significant difference in the academic achievement of the lower-division and upper-division nursing students as measured by cumulative institutional grade-point averages;
2(c). There will be no significant difference between lower-division and upper-division nursing students in the degree of goal commitment as measured by the overall scores on the GCS.

Hypothesis 2(a).—The hypothesis states that there will be no significant difference between lower-division and upper-division nursing students in their degree of satisfaction with college as measured by the overall scores on the CSSQ. A two-tailed $t$ test was used, with a $t$ value equal to or higher than 1.98 required for significance at the .05 level. Table V presents the statistical analysis of the data.

**TABLE V**

<table>
<thead>
<tr>
<th>GROUP (DIVISION)</th>
<th>N</th>
<th>MEAN SCORE</th>
<th>STANDARD DEVIATION</th>
<th>T VALUE</th>
<th>LEVEL OF SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper</td>
<td>150</td>
<td>226.65</td>
<td>37.43</td>
<td>-2.50</td>
<td>.013*</td>
</tr>
<tr>
<td>Lower</td>
<td>72</td>
<td>240.28</td>
<td>39.06</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at .05 level
The data in Table V indicate that lower-division students experience a significantly greater degree of satisfaction with the university than upper-division students; the level of significance is .013. Hypothesis 2(a) is therefore rejected. Analysis of the differences according to subscale scores of the CSSQ follows.

A two-tailed t-test was used to analyze the differences between lower-division and upper-division students on the five subscale scores of the CSSQ. These data are presented in Table VI. The results of the subscale scores shown in Table VI indicate significant differences in the satisfaction levels between the two groups for the subscales of social life, compensation, and quality of education.

The social life subscale measures the level of satisfaction for dating opportunities, meeting people, making friends, and participating in campus events and informal social activities. Lower-division students experience a significantly greater degree of satisfaction with the social life at the university than upper-division students; the level of significance is .002.

The compensation subscale measures the level of satisfaction with the amount of input required relative to academic outcomes and the effect of these demands on fulfillment of other needs and demands. Lower-division students experience a significantly greater degree of
**TABLE VI**

A COMPARISON OF LOWER-DIVISION AND UPPER-DIVISION STUDENTS ON THE FIVE SUBSCALE SCORES OF THE CSSQ (N=222)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Group (Division)</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Life</td>
<td>Upper</td>
<td>150</td>
<td>40.99</td>
<td>9.77</td>
<td>-3.21</td>
<td>.002*</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>72</td>
<td>45.68</td>
<td>10.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compensation</td>
<td>Upper</td>
<td>150</td>
<td>43.52</td>
<td>9.14</td>
<td>-2.15</td>
<td>.033*</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>72</td>
<td>46.26</td>
<td>8.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of Education</td>
<td>Upper</td>
<td>150</td>
<td>48.69</td>
<td>9.03</td>
<td>-2.15</td>
<td>.033*</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>72</td>
<td>51.40</td>
<td>8.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognition</td>
<td>Upper</td>
<td>150</td>
<td>49.93</td>
<td>9.03</td>
<td>-1.43</td>
<td>.153</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>72</td>
<td>51.82</td>
<td>9.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working Conditions</td>
<td>Upper</td>
<td>150</td>
<td>43.52</td>
<td>8.21</td>
<td>-1.31</td>
<td>.192</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>72</td>
<td>45.11</td>
<td>9.95</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Statistically significant*
satisfaction in this area; the level of significance is .033.

The quality of education subscale measures the degree of satisfaction with the competence and helpfulness of faculty, staff, advisors, and counselors as well as the adequacy of the curriculum requirements, teaching methods, and assignments. Lower-division students experience a significantly greater degree of satisfaction in this area; the level of significance is .033.

For the CSSQ subscales for recognition and working conditions, there are no significant differences between upper- and lower-division nursing students. Of the five subscales of the CSSQ, therefore, the three subscales of social life, compensation, and quality of education show significant differences between upper- and lower-division nursing students.

Analyses were also made of the relationships of satisfaction to the demographic variables age, sex, ethnicity, hours of enrollment, residence, and transfer status. No significant differences were found among these relationships; these data are shown in Appendix G.

Hallenbeck (8), Roelf (16), and Sturtz (21) report positive correlations between satisfaction and age, with lower levels of satisfaction among the traditional age-group students as opposed to adult students. Betz, Klingensmith, and Menne (6) and Hallenbeck (8) show a positive relationship between
satisfaction and type of residence; students who live in residence halls have a lower level of satisfaction. However, no significant differences are found in this study when data are analyzed by age, sex, ethnicity, hours of enrollment, residence, or transfer status. Data further defining characteristics of transfer students by classification, transfer hours, and semesters completed at Texas Christian University are not treated as variables for purposes of statistical analysis.

In summary, the $t$ value required for significance at the .05 level is 1.98. The $t$ value for overall satisfaction exceeds this level, which shows a significant difference in the level of satisfaction between lower-division and upper-division students. Lower-division nursing students appear to experience a greater degree of satisfaction than upper-division nursing students. These results are opposite to the positive correlations reported by Hallenbeck (8) and Lokitz and Sprandel (12) for satisfaction and length of stay.

One possible explanation for the finding that lower-division students are more satisfied than upper-division students is that heavier academic and time demands are placed on baccalaureate nursing students as they become emersed in upper-division nursing courses and clinical components; the student has increased classroom and clinical contact hours and preparation time, which can
ultimately reduce time for socialization. Such events may account for decreasing levels of overall satisfaction with progression.

