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Freshmen Student Retention Tendencies
At Two Small Religious
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Dirk Edward Barram

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Ph. D. degree in College & University
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**FRESHMEN STUDENT RETENTION TENDENCIES
AT TWO SMALL, RELIGIOUS,
LIBERAL ARTS COLLEGES**

BY

Dirk Edward Barram

A DISSERTATION

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

DOCTOR OF PHILOSOPHY

Department of Educational Administration

1988

ABSTRACT

FRESHMEN STUDENT RETENTION TENDENCIES AT TWO SMALL, RELIGIOUS, LIBERAL ARTS COLLEGES

BY

Dirk Edward Barram

The purpose of this study was to investigate freshmen student retention tendencies at two small, private, liberal arts colleges. Specifically, the study examined the relationship between the student's involvement and interaction with seven institutional variables, and persistence. The study investigated the relationship between the time and frequency students devoted to selected college programs and activities, his peer and faculty relationships, and persistence. The College Student Experiences Questionnaire (Pace, 1986) was used to measure the students' perceived level of interaction and involvement with selected variables of their institutional environment. The T-test was employed to statistically analyze the data and test for any statistically significant differences between returning and non-returning freshmen students as to their perceived level of interaction and involvement in campus based programs and activities, and their peer and faculty relationships.

The methodological design of the study allowed for 27 different findings as a result of testing nine null hypotheses with three different returning and non-returning student

populations, (1 - Gordon College, 2 - George Fox College and 3 - Gordon/George Fox combined). The results revealed a statistical significance between returning and non-returning students when both Gordon and George Fox students (Group 3) were combined and tested on scores from their responses to items assessing their level of involvement in three campus environmental variables: Clubs and Organizations, Experiences with Faculty and Library Experiences. Significance also occurred when the George Fox population (Group 2) was tested individually on scores from their response to items assessing their level of involvement in the campus environmental variable, Clubs and Organizations. Finally, significance occurred when Gordon students (Group 1) were tested on their responses to the campus variable, Library Experiences. Significance did not occur with the remaining 22 findings.

The results of the study allowed for two conclusions to be made by the investigator. Freshmen students who have greater qualitative and quantitative involvement in their institution's clubs and organizations and more frequently use the college library resources are more likely to persist than those freshmen students who are less involved in these activities.

ACKNOWLEDGMENTS

This dissertation would not have been possible without the help and encouragement of several people. Thanks and appreciation is extended to Dr. Richard Gardner, Dr. Donald Nickerson and Dr. Max Raines. A special thanks goes to Dr. Louis Stamatakis, my chairperson, for his constant encouragement and support. He provided a balance of optimism and realism throughout the entire journey, a perspective which allowed me to persist when at times it was difficult to do so.

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Finally and most important has been the consistent support of my wife, Nancy, whose steadfast belief in my capabilities served to sustain me throughout this entire process. Nancy's love, patience and quiet yet deep strength, has allowed this dream to become a reality. To Jeffrey and Anna my love and thanks, and promise that now you will see more of me.

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CHAPTER ONE

INTRODUCTION

BACKGROUND FOR THE STUDY

In recent years higher education leadership has increasingly focused its attention and energies on the issue of student retention. Current and projected trends in student enrollments forecast the retention problem to continue and offer little hope for college administrators to relax their vigilance in this critical area. Nelson, Scott and Bryan (1984) wrote that according to Duea, 1981, when a group of college presidents were asked to rank the 20 most critical issues facing higher education, the issue of student retention was ranked second. A 1980 Carnegie Council Study predicted a marked decline in student enrollments during the next twenty years. The study warned that this expected decline in college student enrollments will be accompanied by a substantial decrease in revenue, both in the public sector, which will see state appropriations diminish, and the private sector, which depends so heavily upon student tuitions for revenue. The Carnegie Study also predicted that between 1980 and 1996 upwards of 200 higher educational institutions would close their doors (Green, 1981).

The Cooperative Institutional Research Program (CIRP) (1980), has documented the closing of 56 private four-year

colleges with the prediction that the private college sector will continue to face serious enrollment and financial problems during the next two decades (Green, 1981). Cope (1978) believes that during the 1980's, while more than 15 million men and women will enroll in college, probably five or six million will not complete four years and earn their degree. Cope (1978) bases his prediction on four decades of retention research which he says, "yields surprisingly consistent results" (pg. 3). According to Cope (1978), 40% will not earn a degree, 40% will earn their degree in four years and 20% will take longer than four years to earn their degree. Probably more alarming are recent retention studies reported by Astin, Korn and Green in 1987, that show a serious downward trend in the proportion of college students finishing their degree within four years. In their article, "Retaining and Satisfying Students," the authors write that, "the proportion completing a B.A. degree within four years is remarkably low; (31.2 percent), especially in comparison to figures from 15 years earlier (46.7 percent of the 1966 freshmen had earned degrees by 1970)" (Educational Record, 1987, pg. 38). Smith, 1986, in his article, "Coming Revolution in College Retention Studies," is even more dire in his predictions when he writes that the number of high school graduates will continue to decline in the decade of the 1990's and that a "number of institutions of higher education see student retention as their salvation from really serious problems, if not extinction in the 1990's" (pg. 10).

Astin, Korn and Green, 1987, consider the problem of retention within the much larger issue of what they refer to as "institutional effectiveness" (page 36). Retention, say the authors, may be one "key indicator" (pg. 36) of how well the institution is doing in terms of satisfying its student client. The retention issue then takes on added significance and moves beyond enrollment and financial concerns and includes the much broader perspective of institutional accountability.

It is apparent from the literature that higher educational institutions, particularly those in the private sector, are deeply concerned with maintaining enrollments. The student retention issue has become of paramount concern, especially to the small private liberal arts college. Astin (1977) sums it up well when he writes,

The special history of American Higher Education is well established. The research literature suggests that private institutions generally surpass their public sector counterparts with regard to positive impact on student development, persistence and degree attainment and student satisfaction with the collegiate experience. Yet, paradoxically, it is the private sector which is most threatened by the much discussed enrollment crisis (pg. 2).

Grim enrollment projections, based on dwindling high school student markets and negative retention patterns have become extremely critical issues to the private college sector, even to the point of the survivability of a number of these colleges. In particular, student retention at the small religious, liberal arts college will be the focus of this

research study.

This study is intended to describe student retention tendencies among selected college students at two small, private, religious liberal arts colleges. In breadth, the research will address relationships between the retention of college students and their interaction and involvement with selected variables of their institutional environment. Is involvement and interaction with these variables positively associated with retention? (Astin, 1984). This research study will investigate this relationship by studying college freshmen retention at two small, private, religious, liberal arts colleges. It will seek to discover whether their interaction and involvement with college programs and activities, and their peer and faculty relationships are positively related to their return to the same institution for their sophomore year.

The literature on retention includes a number of studies and articles focusing on the relationship of student persistence and the student's social and academic integration into his or her institutional environment. Tinto's (1975) and Astin's (1975,1984) attrition studies and theoretical models of student retention have gained considerable attention and were used by this investigator as the basis for his study on student retention. However, before discussing Tinto and Astin's theories on student retention, several other

retention studies and viewpoints have emerged that support the student persistence and institutional integration hypothesis and serve as a background for this study.

Cope (1978) cites Iffert (1958) and Astin (1975) who found that students whose residence is on the campus have higher persistence rates than those who reside off campus. Newcomb (1962) reported that the students who had achieved satisfying and positive social interactions had a greater likelihood of staying in college and earning a college degree. Astin (1975) found a larger percentage of students who persisted had worked on campus and also manifested greater participation in student activities. Terenzini and Pascarella (1978) reported that institutions intent on successfully addressing the retention problem should focus on what happens to the student after he arrives on the campus. Their findings appear to strongly support Astin's theory of student involvement and Tinto's theory of social and academic integration, both of which link persistence with one's integration and involvement with his institutional environment.

Miller and Brickman, in a 1981 NASPA Journal article, cite Lenning, Beal and Saver's 1980 study that "students who left college were significantly more likely to be dissatisfied with their relationship with faculty than were those who persisted" (pg. 23). Pascarella in his "Validation of a Theoretical Model of College Dropout," discovered that "the

frequency of students' informal contact with faculty members outside the classroom was consistently found to be positively related to the likelihood of freshman year persistence" (pg. 280).

Astin (1975) writes that,

A student's chances of completing college can be significantly influenced by environmental circumstances. The positive effect of living in a dormitory during the freshman year has obvious implications. Students concerned about maximizing their chances of finishing college should seriously consider leaving home and living in a college dormitory (Preventing Students from Dropping Out, Pg. 90).