**Hypothesis 2(b).**—The hypothesis states that there will be no significant difference in the academic achievement of the lower-division and upper-division nursing students as measured by cumulative institutional grade-point averages. A two-tailed $t$ test was used, with a $t$ value equal to or higher than 1.98 required for significance at the .05 level. Table VII presents the statistical analysis of these data.

| TABLE VII |
| A COMPARISON OF LOWER-DIVISION AND UPPER-DIVISION STUDENTS BY GRADE-POINT AVERAGE (N=222) |

<table>
<thead>
<tr>
<th>Group (Division)</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>$t$ Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper</td>
<td>150</td>
<td>2.90</td>
<td>.50</td>
<td>2.61</td>
<td>.010*</td>
</tr>
<tr>
<td>Lower</td>
<td>72</td>
<td>2.69</td>
<td>.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Statistically Significant

The data presented in Table VII indicate that upper-division nursing students have a significantly higher cumulative institutional grade-point average; the level of
significance is .010. The hypothesis is therefore rejected. Analyses were also made of the relationships of grade-point average to the demographic variables age, sex, ethnicity, hours of enrollment, residence, and transfer status. No significant differences were found except for the ethnicity variable. Data further defining characteristics of transfer students by classification, transfer hours, and semesters completed at Texas Christian University are not treated as variables for purposes of statistical analysis. Data on the non-significant relationships for grade-point average and demographics are shown in Appendix G. Table VIII, however, shows data that indicate there is a significant difference between the cumulative grade-point average of students who identified themselves either as members or non-members of an ethnic minority. A t value of 2.43, significant at the .016 level, is found; non-minority nursing students have higher grade-point averages than minority students. Grade-point requirements by the college of nursing for progression are the same as general institutional requirements; a 2.0 is required for graduation. Special grade requirements for acceptance into the upper division are not a factor at this college.
A COMPARISON OF MINORITY STUDENTS AND NON-MINORITY STUDENTS BY GRADE-POINT AVERAGE (N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Minority</td>
<td>199</td>
<td>2.87</td>
<td>.57</td>
<td>2.43</td>
<td>.016*</td>
</tr>
<tr>
<td>Minority</td>
<td>21</td>
<td>2.55</td>
<td>.61</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Statistically significant

Astin (3) reports that grade performance is the most important factor in predicting student persistence. Dropouts tend to have lower grades than persisters according to Lenning, Beal, and Sauer (11) and Rever and Kojaku (15). Iffert (10), Summerskill (22), and Teal and Fabrizio (23) report that the highest attrition occurs in the first two years of college. If the probability of dropping out varies inversely with grade-point average, as Summerskill (22) states, and since most dropout occurs early in the college career, lower-division students could be expected to have a lower grade-point average than upper-division students. The results of this study are consistent with conclusions by Summerskill (22); upper-division nursing students do have a significantly higher cumulative grade-point average, which
indicates a higher probability of retention in the upper-division.

The fact that non-minority students have a significantly higher cumulative grade-point average in this study than minority students is consistent with findings by Astin (4) and Lenning, Beal, and Sauer (11) that ethnicity and attrition are linked positively. However, Gosman and others (7) report significant differences between black and white students in terms of their attrition, but they also report that racial differences disappear when the effect of other student and institutional characteristics are statistically controlled. Astin (4) and Lenning, Beal, and Sauer (11) report that students with Spanish-speaking backgrounds continue to be significantly different after research controls are employed.

**Hypothesis 2(c).**—The hypothesis states that there will be no significant difference between lower-division and upper-division nursing students in the degree of goal commitment as measured by the overall scores on the GCS. A two-tailed \( t \) test was used, with a \( t \) value equal to or higher than 1.98 required for significance at the .05 level. Table IX presents the statistical analysis of these data.
TABLE IX

A COMPARISON OF LOWER-DIVISION AND UPPER-DIVISION STUDENTS ON THE OVERALL SCORE ON THE GCS (N=222)

<table>
<thead>
<tr>
<th>Group (Division)</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper</td>
<td>150</td>
<td>221.93</td>
<td>19.26</td>
<td>-.44</td>
<td>.66</td>
</tr>
<tr>
<td>Lower</td>
<td>72</td>
<td>223.15</td>
<td>19.65</td>
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</tbody>
</table>

The data presented in Table IX indicate that there is no difference in the degree of goal commitment between lower-division and upper-division students. With a t value of -.44, the difference between the means is not significant and could be attributed to chance. The hypothesis therefore is accepted. Analyses were also made of the relationships of goal commitment to the demographic variables age, sex, ethnicity, hours of enrollment, residence, and transfer status. These data are presented in Appendix G; no significant differences were found among these relationships. Data further defining characteristics of transfer students by classification, transfer hours, and semesters completed at Texas Christian University are not treated as variables for purposes of statistical analysis.
The data indicate that students at all levels of the undergraduate career in the baccalaureate nursing program at this institution have similar levels of commitment although the degree of satisfaction decreases when students reach the upper-division level. Perhaps, as suggested by Iffert (10), it is the ability to endure dissatisfaction that increases retention rather than satisfaction itself. Tinto (25) states that commitment is a factor correlated positively to retention and may thus operate to offset decreasing levels of satisfaction with progression.

The fact that the college of nursing in this study involves students in the major early in their undergraduate careers may account for the higher level of satisfaction in the lower division than is reported by Hallenbeck (8) for lower-division students in general. Generic nursing students in this college take the first nursing class as freshmen, which is a curriculum design shared by 22 per cent of baccalaureate nursing programs according to data by the AACN (2, p. 17). The fact that goal commitment is similar for all levels may be related to the suggestion by Tinto (25) that students at private institutions are more committed due to the added financial investment required to obtain an education. Another consideration, as suggested by Spady (20) is that commitment is largely generated early during the college career; thus one would not expect to see great changes with progression.
Summary of Data Findings

For this study, 222 generic nursing students were surveyed, 72 lower-division and 150 upper-division nursing students, which was 86 per cent of the total enrollment. An analysis and interpretation of the data obtained from this study, based on the responding sample, reveals the following major findings.

1. The student sample consists primarily of non-minority females, 18 to 22 years old, who are enrolled as full-time students and live off-campus.

2. There is an imbalance between the enrollment numbers for lower-division (32.5%) students and upper-division (67.5%) students, which indicates that an influx of students from other institutions occurs at some point to maintain stability in the upper-division enrollment. Students transferring twelve hours or more of credit make up 42.3 per cent of the total sample with 32.9 per cent of these students transferring over thirty-six hours. Many transfer students have completed a large portion of the general education requirements for the nursing major at other institutions; 83 per cent of transfer students are classified in the upper division. Transfer students who have completed over three semesters at the institution make up 56.4 per cent of the sample, with only 21.3 per cent completing as many as five semesters.
3. There is a statistically significant correlation at the .001 level between satisfaction and goal commitment using the Pearson product moment correlation coefficient.