Finally, Turnbull in his 1986 article, "Involvement: The Key to Retention," writes,

We can sum up the research evidence in a simple way: Anything that increases student involvement or student commitment also increases retention (pg. 6).

The two theoretical models of student retention that the aforementioned studies appear to support and perhaps validate are those of Astin (1984) and Tinto (1975). It appears from the literature that a number of student retention studies emerge from these models and are in fact attempts to validate them. It was the intention of this investigator to test the theoretical models of Astin (1984) and Tinto (1975) in this study. Several hypotheses will be discussed further

along in this study which have as their theoretical basis the theories of Tinto and Astin.

The theoretical student attritions models of Astin (1984) and Tinto (1975) have gained considerable attention from researchers interested in studying college student retention. Both theoretical models strongly suggest that a college student's level of interaction and involvement with his college environment may either positively or adversely influence his retention (remaining enrolled). For the purpose of this study, retention was defined as returning to the same institution for the students' Fall quarter or semester of his sophomore year. The reader should note that the terms "retention" and "persistence" will be used extensively throughout this study and are meant to be synonymous.

Tinto (1975) theorized that institutional commitment is influenced by a series of interactions within the student's college environment. He wrote that the "process of dropout can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during which a person's experience in these systems continually modifies his goal and institutional commitment in ways which lend to persistence and or varying forms of dropout" (Review of Educational Research 1975, pg. 94).

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According to Tinto, "other things being equal, the higher the degree of integration of the individual into the college systems, the greater will be his commitment to the specific institution" (Pascarella and Terenzini, 1978, pg. 347). Tinto's interaction theory raises the question of what kind of integrative experiences and what quantitative level of interaction is positively associated with persistence. Tinto defines these interactions as a "complex series of socio-psychological interactions between the student and the institutional environment" (Pascarella and Terenzini, 1978, pg. 348). It was the intent of this investigator's study to address three "college systems"; specifically the student's interaction with college programs and activities, student-peer relationships, and student-faculty relationships. The focus was on how the student's interactions within these three college systems influenced his or her likelihood of remaining enrolled.

Astin's theory proposes a positive relationship between student involvement, which he defines as the quality and quantity of the physical and psychological energy that students invest in the college experience, and student retention (Astin, 1984). According to Astin, the college student who immerses himself in his institutional environment by virtue of becoming involved in the life of the institution is more likely to remain enrolled than is the student who chooses not to be as involved.

In his 1975 longitudinal study on college student dropouts Astin identified a number of factors leading to student retention. According to Astin, every factor that "contributed to the students' remaining enrolled suggested involvement" (Astin, 1984, pg. 302). Both Tinto and Astin contend that student retention is related to how the student confronts his or her college environment. According to their theories the student's involvement and interaction with his college environment influences his institutional satisfaction and commitment and hence increases the likelihood of his persisting. Further research is suggested by Astin to test his theory (Astin, 1975).

Tinto's theory is based in part upon Durkheim's theory of suicide (1961) which holds that, "suicide is more likely to occur when individuals are insufficiently integrated into the fabric of society" (Dropouts from Higher Education, pg. 91). Tinto parallels Durkheim's theory with the college student dropout who is unable to successfully immerse himself into the academic and social systems of the college.

According to Astin, the theory of involvement "resembles the Freudian concept of cathexis" (pg. 298, Student Involvement: A Developmental Theory for Higher Education). Astin writes that, "Freud believed that people invest psychological energy in objects and persons outside of themselves... and that people can cathect on their friends, families, school

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work and jobs" (pg. 298). The involvement theory suggests, then, that the college student who is actively involved in his college environment may be experiencing greater satisfaction with that environment and individuals within it. Using both Astin's and Tinto's student retention models, several strong rationale emerged for conducting this study.

NEED FOR THE STUDY

College administrators need to deepen their understanding of what kinds of student involvement and interaction lead to increased student persistence. In an era of declining college enrollments, shrinking numbers of high school graduates and increased costs of recruiting new students, understanding what factors may contribute to student persistence could assist college administrators in developing effective retention strategies. Wygant and Scherer (1982) cited retention data showing that 40% of university freshmen did not reach their junior year of college. Cope (1978) predicted that four out of ten will not earn a degree. Smith (1986) wrote that, "The number of high school graduates will continue to decline well into the 1990's" (pg. 10). In view of the increasing competition for college students and troublesome attrition patterns, college leaders will need to increase their understanding of what factors influence student persistence if they hope to address enrollment and retention issues successfully. Today, according to Astin, Korn and

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Green (1987), "few institutions ignore their retention data any longer. Once, long ago, retention seemed to be the sole concern of student affairs personnel who cared about the relationship between retention and 'quality of campus life' issues and/or the registrar and admissions office staff concerned about recruitment goals. However, the demographic events of the 1980s have changed all that" (pg. 37).

Financial and enrollment problems are inseparably linked when it comes to a college's survival. The traditional private liberal arts colleges have long relied heavily upon revenues generated by student tuition to help balance what may have been an already tenuous budget. Many of these institutions are redoubling their efforts towards maintaining and increasing student retention rates.

Possessing an understanding of where and how persisting students are spending their time and energy will allow college administrators to better allocate energy, resources and institutional support to those programs which may attract and increase student involvement and thus positively influence student satisfaction with the collegiate experience, which in turn increases the likelihood of the student persisting. Astin (1984) says that, "All institutional policies and practices can be evaluated in terms of the degree to which they increase or reduce student involvement" (pg. 307). The results of this investigator's research may assist the

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institutional leaders of the two institutions participating in the study to more accurately evaluate their institutional policies in relationship to student activities, particularly student affairs activities, and the value the institution places upon the role of the student affairs programs. Wilner (NASPA, 1980) wrote that...

... in times of financial crises, college administrators are generally under much pressure to reduce people, particularly in the areas often considered non-academic, such as counseling or student development. Much farsightedness is required to avoid this temptation and to recognize the less tangible and often less apparent needs of the survival of the institution and its educational mission (Wilner, pg. 53).

By identifying retention related college activities, administrators can create out-of-class learning environments that can inspire and result in more intense and more complete student involvement in their institutional environment. This ideal condition is critical since, according to Astin, "the greater the student involvement in college, the greater will be the amount of student learning and personal development" (pg. 307).

College officials and faculty should be very interested in student retention since the institution's mission of cognitive, social and emotional development is more likely to be achieved in the student who persists. According to Astin, changes in freshmen student characteristics are associated with student involvement. Astin, Korn and Green's (1987)

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"institutional effectiveness" theory, one that moves the issue of retention beyond enrollment and finances to include the wider issue of institutional accountability, lends strong support to this idea that student retention is a positive indicator of "student outcomes and institutional performance" (Astin, Korn, Green, 1987, pg. 36). The issue of retention then moves beyond the financial and enrollment concerns and directly affects student development and institutional mission objectives.

Retention studies should seek to address the passive, non-involved student. Astin describes dropout as the "...ultimate form of non-involvement" (pg. 303). If, in fact, the non-involvement of a student is related to dropout, college officials may want to seriously investigate efforts to devise strategies directed at first identifying the non-involved student, and second, encouraging these students into a more active and involved role in campus life. Tinto (1975) concluded that the college student's commitment to his institution will be strengthened by the degree of integration into his college environment. Holbrock (1981) found that "institutions whose activities facilitated personal contact between students, faculty and staff were more likely to have higher retention rates" (ERIC Dissertations Abstract Online, Pg. 578).

Are, in fact, college activities and peer and faculty

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relationships positively associated with student retention? Latta, in his 1987 study at Michigan State University, suggests the need for further retention studies to understand the factors that contribute to retention. Astin (1975) writes that while "...dropping out of college has been intensely researched, the research has not clearly revealed which specific factors influence students to leave, which factors convince students to remain..." (pg. IX).

PROBLEM

Student retention is a critical issue facing higher education today. In particular, the small liberal arts college is very interested in increasing its understanding of what factors influence students to persist or drop out since revenues depend so heavily upon student tuitions. This study attempted to investigate the overall problem of student retention by examining whether freshmen students' levels of involvement and interaction with selected variables of their college environment is positively associated with retention.

PURPOSE OF THE STUDY

The purpose of this research study was to investigate student retention tendencies at two small, private, liberal

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arts colleges. In breadth the study examined the relationship between the students' integration with institutional variables, and persistence. Specifically, the study investigated the relationship between the time and frequency students devoted to college activities and programs, and their interaction with faculty and peers, and student persistence. For the purpose of this study, retention is defined as freshmen students returning to the same institution for their sophomore year.

The research was conducted on the campuses of two small, private, liberal arts colleges, Gordon College located in Wenham, Massachusetts, and George Fox College in Newberg, Oregon. The population under study were freshmen students from the entering classes of 1986 of both institutions. Early consideration was given to securing a random sample of both institutions' returning and non-returning freshmen populations, thus conducting the study on a representative sample of returning and non-returning freshmen. The decision was made to survey the entire population of both freshmen classes since it became apparent that a random sample could possibly result in an extremely small non-returning student sample size. Thus, it was decided to include all 409 Fall freshmen students attending the two colleges, excluding a total of 15 students from both institutions who were dismissed during or after their first year. The Gordon College population was 253 students after 7 were excluded

since they were dismissed during their first year. Approximately eighteen months following their initial enrollment, the 1986 freshmen students at both institutions (who were now sophomores) were mailed the College Student Experiences Questionnaire (Pace, 1986) and asked to assess their freshman year level of involvement and interaction with selected variables in their college environment. Since the respondents were now sophomores, they were asked to assess only their freshman year experiences. Returning and non-returning students at both institutions were asked to participate in the research. Once the data was collected and a representative percentage of responses received, the data was analyzed and statistically measured comparing the freshman year activity levels within seven selected campus environmental variables, between returning and non-returning students.

Presumably, there would be a greater preponderance of returning students (freshmen returning in the Fall of their sophomore year) with higher ratings on selected variables in the College Student Experiences Questionnaire than of those students who did not return to the same institution in the Fall of their sophomore year. Using Tinto's and Astin's theoretical models of student retention as a basis, this research study focused on selected institutional variables which may or may not be positively associated with student retention.

RESEARCH QUESTIONS

Since the purpose of this study was to investigate selected institutional variables of student interaction and involvement with one's college environment, and student retention, several research questions emerged which gave direction to this study.

The seven variables investigated in this study were selected from the College Student Experiences Questionnaire, an instrument developed by C. Robert Pace (1979) and designed to gather information from college students on how they spend their time and energy within their college environment. The seven selected variables from the questionnaire were chosen because they most accurately reflected and measured the particular kinds of college activities this investigator sought to examine in the study.

Specifically the research questions to be investigated were:

1. Is greater quantitative interaction and involvement with college activities and program, and with peer and faculty relationships positively related to student retention?
2. Are the freshmen students in this study who devote more time and energy to college activities and programs more

likely to return to their institutions for their sophomore year?

- A. Are the freshmen students in this study who invest more time and energy in the COLLEGE LIBRARY more likely to return to their institution for their sophomore year?
- B. Are the freshmen students in this study who invest more time and energy in CLUBS AND ORGANIZATIONS more likely to return to their institution for their sophomore year?
- C. Are the freshmen students in this study who invest more time and energy in their college's STUDENT UNION more likely to return to their institution for their sophomore year?
- D. Are the freshmen students in this study who invest more time and energy in using college ATHLETIC AND RECREATIONAL FACILITIES, more likely to return to their institution for their sophomore year?
- E. Are the freshmen students in this study who invest more time and energy in DORMITORY OR

FRATERNITY/SORORITY LIFE more likely to return to their institution for their sophomore year?

3. Are the freshmen students in this study who invest more time and energy to **COLLEGE PEER RELATIONSHIPS**, more likely to return to their institution for their sophomore year?
4. Are the freshmen students in this study who invest more time and energy towards **EXPERIENCES WITH FACULTY** (out of class experiences) more likely to return to their institution for their sophomore year?

HYPOTHESES

The following nine research hypotheses were developed and tested in the null form.

Hypothesis I

There is no significant statistical difference between persisting and non-persisting freshmen students with respect to their interaction and involvement with **COLLEGE ACTIVITIES AND PROGRAMS, AND THEIR PEER AND FACULTY RELATIONSHIPS.**

Hypothesis II

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in **EXTRACURRICULAR ACTIVITIES**.

Hypothesis III

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in the **COLLEGE LIBRARY**.

Hypothesis IV

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in **CLUBS AND ORGANIZATIONS**.

Hypothesis V

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in their **COLLEGE'S STUDENT UNION**.

Hypothesis VI

There is no significant statistical difference between persisting and non-persisting freshmen stu

dents in relation to their investment of time and energy in their **COLLEGE'S ATHLETIC AND RECREATIONAL FACILITIES.**

Hypothesis VII

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in **DORMITORY OR FRATERNITY/SORORITY LIFE.**

Hypothesis VIII

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in **COLLEGE PEER RELATIONSHIPS.**

Hypothesis IX

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy towards **EXPERIENCES WITH COLLEGE FACULTY.**

LIMITATIONS OF THE STUDY

This research study focused primarily upon selected institutional variables influencing freshmen persistence at two small religious liberal arts colleges. The findings which

emerged from this study were primarily intended to be generalizable to the two colleges participating in this study and to other institutions similar in scope, nature and mission. The findings could be generalizable to colleges of the National Christian College Consortium (13 member colleges) of which Gordon College and George Fox College are members. Institutions with membership in this organization are similar in terms of size of enrollments, mission, religious posture and homogeneous student populations.

The findings are also limited in scope to freshmen retention characteristics, thus any results and conclusions emerging from this study cannot necessarily be considered generalizable to sophomore or upper class students.

Finally, the outcomes of this research study are limited to the out-of-class life of the student, specifically those college activities related to library use, clubs and organizations, student union, athletic and recreational activities, residence life activities and peer and out-of-class faculty relationships. Any conclusions resulting from this research should be limited to college students with similar religious, social and economic backgrounds since students with such homogeneous backgrounds are more likely to be attracted to the unique type of institutions participating in this research study.

DEFINITION OF TERMINOLOGY

The following terms and their definitions are provided to clarify intended meanings of terminology frequently used in this study.

The terms "retention" and "persistence" are used extensively throughout this study and since their meanings are synonymous are intended to be used interchangeably.

Retention and Persistence

Ongoing matriculation at the same institution. Specifically, for this study, retention implies freshmen students who return to the same institution for the fall quarter of their sophomore year. Freshmen students who did not return to their same institution in the fall, but who did return in the winter term/semester were included in the non-returning student populations for purposes of this study.

Full Time Student

A student who is carrying the academic course load required by the institution to be considered a full time student, generally 12 hours or more per quarter. "Full time students are enrolled for a minimum of 12 hours in a standard semester" (George Fox College Catalog, 1987-88, Pg. 62).

Freshman Student

A student who enrolled at college for the first time, during the fall quarter, 1986. Transfer students are NOT included in this definition.

Voluntary Dropout

The student who decides to leave an institution of his or her own accord. As defined by Noel, Levitz, Saluri and Associates, Increasing Student Retention, 1987, dropout arises from "insufficient intellectual and social integration of the individual into the communities of the college" (pg. 41).

Involuntary Dropout

Students who are academically and or socially dismissed by the institution.

College Activities and Programs

College sponsored activities and programs intended to enhance the student's college experience. College activities and programs in this study are: library, Student union, residence life, athletic and recreational facilities and clubs and organizations.

Extra Curricular Activities

The investment of time and energy the student makes in out of class, non-curricular activities. In this study

extra-curricular activities include the students' involvement in the student union, campus athletic and recreational facilities and campus clubs and organizations.

College Library, Student Union, Residence Life, Athletic and Recreational Facilities and Clubs and Organizations

See College Student Experiences Questionnaire (Pace, 1986) for clarification of these five terms (Appendix B).

Faculty Relationships

The investment of time and energy the student makes in developing faculty relationships. According to Noel, Levitz, Saluri and Associates the term may be defined as the "occurrence of largely informal contacts with faculty outside the classroom" (pg. 37).

Peer Relationships

The investment of time and energy the student makes in developing peer relationships. Pascarella and Chapman define peer relationships as the "extent of informal social interaction with peers" (Pascarella and Chapman, 1983, Pg. 45). Newcomb, 1962 defines peer group as "any set of two or more students whose relationship to one another are such as to exert influence upon them as individuals" (pg. 469).

ORGANIZATION OF THE RESEARCH STUDY

Chapter One included a rationale for the study, found in the Background and Need for the Study. The chapter also included the study's purpose, research questions, hypotheses and a statement on the limitations of the research and a definition of terminology.

Chapter Two, the Literature Review, includes the general and specific research studies on attrition as it relates to the student's involvement within his institutional environment. The chapter contains criticisms of student retention research, methodologies, variables both positively and negatively associated with student retention and a discussion of the two retention models used as the basis for this research study.

Chapter Three is the Design and Methodology section and includes sections on the setting, population and sample, design and methodology, data collection and analysis, hypotheses and a discussion of the instrument used to collect data for this study.