4. Lower-division students experience a significantly higher degree of college-related satisfaction than upper-division students (at the .013 level using a two-tailed $t$ test). Lower-division students also experience significantly higher levels of satisfaction in three of the five subscale measures of the CSSQ that include the social life, compensation, and quality of education subscales (at the .002, .033, and .033 level, respectively, using a two-tailed $t$ test). No differences are found in the scores for the subscales for recognition and working conditions.

5. Upper-division nursing students have a significantly higher cumulative grade-point average than lower-division students (at the .010 level using a two-tailed $t$ test).

6. Non-minority students have a significantly higher cumulative grade-point average than minority students (at the .016 level using a two-tailed $t$ test).

7. No significant difference is found in the degree of goal commitment between lower-division and upper-division students.
CHAPTER BIBLIOGRAPHY


17. Scearse, Patricia, Texas Christian University, personal interview, August, 1983.


CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study is to identify, describe, and analyze existing relationships between satisfaction with college, academic achievement, and goal commitment for students enrolled in the nursing major of a baccalaureate nursing program. It examines differences in these relationships, which may occur at different stages of the undergraduate career, to provide data for the purpose of increasing retention in nursing programs. A comprehensive review of related literature focuses on (a) theoretical models of retention, (b) satisfaction, academic achievement, and goal commitment, (c) background used in the development of the Goal Commitment Survey, and (d) the benefits and effects of retention programs.

Data for this study were collected using two survey tools; the instruments used are The College Student Satisfaction Questionnaire, Form C (CSSQ) and the Goal Commitment Survey (GCS). The CSSQ is a survey developed and tested by Starr, Betz, and Menne (21) to determine student satisfaction with college. The GCS, developed by
the investigator specifically for this study is based on an extensive review of the higher education and nursing literature that is relative to goal commitment among students. The instrument was evaluated by a panel of experts consisting of five educators who are currently active in higher education. Following revision, the instrument was then evaluated for reliability by test-retest with a group of twenty volunteer nursing students; a .86 reliability coefficient was achieved using the Pearson product moment correlation coefficient. Survey instruments were completed by 241 of the 258 generic nursing students at a private metropolitan college of nursing with surveys from 222 students used for final data analyses. Permission was granted to obtain the grade-point average of each respondent from college data.

Three major methods were used to treat the collected data from the responding sample. Frequency and percentages were used to analyze the demographic data; such treatment allows summarization of a large amount of data in a manageable form. The Pearson product moment correlation coefficient was used to treat data dealing with relationships between satisfaction, academic achievement, and goal commitment. The two-tailed t test was used to treat data dealing with the differences in the mean scores of the lower-division and upper-division students for satisfaction, academic achievement, and goal commitment.
These data are tested using the .05 level of significance. The use of the term sample refers to the responding sample.

**Summary of Data Findings**

Data collected to describe the responding sample of generic baccalaureate nursing students produced the following findings.

1. The student sample consists primarily of non-minority females, 18 to 22 years old, who are enrolled as full-time students and live off-campus.

2. There is an imbalance between the enrollment numbers for lower-division (32.5%) students and upper-division (67.5%) students, which indicates that an influx of students from other institutions occurs at some point to maintain stability in the upper-division enrollment. Students transferring twelve hours or more of credit make up 42.3 per cent of the total sample with 32.9 per cent of these students transferring over thirty-six hours. Many transfer students have completed a large portion of the general education requirements for the nursing major at other institutions; 83 per cent of transfer students are classified in the upper division. Transfer students who have completed over three semesters at the institution make up 56.4 per cent of the sample, with only 21.3 per cent completing as many as five semesters.
3. There is a statistically significant correlation at the .001 level between satisfaction and goal commitment using the Pearson product moment correlation coefficient.

4. Lower-division students experience a significantly higher degree of college-related satisfaction than upper-division students (at the .013 level using a two-tailed \( t \) test). Lower-division students also experience significantly higher levels of satisfaction in three of the five subscale measures of the CSSQ that include the social life, compensation, and quality of education subscales (at the .002, .033, and .033 level, respectively, using a two-tailed \( t \) test). No differences are found in the scores for the subscales for recognition and working conditions.

5. Upper-division nursing students have a significantly higher cumulative grade-point average than lower-division students (at the .010 level using a two-tailed \( t \) test).

6. Non-minority students have a significantly higher cumulative grade-point average than minority students (at the .016 level using a two-tailed \( t \) test).

7. No significant difference is found in the degree of goal commitment between lower-division and upper-division students.
Discussion of Data Findings

Data from the National League for Nursing (NLN) (14, pp. 132-133) indicate that the typical baccalaureate nursing graduate is female, 20 to 24 years old, Caucasian, and single. The typical baccalaureate nursing student in this study is a non-minority female who is between 18 to 22 years old, which is compatible with the NLN's description of the graduate of baccalaureate nursing programs. In addition, 91 per cent of this study's responding sample are enrolled full time. This characteristic may be influenced by the institutional requirement that students be enrolled for twelve hours or more to be eligible for financial aid, and over 60 per cent of these students receive some form of financial aid according to the nursing college dean (17).

The full-time enrollment figure is comparable to the 90 per cent reported by the American Association of Colleges of Nursing (AACN) (1, p. 7). Most students continue to be full-time students, although the number of part-time students is gradually increasing and the number of full-time students is gradually decreasing according to reports by the AACN (1, p. 1). Such trends can have a serious impact on the future supply of new graduates to the profession.

The findings of this study vary significantly from those reported by Zorn (29) in her study of a major Ohio public university where the typical baccalaureate student in
nursing is a 32-year-old, married female, who is a working registered nurse, and who attends school part-time, and lives off-campus. Since the AACN (2, p. 16) reports that 24.7 per cent of the total national baccalaureate student enrollment are registered nurses, the Ohio program may not be a typical generic program due to its large enrollment of registered nurses. The sample for this study includes only students who are not registered nurses; while there are registered nurses enrolled in the college of nursing, they complete a different curriculum sequence and were excluded from the research study.

Typically, the students in the responding sample live off-campus and are classified as upper-division students. There is an influx of transfer students into the upper division that account for both the discrepancy between lower-division and upper-division enrollment and the stable total enrollment from year to year. No research data were found to compare this finding with other similar research findings.

Demographics for the responding sample in this study may be influenced by such factors as financial-aid requirements, the limited campus residence facilities, the influx of transfers into the upper division and the college being part of a private university. This college of nursing sample is comparable to parent institutional student characteristics according to age, ethnicity, and housing.
arrangements. For the parent institution, 75 per cent of the students are 25 years old or younger, 92 per cent are non-minority, and 57 per cent live off-campus (25); for the college of nursing sample, 86.5 per cent are 27 years old or younger, 89.6 per cent are non-minority, and 54.1 per cent arrange their own housing. The college of nursing has a greater number of female students (91.9%) than the total university enrollment (56%) (25), a characteristic that is typical of nursing programs according to NLN data (14).

Data on the total number of transfers within the institutional enrollment were not available. However, institutional statistics (25) indicate that transfers comprised 25 per cent of the new admissions for 1982-1983, which is well below the 42.3 per cent for the college of nursing study sample.

Spady (19) proposes that satisfaction with the college experience is a variable that can influence retention; students who experience social integration also experience higher levels of satisfaction, which increases commitment and retention. Tinto (26) also contends that the higher the degree of integration of the individual into the college system, the greater the commitment and the greater the likelihood of retention. Bean (5) believes that satisfaction and commitment are two variables that influence retention; the greater the satisfaction and commitment, the less chance of dropout. A statistically significant
positive correlation was found between satisfaction and goal commitment in this study, which supports the conclusions by Bean (5), Spady (19), and Tinto (26).

Furthermore, Spady (19, 20) contends that satisfactory grade performance leads to increased social integration, which increases satisfaction and which in turn increases commitment and retention. Tinto (26) argues that goal commitment leads to higher grade performance, which further enhances goal commitment and retention. Bean (5) states that grade performance influences satisfaction and thereby influences retention. However, correlations between (a) satisfaction and academic achievement and (b) goal commitment and academic achievement were not found in the data for this study. Baccalaureate nursing students may differ from typical university students in these relationships in that academic achievement may not be a factor in determining nursing students' satisfaction and goal commitment. The fact that nursing students have a strong commitment to help others [as shown in research by Morris and Grassi-Russo (13), Smith (18), Teal and Fabrizio (24), and the U. S. Department of Health, Education, and Welfare (27)] may influence this relationship. The strength of the commitment is discussed by Warnecke (28), who reports nursing school dropouts remain committed to nursing and frequently return later to complete their nursing education.
Spady (20) suggests that academic performance is not directly related to commitment, since commitment represents an intrinsic set of attitudes that are not sensitive to the extrinsic reward system. Spady also reports that women are more concerned than men with intrinsic rewards. This factor may be operating in this predominantly female research sample, which would decrease the influence of academic achievement on satisfaction and goal commitment.

Research by both Hecklinger (9) and Roelf (16) also indicates that students who have definite career plans are more satisfied, which may offset the effect of academic achievement for this sample. Teal and Fabrizio (24) report that nursing students typically make their decision to become a nurse before the age of seventeen, which is indicative of early career planning and goal direction.

According to many researchers [Betz, Klingensmith, and Menne (6), Hallenbeck (8), Lokitz and Sprandel (12), Roelf (16), and Sturtz (22)], college satisfaction is influenced by length of stay, place of residence, and age. Hallenbeck (8) and Lokitz and Sprandel (12) found positive correlations between satisfaction and length of stay; the longer the student is enrolled, the higher the degree of satisfaction. Hallenbeck (8), Roelf (16), and Sturtz (22) report positive correlations between satisfaction and age, with lower levels of satisfaction occurring among the traditional age-group students as opposed to adult students. Betz, Klingensmith,
and Menne (6) and Hallenbeck (8) found a positive relationship between satisfaction and type of residence; students who lived in residence halls had a lower level of satisfaction. In this study, no significant differences were found when data were analyzed by age, sex, residence, hours of enrollment, or transfer status. Research results of this study are contrary to those reported by Hallenbeck (8) and Lokitz and Sprandel (12) for satisfaction and length of stay. Lower-division students in this study displayed a significantly higher degree of satisfaction than upper-division students. They also experienced significantly higher levels of satisfaction in social life, compensation, and quality of education, three subscale measures of the CSSQ. One possible explanation for this finding is that heavy academic and time demands are placed on baccalaureate nursing students as they become immersed in upper-division nursing courses and clinical components. These students have more classroom and clinical contact hours and preparatory time, which can ultimately reduce the time for socialization. Such events may account for lower levels of overall satisfaction with progression.

Astin (3) reports that grade performance is the most important factor in predicting student persistence. Dropouts tend to have lower grades than persisters according to Lenning, Beal, and Sauer (11) and Rever and Kojaku (15). Iffert (10), Summerskill (23), and Teal and Fabrizio (24)
also report that the highest attrition occurs in the first two years of college. If the probability of dropping out varies inversely with grade-point average, as Summerskill (23) states, and since most dropout occurs early in the college career, lower-division students would be more likely to have lower grade-point averages than upper-division students. The results of this study are consistent with conclusions by Summerskill (23), and they indicate that upper-division nursing students have significantly higher cumulative grade-point averages, which indicates a higher probability of retention in the upper division. It is also pertinent to note that grade-point requirements for this college of nursing are the same as general institutional requirements, with a 2.0 requirement for graduation. Special grade requirements for acceptance into the upper division are not a factor at this college of nursing.

In addition, the data from this study show that the non-minority nursing students have a significantly higher cumulative grade-point average than the minority students. This finding is consistent with findings by Astin (4) and Lenning, Beal, and Sauer (11) that ethnicity and attrition are linked positively. Gosman and others (7), however, report that although they found significant differences between black and white students in terms of attrition, racial differences disappear when the effect of other student and institutional characteristics are statistically
controlled. Astin (4) and Lenning, Beal, and Sauer (11) report that data on students who have Spanish-speaking backgrounds continue to show significant differences even after research controls are employed.