Chapter Four is a Presentation and Analysis of the research findings. This chapter includes an introduction, description of subjects, and a presentation of the findings and an analysis of the data.

Chapter Five is a summary of the research study and includes major findings, conclusions, implications for administrators, and finally, recommendations for further research.

CHAPTER TWO

LITERATURE REVIEW

INTRODUCTION

The purpose of Chapter Two, the Literature Review, was to examine current literature and research relevant to the topic of student retention in higher education. The objective of this review was to allow the investigator to develop a sound familiarity with the general research which has been conducted in the field of college student retention and then to examine with greater scrutiny the research which specifically examined the relationship between student retention, and student involvement and integration within the students' college environment, the topic upon which this investigator directed his research.

This Literature Review consists of five sections.

Section One College Student Attrition: Why Higher Education Is Concerned

A review and discussion of the literature which supports the continuing need for retention research in higher education. This section of the literature review introduces the need for greater institutional

understanding of student retention tendencies.

**Section Two Student Retention Research: Methodology,
Instrumentation and Criticism**

A synthesis of the various methodological designs used by researchers, data gathering instruments and some criticisms associated with research methodology will be discussed in this section.

**Section Three Student Retention Variables: A General
Overview**

Section Three is a general review and discussion of retention studies which have identified variables found to be associated and not associated with student persistence.

Section Four Student Involvement and Retention: A Specific Focus

Section Four is a representative review of the literature with specific emphasis on student retention as it relates to the college student's involvement and interaction

with his institutional environment. Astin's (1984) and Tinto's (1975) Theoretical Models of Student Retention will be discussed in this section.

Section Five Literature Review: An Overall Summary

The literature review will conclude with a pertinent summation of what the investigator has found as a result of this literature review.

Section One - College Student Attrition: Why Higher Education is Concerned

Is college student retention an important issue facing higher education? If indeed it is an issue, is it of special concern to the private higher education sector?

Cope, in 1978, predicted that 40% of entering freshmen will not complete their college degree, 40% will earn their degree, and 20% will require longer than four years to earn their degree. Bringham, Jacobs, Ironside and Muscate in 1979, Pantages and Creedon, 1978, and Wallace and Harris, 1978, discovered that approximately 40% of university freshmen do not reach their junior year (Scherer and Wygant,

1982, pg. 378). "Kohen, Nestel and Kamas found that between 25 and 30 percent of entering freshmen in their study were not enrolled as sophomores one calendar year later" (Dukes and Gaithers, 1984, page 151).

While college administrators have always been concerned with why students leave their institutions, this concern has significantly increased in recent years as a result of the dwindling pool of high school seniors and the stiff financial pressures confronting higher educational institutions. Lonabocker (1982) wrote that, "Retention, a topic of research enjoying relative obscurity until the 1970's, has become an issue of considerable interest to all constituencies involved in the administration of institutions of higher education, and justifiably so, since forecasters currently project that by 1997 a 23.3 percent national decline will occur among the 18-24 year old age cohort, the group on which undergraduate admissions officers typically focus their recruiting efforts" (pg. 76). According to Frances, (1980) "the eighteen-year old population will drop from 4,211,000 in 1980 to 3,426,000 in 1990."

Private colleges are especially facing difficult financial pressures as the result of rising tuition costs which make less expensive state colleges and universities more attractive to the potential private college student. There is also increased competition between private colleges for

those high school seniors who are looking towards matriculation at the private college.

According to Breneman and Nelson, (1980), and Finn, (1978), "several sources predict that upwards of 200 institutions may close between 1980 and 1996" (Green, 1981, pg. 1). Citing data from "Private College Openings 1980" Green (1981) writes that, "between 1970 and 1979, 56 private four year colleges closed; another 24 merged with other private institutions and six more shifted to public control" (pg. 1). Astin (1975) cites the problem of attrition as important to colleges simply because it adversely affects revenue. Green (1981) supports Astin's contention when he states that, "institutional efforts to increase retention are probably the most cost effective investments possible for maintaining and enhancing enrollments. Institutions already know a great deal about recruitment and spend lots of dollars each year on marketing, promotion, special consultants, additional staff, financial aid, etc. Retention programs, traditionally the concern of the student affairs staff, seldom enjoy such high visibility, institutional concern and special resources" (pg. 2, 3).

Astin, in 1975 wrote that "while administrators and faculty have traditionally seen recruitment as the principal means to keep enrollments up, an equally promising approach is to reduce dropout rates" (pg. 2).

Gardiner and Nazari-Robati (1982) wrote that, "after more than three centuries of fairly steady increases in enrollments, the most dramatic feature of the next 20 years, according to the Carnegie Council on Policy Studies in Higher Education, is the likelihood of a substantial decline in enrollments" (Carnegie Council, 1980, Pg. 32).

Gardiner and Nazari-Robati go on to say that, "the upcoming period of declining enrollments presents an excellent opportunity for administrators to restructure their colleges and universities into responsive, student-centered institutions. This requires that administrators shift their focus from attrition to retention, from trying to understand why students leave to actively converting their colleges into caring institutions, with increased emphasis on quality and service" (pg. 26).

Wilner (1980) wrote that " ... in times of financial crises college administrators are generally under much pressure to reduce people, particularly in areas often considered non-academic, such as counseling and student development. Much farsightedness is required to avoid this temptation and to recognize the less tangible and often less apparent needs of the survival of the institution and its educational mission" (pg. 53). Astin, Korn and Green (1987) speak to this concern when they advance the student retention discussion beyond just declines in student enrollments and revenues to

the broader question of "institutional effectiveness." According to these authors, retention data and other enrollment related issues have emerged as "part of the larger public discussion of institutional performance and student outcomes" (pg. 36). Retention data may be one "key indicator" of how well the institution is meeting its educational mission.

In summary, the pertinent literature and research reviewed strongly suggests that significant percentages of college students do drop out. The problem of retention is accentuated by a continuing decline in the pool of high school seniors. Second, the student retention problem has become of paramount concern to revenue conscious higher educational institutions, especially the small private liberal arts colleges. Astin (1975) sums it up well when he writes, "In four year institutions, any change that deters students from dropping out can affect three classes of students at once, whereas any change in recruiting practices can affect only one class in a given year. From this viewpoint, investing resources to prevent dropping out may be more 'cost effective' than applying the same resources to more vigorous recruitment" (pg. 2).

As the literature suggests, college student retention is indeed a problem facing higher education, one with historical roots. The literature also supports the contention by this

investigator that the problem of student retention is acute in terms of its potential impact upon the private colleges which depend so heavily upon student enrollments for revenue.

Pantages and Creedon (1978), after their lengthy review of college student attrition studies between 1950 and 1975, arrived at the following conclusion.

In summary, a variety of programs should be initiated or extended which are designed either to prevent or to intervene at an early stage in the process of withdrawal. Such programs should be systematically evaluated for their impact on attrition. Innovative intervention should not be the responsibility of any single sector of the college: above all, students and faculty should be encouraged to invest their energies in solving a problem that continues to plague both the large state university and the small private liberal arts college. If the latter is to survive, the rising cost of student attrition must be brought under control -- and soon (pg. 96).

Section Two - Student Retention Research: Methodology, Instrumentation and Criticism

The relationship between the student's integration with his institutional environment and college satisfaction has attracted the attention of researchers. Pantages and Creedon (1978) cite research studies by Holland (1957) and Thistlewaite (1959) and others that, "have shown it is more appropriate to analyze the college 'input' -- the student, and the interaction between the student and the college environment" (pg. 75). Indeed, in the following years

measurement instruments focused on environment match between the student and the institution. Stern in 1957 and 1958 developed the Activities Index followed by the College Characteristics Index, instruments which were developed to measure the college students' perception of, and interaction and satisfaction with his institutional environment (Pace and Stern, 1958). More recently Pace (1979) has published the College Student Experiences Questionnaire, an instrument used by a number of higher educational institutions seeking to measure the student's perceived level of interaction and involvement with selected variables in his institutional environment (Pace, 1979). Tinto's Social Integration Set sought to measure quantifiably the actual number of contacts between students and faculty and actual numbers of extra-curricular activities (Terenzini and Pascarella, 1978). The Adjective Rating Scale (1978, Kelly, Pascarella, Terenzini and Chapman) was created for purposes of measuring student expectations and perceptions of their academic and non-academic life (Terenzini and Pascarella, 1978).