Models by Bean (5), Spady (19, 20), and Tinto (26) all include commitment as a major variable that influences retention. Bean (5) believes that commitment is the most significant variable in the prediction of dropout for both men and women. Since retention is greater at the upper-division level, as reported by Iffert (10), Summerskill (23), and Teal and Fabrizio (24), commitment, as an indicator of retention, should be greater among upper-division students. Results of this study indicate that students at all levels of the undergraduate baccalaureate nursing program at this institution have similar levels of commitment, with the degree of satisfaction decreasing only when students reach the upper-division level. Perhaps, as suggested by Iffert (10), it is the ability to endure dissatisfaction that increases retention rather than satisfaction itself. Tinto (26) states that since commitment is positively correlated to retention, it may be operating to offset decreasing levels of satisfaction with progression. The fact that the college of nursing under study involves students in the major early in the undergraduate career may account for higher levels of satisfaction in the lower division than is reported by
Hallenbeck (8) for lower-division students in general. These generic nursing students take their first nursing class as freshmen, which is a curriculum design shared by 22 per cent of baccalaureate nursing programs according to data from the AACN (2, p. 17).

The fact that goal commitment is similar for all levels may be related to the suggestion by Tinto (26) that students at private institutions are more committed due to the increased financial investment required to obtain an education. Another consideration, as suggested by Spady (20) is that commitment is largely generated early during the college career. Thus one would not expect to see great change with progression.

Conclusions

On the basis of the findings of this study, the following conclusions appear to be warranted.

1. Since all levels of baccalaureate nursing students experience similar levels of goal commitment in this nursing program, which has a high retention rate, goal commitment may be a major factor in student retention.

2. Since college satisfaction may decrease with length of stay, satisfaction in itself cannot be considered a major factor for increasing student retention.

3. Since goal commitment and satisfaction are related, retention strategies that enhance one variable may increase the other and thereby increase retention.
4. Lower-level retention data could, in some attrition studies, be skewed since there appears to be an influx of transfer students into this upper-level baccalaureate nursing program.

5. Perceived differences in satisfaction with social life, compensation, and the quality of education are major reasons for altered levels of satisfaction with progression in the nursing program.

6. Since upper-division baccalaureate nursing students have a significantly higher cumulative grade-point average than lower-division baccalaureate nursing students, academic achievement may be a retention factor for baccalaureate nursing students.

Recommendations

The following recommendations are made to schools of nursing and their institutions.

1. Further research needs to be conducted to identify the factors that decrease levels of satisfaction with progression in the nursing program.

2. Recruitment efforts need to be directed toward identification and encouragement of the students who have a strong desire to become nurses.

3. Further research needs to be directed at special needs of the transfer student in colleges of nursing.

4. Recruitment efforts should be expanded and enhanced among junior and community colleges, as well as universities
that do not have a college of nursing, to attract the lower-level students who may be considering a nursing career.

5. Further research should be conducted to identify any shifts in college of nursing enrollment from full-time to part-time status.

The following recommendations are made for further research.

1. The data collection instrument for demographic data should be broadened and revised to define more clearly the information requested.

2. This study should be replicated in a public institution.

3. Further research to compare levels of satisfaction, academic achievement, and goal commitment for both dropouts and graduates in four years should be done to identify any significant difference for this research sample.

4. A comparison study should be done between graduates who remain in the profession after graduation and those who do not in regard to levels of goal commitment as a student.

5. Further research should be conducted to identify factors associated with academic achievement for minority students.

6. Longitudinal study should be conducted to further explore the relationship of academic achievement and retention.
CHAPTER BIBLIOGRAPHY


17. Scearse, Patricia, Texas Christian University, personal interview, August, 1983.


APPENDIX A

ADMINISTRATIVE APPROVAL LETTER
APPENDIX A

ADMINISTRATIVE APPROVAL LETTER

October 6, 1983

Memorandum

Linda Curry, R.N., B.S.N., M.N., a doctoral candidate at North Texas State University, is hereby given my permission to administer research surveys associated with her dissertation study concerning student retention in baccalaureate nursing programs, to nursing majors enrolled in Harris College of Nursing. The Chair of each level has been notified and has agreed for the surveys to be administered during regularly scheduled class hours.

Please make your plans for administration of the surveys with each level chair.

Patricia D. Scarse, R.N., D.N.Sc.
Dean and Professor of Nursing
Harris College of Nursing
APPENDIX C

PRELIMINARY SURVEY INSTRUMENT
APPENDIX D

LETTER TO PANEL OF EXPERTS
APPENDIX B

PANEL OF EXPERTS FOR CONTENT VALIDITY

1. Mildred Hogstel, B.S.N., M.S.N., Ph.D., Professor, Harris College of Nursing, Texas Christian University.

2. Myrlene Kiker, B.S.N., M.S., Ph.D., Associate Professor, Harris College of Nursing, Texas Christian University.


4. Nancy Sayner, B.S.N., M.S., D.N.Sc., Associate Professor and Associate Dean, Harris College of Nursing, Texas Christian University.

5. Patricia D. Scearse, B.S., M.S., D.N.Sc., Professor and Dean, Harris College of Nursing, Texas Christian University.
APPENDIX E

SURVEY INSTRUMENT
APPENDIX F

CONSENT FORM
APPENDIX C

GOAL COMMITMENT SURVEY

DIRECTIONS: The following is a list of statements related to how you may feel about being a nurse and graduating from a baccalaureate of nursing program. Read each statement carefully. Decide whether or not you agree or disagree with the statement, according to how it describes your feelings.

Once you have decided, mark your answers on the separate answer sheet by blackening the space, numbered A, B, C, D, or E which best represents how much you agree or disagree with the statement. Use the following key:

A. Strongly disagree
B. Somewhat disagree
C. Undecided
D. Somewhat agree
E. Strongly agree

Be sure to use the No. 2 pencil provided.