The attempts to establish relationships between institutional environmental characteristics and student expectations and perceptions and how they relate to retention have grown out of several student retention models which emerged in recent years. Most notably, Tinto's College Student Attrition Theory (Tinto, 1975) and Astin's Student Involvement: A Developmental Theory for Higher Education (Astin, 1984),

have emerged in part as a result of the call for a more comprehensive approach towards retention research as well as in response to methodological criticisms of college student retention research. Tinto (1975) identified two major shortcomings of retention research. These were "inadequate attention given to questions of definition" and second, the "development of theoretical models that seek to explain, not simply to describe the processes that bring individuals to leave institutions of higher education" (pg. 89). Astin's student involvement model was in part developed in response to his desire to "bring some order into the chaos of the literature" (pg. 297). From Astin's Student Development Model has emerged the possibilities and opportunities for retention researchers to spring board off this model and design further retention studies which seek to validate Astin's theory that indeed a relationship exists between student involvement and retention.

Spady, 1970 criticized what he referred to as the "paucity of multivariate approaches designed to explain the interrelationships among factors believed to affect the attrition process" (pg. 38). The implication by Spady is that retention is complex and the factors for persistence (or failure to persist) are so interrelated that they cannot be viewed in isolation. Terenzini and Pascarella, 1978 support Spady when concluding that possibly the most important findings of their study "suggest that the academic and social correlates

of attrition may be different for different students" (pg. 364). Chenoweth, Ohio State University, 1981, found that future retention study may be "more promising if interactive components (i.e. academic and social integration) are examined" (ERIC Dissertation Abstracts Online, Pg. 584). Gekowski and Schwartz, as early as 1961, complained that previous retention research "concentrated on one or two causes rather than investigating several causes" (pg. 1).

Methodological designs in retention research have followed the lines of autopsy, cross sectional and longitudinal studies. Terenzini, 1978, discusses all three in his article, "An Evaluation of Three Basic Designs for Studying Attrition."

Autopsy or ex post facto is a study after the fact. College students who already have withdrawn are questioned. Terenzini himself is critical of the ex post facto approach, saying that its "liabilities probably exceed its assets" (pg. 258). Indeed, he writes that "students who have left the institution may feel a need to rationalize their decision, to make it socially or personally acceptable" (pg. 258). The likely response rate is lowest in an ex post facto design, somewhere in the range of 15% to 40%.

The cross sectional design allows the researcher to gather current data at a "single point in time" (pg. 260) and at a

later date compare the data with persisters and dropouts. According to Terenzini, the response rate is normally within the 55% to 80% range, considerably higher than the ex post facto response range. The validity of response is also higher than the ex post facto design, since there probably will be less rationalization by the respondents, because they are still in school and have yet to decide to drop out.

The longitudinal design, according to Terenzini, "involves the collection of information from the same students at two or more points in time" (pg. 261). Terenzini and Pascarella's 1975 longitudinal/ex post facto study at Syracuse University of incoming freshmen collected data at two different points, July 1975 and March 1976. Tinto (1975) criticized research that failed to employ longitudinal studies that would "lead to an understanding of the processes of interaction which bring, over time, differing individuals within the institution to varying levels of persistence and/or to varying forms of dropout behavior" (pg. 90). The longitudinal study appears to be capable of providing the researcher with a greater degree of confidence in his findings. Response percentages with a longitudinal design are somewhat higher (40% - 60%) than a cross-sectional design and considerably higher than an ex post facto design (Terenzini, 1980). Terenzini, while citing the sound methodological design of the longitudinal study cautions the reader that it is the most expensive of the three designs.

In summary, a portion of the literature on student retention addresses the relationship between institutional environment and student persistence. A number of instruments have been developed (Pace, 1979; Kelley, Pascarella and Chapman, 1978) to measure student perceptions of institutional fit and integration. Finally, several types of research methodological studies were discussed with the longitudinal study appearing to provide the investigator with the greatest degree of confidence.

Section Three - Student Retention Variables Associated and Not Associated With Retention

Variables Found Not to be Associated with Persistence

The next portion of the literature review will be a discussion of the research which has found variables NOT to be associated with student persistence.

Terenzini and Pascarella, 1978 attempted to determine whether a relationship existed between student persistence and pre-college characteristics. The results of their study did not support their hypothesis and in fact served to redirect retention research and instead focus research on what happens to the student after he is enrolled in college. Terenzini and Pascarella wrote that there "appears to be

little future in trying to predict attrition solely on the basis of students' pre-matriculation characteristics" (pg. 363). Their findings also indicated that the students' academic experiences in college may affect "subsequent attrition decisions" more than their social experiences (pg. 363). These results are somewhat contradicted in a later study by Nelson, Scott and Bryan (1984) who found that the "successful students who did not stay in school perceived that they were performing adequately as students. They did not, however, participate in activities, as did the successful stayers, and they were less satisfied with their social life than were all other subgroups. Their poor social integration rather than academic performance contributed to their leaving college" (pg. 53).

Sexton (1965) reports that results of studies on extracurricular activities and persistence are mixed. She concludes that, "As a rule, unsuccessful students (particularly those who withdraw) participate less in college activities" (pg. 307). Fishman and Pasanella (1960) found that research on the nonintellective predictors of retention was "largely concerned with more fragmentary and less theoretically integrated studies" (pg. 303). Pantages and Creedon, in their 1978 *Studies of College Attrition: 1950-1975*, wrote that after their review of the attrition literature "we are forced to conclude that such activities (extracurricular activities) are not a primary factor in attrition" (pg. 79).

There has been some conjecture that the students' socio-economic status is related to persistence. Rossmann and Kirk (1970) reported that "in contrast to much previous research, no differences were reported in family income, father's or mother's education" (pg. 60). Eckland (1965) found in his study, "in general that the social class variables do not correlate independently with college graduation" (pg. 48).

Other demographic factors found not to be associated with student persistence included age and sex. Sexton (1965) reports in her study of twenty-five years of attrition, that age is not critical to one's likelihood of staying or leaving college. Yet, Astin (1975) found age indeed to be positively related to withdrawal, "...particularly older women" (pg. 44). Pantages and Creedon concluded upon review of several age related persistence studies, (Sexton, 1965; Summerskill, 1962 and Darling, 1955) that "age is not a primary factor in causing attrition" (pg. 57).

Sexton's 1965 review of twenty-five years of research related to factors contributing to attrition found no conclusive "evidence in the literature on the relationship between personality and academic success or failure" (pg. 308). She goes on to say that "while personality characteristics must be reckoned with, they are not critical of success or failure" (pg. 309).

Rossman and Kirk, in a 1966 study of freshmen in the College of Letters and Science at the University of California at Berkeley, did not find a positive relationship between high academic ability and persistence. Students in the study were administered the School and College Ability Test (SCAT) with the results showing both "male and female withdrawals had higher scores than the persisters on the verbal section" (pg. 58). "Cumulative GPA's for the two groups were almost identical" (pg. 58).

Variables Positively Associated with Retention

A number of research studies on student retention have identified variables positively associated with persistence.

Ruddock and Wilkinson (1983), in their study found "those students who were dissatisfied with university life, and especially with social activities and with courses available, also appear to be potential leavers" (ERIC Dialog File 66-83, Dec. 557). The authors suggest that social factors, as well as the usual academic and demographic factors do in fact relate to decisions to stay or not stay in college. Their findings would appear to support Terenzini and Pascarella's (1978) conclusions that "efforts to reduce attrition are more likely to succeed if they are focused on what happens to the students after their arrival on campus, rather than what they are like at the time of admission" (pg. 363).

Why do some students persist while others leave college? What events or experiences have transpired which might strengthen or weaken one's resolve to remain enrolled?

Pascarella and Chapman (1983) studied the relationship between student persistence and interaction with college faculty members. The authors found that "freshmen persisters in both residential university and liberal arts samples were significantly more involved in the non-academic life of the institution and had significantly more non-classroom interaction with faculty members focusing on both intellectual/academic and social/personal topics" (pg. 42). It may well be that until the college student's basic needs of affiliation and belonging are satisfied he or she may not be ready to confront other challenges he may encounter within his college environment. Scherer and Wygant (1982) wrote that,

Maslow (1962) said many years ago that one cannot move towards satisfying a higher level of need until a lower level need is predominantly satisfied. It would seem from a review of the literature that until the basic needs for adjustment and for developing reading, writing and math skills are met, students might not be very successful in dealing with other academic challenges and vocational questions confronting them in college (pg. 378).

Miller and Brickman's (1981) retention study, which focused on faculty and staff mentoring at Canisius College, found that the program had a "positive impact on the retention and academic performance of freshmen" (pg. 27). The program was "targeted toward freshmen to enhance their relationships

with faculty and administration and to provide services for them" (pg. 24).

Another variable positively associated with student persistence is peer group influence. Panos and Astin's (1968) four year longitudinal study of freshmen at 248 institutions selected from a national sample found that, "Students are more likely to complete four years if they attend a college where student peer relationships are characterized by cohesiveness, cooperativeness and independence" (pg. 66). Pantages and Creedon (1978) concluded that in regard to peer group influence,

developmental and educational psychologists as well as sociologists are in general agreement that the peer group forms the most significant external influence on the college student, and is second only to the personal characteristics of the student in the formation of the final product (pg. 70).

Bolbrock (1981) found that "...those institutions whose activities facilitated personal contact between students, faculty and staff were more likely to have higher retention rates" (ERIC DIALOG FILE 35 Dissertation Abstracts Online 1861 to Feb. 84, pg. 578).

Newcomb (1962) endorsed the power and influence of the peer group in the college environment. Newcomb wrote that, "students, like other people, are members of groups, and all groups have power over their members" (pg. 469). Defining peer group as "any set of two or more students whose relationships to one another are such as to exert influence upon

them as individuals" (pg. 469), Newcomb contends that peer group dynamics in college are powerful and influential in terms of their impact on the students' satisfaction with his college environment. Cope, in his 1978 article, "Why Students Stay, Why They Leave," cites a number of studies, Jones (1962), Flack (1966), Spady (1971), Rootman (1972) and Haagen (1977), that have found peer support to be positively associated with persistence. Pascarella and Chapman (1983), in their study of university freshmen found that two measures of social involvement with peers, "participation in extracurricular activity and extent of informal social activity with peers, had their strongest positive influence on persistence for students at the relatively low levels of commitment to the institution and commitment to the goal of graduation, respectively" (pg. 45).

The literature suggests that peer group involvement strengthens the student's resolve to remain enrolled and persist in his pursuit of a college degree. Institutional leaders would do well to focus on the peer group influence and its relationship to student persistence. Cope (1978) writes that one college, Spring Arbor, has "developed a campus-wide retention program which assures that certain students have 'significant others' integrated into their campus experience" (pg. 9).

Parental Socioeconomic status has also been established as being positively associated with student persistence. Astin (1975) reported that "the greater dropout-proneness of students from low-income families is attributable to their less educated parents, lesser ability and lower motivation and greater concern about finances" (pg. 35). Tinto (1975) cites findings by Sewell and Shah (1967) that, "...children from lower status families exhibit higher rates of dropout" (pg. 99). Panos and Astin (1968) discovered, "that the entering college student who is most likely not to complete four years of college within the four years following his matriculation is one who had relatively low grades in high school, who does not plan at the time of college entrance to take graduate or professional work, or who comes from a relatively low socioeconomic background" (pg. 64). Eckland (1965) suggested that indeed there is a positive relationship between socioeconomic status and persistence, but that the "motivational element is the primary contribution that social class makes to performance in college" (pg. 40).

Parental influence also appears to be a variable positively associated with persistence. Sexton, (1965) concluded that "the extent, then to which parents encourage the pursuit of higher education is a vital factor in their children's success" (pg. 312). It may be that college students whose parents offer encouragement and support are more likely to remain enrolled in school.

Research findings on retention and parental education appear to yield mixed results. Rossmann and Kirk's (1970) study of persisters and non-persisters wrote, "... no differences were reported in family income, father's or mother's education..." (pg. 60). Yet, other studies do indicate a positive relationship between one's parental education and their own likelihood of attaining a college degree. Panos and Astin (1968) found that "both father's and mother's educational levels however were predictive of completing four or more years of college" (pg. 64). However, Astin (1975) reports that, "it seems likely that the more educated parents exert stronger pressure on students to stay in college than less educated parents" (pg. 35, 36).

Panos and Astin (1968) were able to establish that the students' high school grade point average was a successful predictor in identifying potential dropouts from persisters. Astin (1975) reported "that students' chances of either stopping out or dropping out of college increase consistently as their high school grades decrease" (pg. 31).

Newcomb (1962) believed that college size was an important factor in student persistence. Yet Astin (1975) found that "small colleges having enrollments below 500 have a negative effect on student persistence" (pg. 123). Newcomb recommended that large universities be scaled down to units of 300 to 400. He believed that institutions reduced to this

size would more effectively...

facilitate positive peer-group interactions and provide a stronger sense of belonging, a factor that Newcomb believed to be important in promoting retention (Pantages and Creedon, 1978, pg. 77).

Goal commitment as a variable in student retention has also captured the attention of some researchers. Do college students who have more firmly established educational plans have an increased likelihood of persisting through to graduation? Tinto (1975) cites the study by Sewell and Shah (1967) that the "level of educational plans held by the individual was by far the strongest independent influence upon college completion, once family social status and ability were taken into account" (pg. 103). Using a different description, yet with essentially the same meaning, Wessell, Engle and Smidchens directed their research using the term "decidedness", which they defined as "commitment to a tentative curricular and/or career goal" (pg. 28). Their study of over 2400 students at Grand Valley State Colleges found that in the case of both transfer and "first time in any college" (FTIAC) students, there was a "significant difference between the FTIAC decided and undecided groups of students in their persistence rate one year following their initial enrollment date" (pg. 29). Wessell, Engle and Smidchens (1978) concluded that indeed their hypothesis, that students with a declared major have higher persistence rates, was supported by their research at Grand Valley State College.

A critical variable positively associated with student persistence and supported by numerous research studies is college housing. Do students who reside in campus based housing increase the likelihood of their persisting through to graduation? Alexander Astin (1975) concludes that ...

... a student's chances of completing college can be significantly influenced by environmental circumstances. The positive effect of living in a dormitory during the freshman year has obvious implications for students, administrators and policy makers. Students concerned about maximizing their chances of finishing college should seriously consider leaving home and living in a college dormitory (pg. 107).

Provost, in her 1982 dissertation, *Personality Type and Leisure Satisfaction as Factors in College Attrition*, concluded that "... colleges should support residential and social organizations as factors influencing student persistence" (pg. 2894, Vol. 43/09-A of Dissertation Abstracts International).

Citing Iffert, (1966); Astin, (1973); Astin and Panos, (1968) and Chickering, (1974), among others, Astin, (1975) in his book, Preventing Students from Dropping Out, concludes that "dormitory living enhances college persistence" (pg. 90). Research studies have established a definite link between living in campus based residences, and persistence. Earlier in this literature review the positive relationship of peer group involvement with persistence was discussed. It may be that living in the residence hall provides the student opportunity for peer group involvement and thereby increases his likelihood of persisting. Residing in

campus based housing strengthens the student's chances for successful integration into the campus milieu, a phenomenon which appears to be strongly related to persistence.

Student Retention research studies have also focused on **extracurricular activities** as a retention variable. Is there a positive association between participation in extracurricular activities and student persistence?

Astin (1975) found that those students who persisted had campus jobs or participated in extracurricular activities more than students who did not remain enrolled. Astin (1975) wrote, "... participation in extracurricular activities, especially membership in fraternities and sororities is significantly related to staying in college" (pg. 108). Sexton in her 1965 article in the Journal of General Psychology, concluded that, "as a rule, unsuccessful students (particularly those who withdraw) participate less in extracurricular activities..." (pg. 307). Probably a more critical point Sexton makes is that "the non-persisting student's less participation in extracurricular activities is indicative of a failure to integrate fully into the life and ethos of the institution" (pg. 307). It may well be that until the college student's basic needs of affiliation and belonging are satisfied he may not be ready to confront other challenges he may encounter within his college environment. Scherer and Wygat (1982) wrote that,

Maslow (1962) said many years ago that one cannot move towards satisfying a higher level of need until a lower level need is predominantly satisfied. It would seem from a review of the literature that until the basic needs of adjustment ... are met, students might not be very successful in dealing with other academic challenges and vocational questions confronting them in college (pg. 378).

Pascarella and Chapman (1983) further support extracurricular activities as being positively associated with student persistence. Among their findings, student participation in extracurricular activity has a strong "positive influence on persistence for students at the relatively lowest levels of commitment to the institution and commitment to the goal of graduation, respectively" (pg. 45). Gekowski and Schwartz, in their 1961 Study of Temple University Freshmen, found that the "remaining students participated in extracurricular activities to a greater degree than did the withdrawing students" (pg. 2). In summary it appeared to this investigator that the research findings support a positive relationship between participation in extracurricular activities and, student persistence.

An extremely critical and more complex retention variable is **social integration**. (This variable will be discussed in greater detail in the final section of this literature review.) Since research studies have established a positive relationship between social integration within the student's college environment and persistence, it is appropriate to discuss it in this section as well. The prevailing hypothesis is that college students who successfully immerse

themselves within their institutional environment are more likely to persist and earn their college degree.

Tinto (1975) concluded that,

Other things being equal, the higher the degree of integration of the individual into the college systems, the greater will be his commitment to the specific institution and to the goal of college completion (pg. 96).