1. I always wanted to be a nurse.
2. I am studying nursing to please my parents.
3. I plan to go to graduate school.
4. A baccalaureate degree is not really necessary to obtain the job I desire.
5. I am still unsure of what I want to do with my life.
6. I have thought about changing my major.
7. Even if I cannot make the necessary grades here, I want to try elsewhere to finish my nursing education.
8. Nursing is the only profession for me.
9. If I could start over, I would not choose nursing.
10. My parents are pleased with my career choice.
APPENDIX G

SUPPORTING STATISTICAL DATA ON DEMOGRAPHICS
A. Strongly disagree
B. Somewhat disagree
C. Undecided
D. Somewhat agree
E. Strongly agree

11. Graduating from college is really not a priority for me.
12. I am confident I will make a competent nurse.
13. I never thought of being a nurse until I came to college.
14. T.C.U. is my first choice of universities.
15. My parents would rather I have chosen a career with more status.
16. I am happy about my future career plans.
17. It is important for me to finish college.
18. I am disillusioned with nursing.
19. I always follow through with goals I set for myself.
20. My parents don't believe nursing is the best career for me.
21. I am confident about my decision to be a nurse.
22. I am only at T.C.U. to please someone else.
23. If it weren't for my nursing classes, I would be bored with my "academic life."
24. Earning a baccalaureate degree with my nursing education is not as important as becoming a nurse.
25. I am just "trying" nursing to see if I like it.
26. Nursing is the only career I have ever considered.
27. Having a baccalaureate degree is not necessary to be a professional and competent nurse.
28. I wonder if becoming a nurse is worth all the work.
29. I want to earn a baccalaureate degree in nursing.
A. Strongly disagree
B. Somewhat disagree
C. Undecided
D. Somewhat agree
E. Strongly agree

30. I do not intend to work in nursing when I finish my degree.

31. Nursing is the only major I have declared while a university student.

32. When I finish this degree, I am through with going to school.

33. I consider myself strongly committed to a nursing career.

34. I am not sure nursing is really the major for me.

35. I want to earn my baccalaureate degree from T.C.U.

36. I am only attempting nursing to please someone else.

37. If I did not have so many hours completed, I would change my major.

38. There is little to prevent me from finishing my degree, other than a major personal crisis.

39. Graduating from T.C.U. is not important as long as I can finish my nursing education elsewhere.

40. My parents do not understand the importance of a nurse having a college degree.

41. I want to be nurse so I can get a job.

42. Nursing is not what I thought it would be.

43. It is important to my parents that I finish college.

44. If it weren't for the "social life" I would quit college.

45. Since deciding on the nursing major, I have not thought seriously about changing my major.

46. I have a hard time making myself go to nursing class.
A. Strongly disagree  
B. Somewhat disagree  
C. Undecided  
D. Somewhat agree  
E. Strongly agree

47. I am anxious to be a "real nurse."

48. I do not plan to graduate from T.C.U.
Goal Commitment Summary
Item Check List

PLACE A CHECK MARK IN THE APPROPRIATE BOX FOR EACH ITEM.

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<td>Item Appropriate with Suggested Change</td>
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<td>48.</td>
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</tbody>
</table>

Comments: (Use additional page if needed)
LETTER TO PANEL OF EXPERTS

September 29, 1983

Dear :

Thank you for agreeing to help me establish content validity of a survey to be used as part of a doctoral dissertation at North Texas State University. The study is concerned with the retention of baccalaureate program nursing students. The purposes of the study are (a) to identify, describe, and analyze the relationships between satisfaction, academic achievement, and goal commitment for students enrolled in the nursing major, and (b) to examine differences which may occur in these relationships for upper-division and lower-division nursing students.

Attached is a copy of the research instrument, the Goal Commitment Survey. This five-point, Likert-type scale is made of items to solicit student thoughts and feelings toward major areas identified in the literature as influencing a student's commitment to complete his nursing degree (a) desire to be a nurse, (b) parental attitude, (c) concept of the importance of a baccalaureate degree/job relatedness, and (d) choice of major.

I am seeking your review to establish content validity. Do you believe each statement is or is not relevant to a student's commitment or lack of commitment to complete a baccalaureate degree in nursing? A check list is provided for your use.

To obtain maximum validity of the instrument, suggestions for additional items would be appreciated, should you find a significant area excluded. Comments regarding change in wording or sentence structure would also be helpful. A revised survey will be returned to you after hearing from all five members of the review panel.
I would appreciate your returning your completed check list to me by October 7, 1983. Your willingness to participate in this research project is appreciated.

Sincerely,

Linda C. Curry, B.S.N., M.N.
APPENDIX E

SURVEY INSTRUMENT

STUDENT PROFILE

DIRECTIONS: Please answer the following questions by checking the appropriate letter on your answer sheet: a, b, c, d, and e. Choose only one answer.
When you have finished this profile, continue with the attached Goal Commitment Survey, using the same form, beginning with question No. 10.

1. Age:  
   a. 18-22 years old  
   b. 23-27 years old.  
   c. 28-32 years old.  
   d. 33-37 years old.  
   e. over 37 years old.

2. Sex:  
   a. Female  
   b. Male

3. Do you consider yourself an ethnic minority?  
   a. Yes  
   b. No

4. Number of credit hours currently enrolled:  
   a. 12 hours or more.  
   b. 9-11 hours.  
   c. less than 9 hours.

5. Current classification by nursing course enrollment:  
   a. Freshman - N1101, N1201, or N1301.  
   b. Sophomore - Basic I or Basic II.  
   c. Junior - Junior I or Junior II.  
   d. Senior - Senior I or Senior II.
6. Residence
   a. Campus dormitory
   b. Arrange own housing (apartment, etc.)
   c. Home or with relatives

7. Transfer student:
   a. Yes
   b. No

8. If the answer to No. 7 was yes, indicate the approximate number of hours achieved at a school other than TCU:
   a. less than 12 hours
   b. 12-23 hours
   c. 24-35 hours
   d. 36-47 hours
   e. Over 47 hours.

9. If the answer to No. 7 was yes, indicate the number of semesters completed at TCU:
   a. 1st semester of enrollment
   b. two
   c. three, four
   d. five, six
   e. over six

Goal Commitment Survey

DIRECTIONS: The following is a list of statements related to how you may feel about being a nurse and graduating from a baccalaureate of nursing program. Read each statement carefully. Decide whether or not you agree or disagree with the statement, according to how it describes your thoughts and feelings.

Once you have decided, mark your answers on the separate answer sheet by blackening the space, numbered a, b, c, d, or e, which best represents how much you agree or disagree with the statement. Note that the first question begins with No. 10 on your answer sheet. Use the following key:

A. Strongly disagree
B. Somewhat disagree
C. Undecided
D. Somewhat agree
E. Strongly agree
*Be sure to use the No. 2 pencil provided.