Spady (1970) wrote that, "... in my view, full integration into the common life of the college depends on successfully meeting the demands of both its social and academic systems" (pg. 39). Terenzini and Pascarella (1983) concluded that while pre-college characteristics had an impact upon the student's integration into the life of his or her institution, it was the student's social and academic interactions with elements of that environment that influenced decisions to leave or stay in college. Chenoweth, 1981 (ERIC Dissertation Abstracts Online, pg. 584) suggested that "future research on attrition may be more promising if interactive components (e.g. academic and social integration) are examined" (pg. 584 B). Newcomb (1962) believes that the impact of the college on the student is in part influenced by the peer-group dynamics within the culture of his particular institution.

Research studies support the theory that the college student's chances of persisting are significantly enhanced by his successful penetration into the institutional

environment with which he has elected to become a part. The college student's involvement within this environment, his participation in college programs, contact with college faculty and involvement with his peer group, collectively or in part may have an impact on the likelihood of his remaining enrolled and hence persisting. The remainder of the literature review is devoted to the college student's involvement and interaction within his institutional environment and concludes with a summary of the literature.

Section Four - The Student Involvement Theory and Retention: Two Models

To this point the literature review has included a general examination of the variables found to be both positively and negatively associated with student persistence. The attention will now shift to specifically address student retention and its relationship to the student's involvement in and interaction with his institutional environment. Two prevailing theoretical models of college student retention, Tinto's Theory of College Student Attrition (Tinto, 1975) and Alexander Astin's Theory of Student Involvement (Astin, 1984) will form the foundation for this discussion.

Both Tinto (1975) and Astin (1984) suggest that a student's level of interaction and involvement within his college

environment may influence his retention, either in a positive or adverse way. Tinto believes that the ability or inability of the college student to successfully integrate himself into the social and academic structure of the institution is directly related to the likelihood of his remaining enrolled (persisting). According to Tinto, one's institutional commitment is influenced by a series of interactions within the student's college environment. He writes that...

the process of dropout can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during which a person's experience in these systems continually modifies his goal and institutional commitment in ways which lead to persistence and or varying forms of dropout (Review of Educational Research, pg. 94, Winter 1975).

Retention then, according to Tinto, is related to the student's interaction with his institutional environment. Presumably, the college student who immerses himself within his college environment and experiences frequent interactions with elements of the community may increase his chances of persisting. Tinto writes that ... "other things being equal, the higher the degree of integration of the individual into the college systems, the greater will be his commitment to the specific institution and to the goal of completion" (Tinto, 1975, pg. 96), (Terenzini and Pascarella, 1980, Pg. 272).

Astin's (1984) theory of student involvement also supports a positive relationship between the college student's

involvement within his institutional environment and the likelihood of his remaining enrolled. Astin defines involvement as the "amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1984, Pg. 297). The student who expends time and energy or, in this investigator's terminology, works at going to college, may be more likely to persist. Using data from his 1975 longitudinal study of college dropouts, Astin writes that...

the factors that contributed to the student's remaining in college suggested involvement, whereas those that contributed to the student's dropping out implied a lack of involvement (pg. 302).

Astin's theory implies that college administrators should be alert to passive students, since passivity may mean non-involvement. In fact, Astin says,

The act of dropping out can be viewed as the ultimate form of non-involvement (pg. 303)

Astin's theory then holds that the more time, energy and effort the student invests in the college experience (involvement), the more likely he will come into greater contact with faculty, other students and campus based programs and activities, all critical variables positively associated with persistence.

Astin writes that ... "the greater the student's involvement in college, the greater will be the amount of student learning and personal development" (pg. 307). While certainly this is a universal objective in higher education, it will

not occur unless the student remains enrolled. It then becomes incumbent upon college administrators to discover (at least according to Tinto and Astin), creative ways to successfully integrate their students into the life of the college in such a way that Tinto's, "interactions between the individual and the academic and social systems" occur, and the student invests a quantitative and qualitative amount of physical and psychological energy in their college experience (Astin, 1984).

In addition to Astin and Tinto, other retention research has been conducted which examines the relationship between the students' interaction and involvement with their institutional environment and student persistence.

Starr (1972) sought to apply Lofquist and Weiss's (1968) Theory of Work Adjustment to the college environment and student satisfaction. According to Starr, "... if an individual is to remain within the college environment, he must be fulfilling the requirements of that environment (performing satisfactorily) and the college environment must be meeting the needs of the student (leading to satisfaction)" (pg. 318).

Pascarella and Chapman (1983) found in their study of freshmen retention, that "with background traits held constant, residential university persisters (versus withdrawals) were

more likely to live on campus, to spend more weekends on campus, and to be more involved in informal social activity with peers" (pg. 42). Dukes and Gaither (1984) conducted a study of cluster programs and their effect upon persistence at California State University at Northridge. Their model attempted to "... personalize the institution's educational experience for freshmen..." (pg. 152) and "provided social, recreational as well as academic programs for participants" (pg. 152). They found that "cluster students exhibited significantly higher persistence rates in their first two terms than freshmen not in the program" (pg. 164). Attrition rates for these cluster students did return to institutional wide attrition rates after a third term.

Nelson, Scott and Bryan (1984) in their study of Pre-college Characteristics and Early College Experiences as Predictors of Freshmen found that "the two successful student groups spent more hours per week studying, averaging 10-14 hours; the lower performance groups spent only 5-9 hours per week" (pg. 53). Their findings also revealed a difference between "persisters and non-persisters in responses to the item about instructors encouraging talk with students outside the classroom. Persisters reported a greater frequency of such encouragement than did those who left college" (pg. 53).

The findings by Nelson, Scott and Bryan support Astin's (1975) findings that "frequent interaction with faculty is

more strongly related to satisfaction than any other type of involvement or, indeed, any other student or institutional characteristic" (Astin, 1984, pg. 304). Nelson, Scott and Bryan also reported that successful students in their study who did not persist participated less in college activities than persisters and were "less satisfied with their social life than all other subgroups" (pg. 53). The authors attributed their failure to persist to "poor social integration." Aitken (1982) found that balance between the time students spend on social and academic activities is important to retention. According to Aitken,

Other things being equal, the student most likely to be retained is the one who makes the optimum allocation of time and effort between social and academic activities... (pg. 45).

While Astin advocates time, energy and effort as being critical in student retention, he probably would support Aitken's findings which suggest a balance between these activities of involvement.

Pascarella and Chapman's (1983) study further supports the involvement and interaction theories of Tinto and Astin. They reported that "freshmen persisters (versus voluntary withdrawals) in both residential university and liberal arts samples were significantly more involved in the non-academic life of the institution and had significantly more non-classroom interaction with faculty members focusing on both intellectual/academic and social/personal topics" (pg. 42) .

Terenzini and Pascarella (1978), in studying pre-college characteristics and freshmen year experiences of students at Syracuse University reported that...

It seems likely that helping freshmen find a rewarding niche in the academic systems of an institution is not unrelated to the frequency and nature of their informal contact with faculty members (pg. 363, 364).

Astin, Korn and Green (1986), citing a recent Cooperative Institutional Research Program (CIRP) study, wrote that, "there is much that colleges and universities can do to enhance learning opportunities, to make campuses more interesting and engaging places..." (pg. 42). Rose (1978), in an article, "Some Plain Talk", by a college dean says,

Our obsession with administrative convenience, academic freedom, and the pursuit of truth and excellence has numbed our sensitivities and caused us to forget that students are human beings (pg. 60).

Rose suggested a number of solutions to the retention problem, two of which were directly related to Astin's involvement theory. He believed faculty and administrators should "examine our personal and professional schedules to determine if we are available to students as much as possible" (pg. 61). Second, "if we are to understand our students better, we must spend more time in their environment" (pg. 60).

Both Astin and Tinto encourage involvement and interaction by the student within his college environment. Rose encourages the faculty to take the initiative and become involved and interact with students.

In summary, Astin's Theory of Student Involvement and Tinto's Student Interaction Model build upon the premise that student retention is related to the student's involvement and interaction with his institutional environment. While a number of other research studies have also examined the student institutional integration theory, the theoretical models of Tinto (1975) and Astin (1984) offer an excellent foundation with which to direct this investigator's own study of student retention.

Section Five: Literature Summary

In this Literature Review the investigator examined college student retention research studies from the following perspectives:

1. A review and discussion of the literature which supports the continuing need for retention research in higher education.
2. A discussion of research methodologies and some criticisms associated with these different designs.
3. A general review and discussion of retention studies which have identified variables found to be both associated and not associated with student persistence.
4. Specific attention on student retention as it relates to the college student's involvement and interaction with his institutional environment.