A. Strongly disagree  
B. Somewhat disagree  
C. Undecided  
D. Somewhat agree  
E. Strongly agree

10. I have always wanted to be a nurse.

11. I am studying nursing to please my parents.

12. I plan to go to graduate school in nursing.

13. I do not believe a baccalaureate degree is necessary to obtain the job I desire.


15. I have thought about changing my major.

16. Even if I cannot make the necessary grades here, I want to try to finish my nursing education somewhere else.

17. Nursing is the only profession for me.

18. If I could start over, I would not choose nursing.

19. My parents are pleased with my career choice.

20. Graduating from college is not a priority for me.

21. I am confident I will make a competent nurse.

22. I never thought of being a nurse until I came to college.

23. This university is my first choice of universities.

24. My parents wanted me to choose a career with more status.

25. I am happy about my future career plans.

26. I do not have enough time to participate in social activities.

27. It is important for me to finish college.

28. I am disillusioned with nursing.
A. Strongly disagree
B. Somewhat disagree
C. Undecided
D. Somewhat agree
E. Strongly agree

29. I always follow through with goals I set for myself.
30. I do not think my parents believe nursing is the best career for me.
31. I am confident my decision to be a nurse is the right one.
32. I am only at this university to please someone else.
33. If it weren't for my nursing classes, I would be bored with my academic life.
34. I do not believe earning a baccalaureate degree with my nursing education is as important as becoming a nurse.
35. I am just "trying" nursing to see if I like it.
36. Nursing is the only career I have ever considered.
37. I do not think having a baccalaureate degree is necessary to be a professional and competent nurse.
38. I wonder if becoming a nurse is worth all the work.
39. Earning a baccalaureate degree in nursing is important to me.
40. I do not intend to work in nursing when I finish my degree.
41. Nursing is the only major I have chosen while a university student.
42. When I finish this degree, I am not going to school anymore.
43. I consider myself strongly committed to a nursing career.
44. I am not sure nursing is the major for me.
45. I want to earn my baccalaureate degree in nursing from this university.
A. Strongly disagree
B. Somewhat disagree
C. Undecided
D. Somewhat agree
E. Strongly agree

46. I am only attempting nursing to please someone else.

47. If I did not have so many hours completed, I would change my major.

48. I think there is little to prevent me from finishing my nursing degree, other than a major personal crisis.

49. I do not think graduating from this university is important as long as I can finish my baccalaureate nursing education elsewhere.

50. I do not believe my parents understand the importance of a nurse having a college degree.

51. I want to be nurse so I can get a job.

52. Nursing is not what I thought it would be.

53. I believe it is important to my parents that I finish college.

54. If it weren't for the "social life" I would quit college.

55. Becoming a nurse is an immediate priority for me.

56. Since deciding on the nursing major, I have not thought seriously about changing my major.

57. I have a hard time making myself go to nursing class.

58. I am anxious to be a "real nurse."

59. I do not plan to graduate from college.

60. I want to be a nurse so I can help other people.

61. My parents think I am capable of much more than a career in nursing.

62. I think nursing offers me an opportunity to work independently.
A. Strongly disagree
B. Somewhat disagree
C. Undecided
D. Somewhat agree
E. Strongly agree

63. I chose nursing because it will prepare me for other aspects of life even if I do not work as a nurse.

64. I believe baccalaureate nursing graduates have more job opportunities than other nursing program graduates.

65. I believe nursing is a glamorous and exciting career.

THIS IS THE END OF THE GOAL COMMITMENT SURVEY. THANK YOU.
APPENDIX F

CONSENT FORM

Code Number __________

Thank you for participating in this important research project. Results of this study will help us to learn more about nursing students at T.C.U. as a group and to better direct efforts in helping nursing students complete their academic goals.

Before completing the research surveys, it is necessary that you read and sign this consent form. Your completion of the consent form acknowledges that you understand the following:

1) Your participation in this survey is voluntary. Your participation will in no way influence your grade, progress or retention in the nursing program.
2) Your individual scores will be kept confidential.
3) No attempt will be made to correlate names with data. The code number at the top of this page and on your answer sheets will be used in tabulation of data and assures your anonymity.
4) You may leave any questions blank that you feel you cannot answer.
5) There are two surveys to complete. It should take approximately thirty minutes of your time to complete both forms.
6) Your grade point average will be used as part of the group data tabulation.
7) You may withdraw from this study at any time.

If you are interested in the final results of this research, the findings will be posted on the level bulletin boards on second floor, Annie Richardson Bass Building, T.C.U., or will be made available upon written request.

Thank you again for your participation.

Date ___________________ Student Signature ______________

Researcher Signature ___________________ Student Social Security Number _____________
APPENDIX G

SUPPORTING STATISTICAL DATA ON DEMOGRAPHICS

TABLE X
A COMPARISON OF GENERIC NURSING STUDENTS ON THE OVERALL SCORE ON THE CSSQ ACCORDING TO AGE (N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-22 years</td>
<td>154</td>
<td>232.43</td>
<td>37.47</td>
<td>.79</td>
<td>.430</td>
</tr>
<tr>
<td>Over 22 years</td>
<td>68</td>
<td>228.00</td>
<td>40.58</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE XI
A COMPARISON OF GENERIC NURSING STUDENTS ON THE OVERALL SCORE ON THE CSSQ ACCORDING TO SEX (N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>204</td>
<td>231.35</td>
<td>38.85</td>
<td>.36</td>
<td>.719</td>
</tr>
<tr>
<td>Male</td>
<td>18</td>
<td>227.94</td>
<td>33.91</td>
<td></td>
<td></td>
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</tbody>
</table>
### TABLE XII
A COMPARISON OF GENERIC NURSING STUDENTS ON THE OVERALL SCORE ON THE CSSQ ACCORDING TO ETHNICITY (N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minority</td>
<td>21</td>
<td>225.38</td>
<td>51.48</td>
<td>-.69</td>
<td>.489</td>
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<tr>
<td>Non-Minority</td>
<td>199</td>
<td>231.50</td>
<td>36.93</td>
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</tbody>
</table>

### TABLE XIII
A COMPARISON OF GENERIC NURSING STUDENTS ON THE OVERALL SCORE ON THE CSSQ ACCORDING TO HOURS OF ENROLLMENT (N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>202</td>
<td>230.92</td>
<td>38.36</td>
<td>-.19</td>
<td>.848</td>
</tr>
<tr>
<td>Part-time</td>
<td>20</td>
<td>232.65</td>
<td>39.91</td>
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</table>
### TABLE XIV

**A COMPARISON OF GENERIC NURSING STUDENTS ON THE OVERALL SCORE ON THE CSSQ ACCORDING TO RESIDENCE**

(N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-campus</td>
<td>102</td>
<td>231.97</td>
<td>38.77</td>
<td>.32</td>
<td>.749</td>
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<tr>
<td>Off-campus</td>
<td>120</td>
<td>230.31</td>
<td>38.25</td>
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### TABLE XV

**A COMPARISON OF GENERIC NURSING STUDENTS ON THE OVERALL SCORE ON THE CSSQ ACCORDING TO TRANSFER STATUS**

(N=221)

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<tr>
<th>Group</th>
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<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer</td>
<td>94</td>
<td>228.09</td>
<td>38.49</td>
<td>-.92</td>
<td>.356</td>
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<tr>
<td>Non-transfer</td>
<td>127</td>
<td>232.91</td>
<td>38.30</td>
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### TABLE XVI

A COMPARISON OF GENERIC NURSING STUDENTS ACCORDING TO GRADE-POINT AVERAGE AND AGE (N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-22 years</td>
<td>154</td>
<td>2.80</td>
<td>.59</td>
<td>-1.27</td>
<td>.205</td>
</tr>
<tr>
<td>Over 22 years</td>
<td>68</td>
<td>2.91</td>
<td>.53</td>
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<td></td>
</tr>
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</table>

### TABLE XVII

A COMPARISON OF GENERIC NURSING STUDENTS ACCORDING TO GRADE-POINT AVERAGE AND SEX (N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
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<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>204</td>
<td>2.82</td>
<td>.57</td>
<td>-.95</td>
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<td>Male</td>
<td>18</td>
<td>2.96</td>
<td>.63</td>
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### TABLE XVIII
A COMPARISON OF GENERIC NURSING STUDENTS ACCORDING TO GRADE-POINT AVERAGE AND HOURS OF ENROLLMENT (N=222)

<table>
<thead>
<tr>
<th>Group</th>
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<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>202</td>
<td>2.84</td>
<td>.57</td>
<td>.61</td>
<td>.540</td>
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<tr>
<td>Part-time</td>
<td>20</td>
<td>2.76</td>
<td>.66</td>
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### TABLE XIX
A COMPARISON OF GENERIC NURSING STUDENTS ACCORDING TO GRADE-POINT AVERAGE AND RESIDENCE (N=222)

<table>
<thead>
<tr>
<th>Group</th>
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<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-campus</td>
<td>102</td>
<td>2.90</td>
<td>.61</td>
<td>1.59</td>
<td>.114</td>
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<td>Off-campus</td>
<td>120</td>
<td>2.78</td>
<td>.54</td>
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</table>
### TABLE XX

A COMPARISON OF GENERIC NURSING STUDENTS ACCORDING TO GRADE-POINT AVERAGE AND TRANSFER STATUS (N=221)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
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<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer</td>
<td>94</td>
<td>2.83</td>
<td>.60</td>
<td>-.23</td>
<td>.819</td>
</tr>
<tr>
<td>Non-transfer</td>
<td>127</td>
<td>2.84</td>
<td>.56</td>
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### TABLE XXI

A COMPARISON OF GENERIC NURSING STUDENTS ON THE OVERALL SCORE ON THE GCS ACCORDING TO AGE (N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-22 years</td>
<td>154</td>
<td>221.84</td>
<td>19.54</td>
<td>-.57</td>
<td>.570</td>
</tr>
<tr>
<td>Over 27 years</td>
<td>68</td>
<td>223.44</td>
<td>19.03</td>
<td></td>
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</tbody>
</table>
### TABLE XXII

A COMPARISON OF GENERIC NURSING STUDENTS ON THE OVERALL SCORE ON THE GCS ACCORDING TO SEX (N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
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<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>204</td>
<td>222.32</td>
<td>19.71</td>
<td>-.01</td>
<td>.989</td>
</tr>
<tr>
<td>Male</td>
<td>18</td>
<td>222.39</td>
<td>15.31</td>
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### TABLE XXIII

A COMPARISON OF GENERIC NURSING STUDENTS ON THE OVERALL SCORE ON THE GCS ACCORDING TO ETHNICITY (N=220)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
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<th>Standard Deviation</th>
<th>t Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minority</td>
<td>21</td>
<td>221.14</td>
<td>23.38</td>
<td>-.26</td>
<td>.795</td>
</tr>
<tr>
<td>Non-minority</td>
<td>199</td>
<td>222.30</td>
<td>18.97</td>
<td></td>
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TABLE XXIV
A COMPARISON OF GENERIC NURSING STUDENTS
ON THE OVERALL SCORE ON THE GCS
ACCORDING TO HOURS OF ENROLLMENT
(N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t  Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>202</td>
<td>222.59</td>
<td>19.30</td>
<td>.65</td>
<td>.518</td>
</tr>
<tr>
<td>Part-time</td>
<td>20</td>
<td>219.65</td>
<td>20.22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE XXV
A COMPARISON OF GENERIC NURSING STUDENTS
ON THE OVERALL SCORE ON THE GCS
ACCORDING TO RESIDENCE
(N=222)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t  Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-campus</td>
<td>102</td>
<td>221.86</td>
<td>20.41</td>
<td>-.33</td>
<td>.742</td>
</tr>
<tr>
<td>Off-campus</td>
<td>120</td>
<td>222.73</td>
<td>18.49</td>
<td></td>
<td></td>
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</tbody>
</table>
TABLE XXVI

A COMPARISON OF GENERIC NURSING STUDENTS
ON THE OVERALL SCORE ON THE GCS
ACCORDING TO TRANSFER STATUS
(N=221)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>t  Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer</td>
<td>94</td>
<td>222.27</td>
<td>17.22</td>
<td>-.02</td>
<td>.983</td>
</tr>
<tr>
<td>Non-transfer</td>
<td>127</td>
<td>222.32</td>
<td>20.93</td>
<td></td>
<td></td>
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</table>
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