Student retention in higher education has attracted considerable attention in recent years. According to Scherer and Wygant (1982), Jacobs, Ironside and Muscate (1979) and others found that approximately 40% of university freshmen do not reach their junior year" (pg. 378). Astin, Korn and

Green (1987) advance the student retention discussion beyond declines in college enrollments and revenues to the broader question of "institutional effectiveness" (pg. 36). According to these authors, retention data is one "key indicator" of possibly how well the institution is meeting its educational mission with students. In summary, whether it be out of a need for increasing enrollment, generating revenue, or fulfilling the educational mission, colleges and universities are vitally interested in student retention research.

Several types of research methodologies have been employed by student retention researchers. The longitudinal, cross sectional and ex post facto designs appear to be the most widely used. Terenzini (1978) compared the advantages and disadvantages of these three designs. In recent years researchers have moved from single cause or isolated variables having an impact upon attrition to a more complex, integration of several factors influencing attrition. Spady in 1970 criticized what he referred to as the "paucity of multivariate approaches designed to explain the interrelationships among factors believed to affect the attrition process" (pg. 38). Gekowski and Schwartz (1961) criticized retention studies that concentrated on one factor, believing that retention research should focus on multiple causes or factors.

Terenzini and Pascarella (1978) and Chenoweth (1981)

directed their research on various retention factors and how they interrelate.

Numerous studies have been conducted in an effort to establish variables positively and negatively associated with persistence. It appears from the literature that research on several variables thought to be related to student persistence produced mixed results. Terenzini and Pascarella (1978) did not find a relationship between persistence and pre-college characteristics. Several studies or reviews of studies found no positive association between student persistence and extracurricular activities (Nelson, Scott and Bryan, 1984; Fishman and Pascarella, 1960), socioeconomic status, (Eckland, 1965) and age and sex, (Sexton, 1965).

Yet, in another research study, Tinto (1975) did in fact find a positive relationship between student persistence and parental socio-economic status. These findings directly contradict Fishman and Pascarella (1960). Interestingly, Astin (1975), Gekowski and Schwartz (1981) and Pascarella and Chapman (1983) did find participation in extracurricular activities to be positively associated with student retention.

Variables reported to be related to student persistence included interaction with faculty (Pascarella and Chapman, 1978), peer group influence (Panos and Astin, 1968),

parental education (Astin, 1970), goal commitment (Sewell and Shah, 1967) and living in campus housing (Astin, 1975). A critical variable positively associated with student retention was the student's social integration into his college environment (Tinto, 1975 and Spady, 1970).

The final section of the Literature Review examined student involvement and interaction with his institutional environment and the potential impact upon student persistence. Tinto's (1975) theory that one's interactions with the academic and social systems of his college, and Astin's (1984) theory that student involvement, defined as the investment of time, energy and effort, influences student persistence, were both reviewed and discussed.

In summary, this literature review has served as background and supporting research for this investigator's research.

The investigator will use both Tinto's (1975) and Astin's (1984) theoretical models of student attrition to test the hypothesis that college students who are actively involved in the life of their college and interact with their peer group and faculty, are more likely to persist. In effect this research study will seek to validate both Astin and Tinto's theoretical models of student attrition.

CHAPTER THREE

INTRODUCTION

This investigator attempted to describe student retention tendencies among selected college students at two small, private, religious, liberal arts colleges. In breadth, the research addressed relationships between the retention of college students and their interaction and involvement with selected aspects of their institutional environment. Is involvement and interaction with these variables positively associated with retention? (retention defined as freshmen students returning to the same institution and enrolling for their sophomore year)?

The student retention models of Astin (1984) and Tinto (1975) were used as a basis for investigating the relationship between the college students' interaction and involvement with his college environment, and persistence.

This chapter will include the methodological design of the study, the environmental setting of the two institutions participating in the study, the population and sample, data collection, instrumentation, and collection limitations, hypotheses and data analysis procedures.

SETTING

Two small, (under 1500 students) private, religious, liberal arts colleges served as the institutional settings for this study. Both institutions are fully accredited, have long and established histories and are similar in mission and scope of purpose. Results from this retention study may be generalizable to student populations and colleges in the thirteen member National Christian College Consortium, an organization of religious liberal arts colleges with similar mission and purpose, of which both George Fox and Gordon are member institutions.

Gordon College is an institution of approximately 1200 students located in the suburban community of Wenham, Massachusetts, twenty-six miles north of Boston, Massachusetts. Founded in 1889, as a non-denominational Christian college, Gordon offers students a well-rounded curriculum with 27 majors leading to the Bachelor of Arts and Bachelor of Science degrees. Gordon enjoys a respected academic reputation and attracts a number of top academic students within protestant evangelical circles. The college draws students nationally but enjoys its greatest representation from New England and the Mid-Atlantic states (New York, Pennsylvania, New Jersey). The student population is homogeneous, due in part to its academic selectivity and attraction as a moderately conservative protestant evangelical liberal arts college.

The 1986 entering freshmen class combined mean SAT scores were approximately 1030 with a high school grade point average of 3.1 to 3.2.

Gordon College is in many ways a very traditional liberal arts college. The college is primarily a residence-oriented campus with approximately 85% of the student body living in campus residence halls. An active student government and student activities program exists at Gordon. The school has a diversified athletic program for men and women. The men's soccer team enjoys a strong reputation regionally and has in recent years qualified to participate in national tournaments. Campus facilities include athletic facilities, a student union (located in the lower level of the dining hall), a major learning resource center (library) and six major residence halls as well as several smaller living units. The institutional structure is also fairly traditional, with leadership provided by the President, Vice President for Academic Affairs, Vice President for Development, Dean of Students and Dean of Admissions and Financial Aid. In 1986, Dr. Richard Gross, President of Gordon since 1969, was selected as one of America's top 100 private college presidents.

George Fox College is an institution of approximately 600 students located in the small town of Newberg, Oregon, twenty-six miles southwest of Portland, the largest city in

Oregon. Founded in 1891 by the Quakers who had settled in Newberg and the surrounding northern Willamette valley in the 1800's, George Fox offers students a well-rounded curriculum with 26 majors leading to the Bachelor of Arts and Bachelor of Science degrees. George Fox also enjoys a good academic reputation, mainly attracting students from protestant evangelical circles. The college draws students primarily from the Pacific Northwest, specifically Oregon and Washington, with limited success in Idaho, Montana and California. Like Gordon, the George Fox student population is homogeneous due in part to its academic selectivity and reputation as a moderately conservative protestant evangelical liberal arts college. The 1986 entering freshman class combined mean SAT score was 895. The high school gpa average was 2.93.

George Fox, like Gordon, is in many ways a traditional liberal arts college. The college is primarily a residence-oriented institution with approximately 85% of the student body living in campus based housing. An active student government exists at George Fox. The school has athletic programs for both men and women. Facilities include an athletic complex, fine arts auditorium, dining hall/student union complex, academic buildings and five major residence halls as well as several smaller living units. In 1988, the college completed construction on a major library expansion project which doubled the square footage of the

original library. The institutional structure includes a President and four Vice Presidents, one each for Academic Affairs, Finance, Development and Student Life.

George Fox is a member of the Oregon Independent Colleges Association. In 1987, Dr. Edward Stevens, President of George Fox College, was elected President of the Oregon Independent Colleges Association.

During the 1987-88 academic year at George Fox a Student Retention Committee was formed at the direction of the college president. In response to a growing concern that too many students were dropping out, the Student Retention Committee's mandate was to study why students were not returning to George Fox College and to focus on developing solutions to the problem.

Gordon College and George Fox College are similar in environmental setting and in educational mission. Both student populations are homogeneous in nature and backgrounds. The administrations of both institutions expressed support for this study, and in kind, consented to allow the research to be conducted using students from their campuses.

POPULATION AND SAMPLE

The population for this study was the 1986 entering freshmen classes at Gordon College and George Fox College. In September of 1986 two hundred and sixty (260) freshmen enrolled as full-time students at Gordon College. Eighty-four (32%) were men and one hundred and seventy-six (68%) were women. In that same September, one hundred and forty-nine (149) freshmen, 64 (43%) men and 85 (57%) women, enrolled as full-time students at George Fox College. These numbers reflect all actual full-time registered freshmen at both institutions defined as first time enrollees at college, registered for 12 or more quarter hours in the fall quarter. Transfer students and part-time students (those students registered for less than 12 hours) were not included in the study.

**TABLE ONE 1986 Entering Freshmen Classes/Gordon College,
George Fox College**

INSTITUTION		STUDENT POPULATION
Gordon College		260 full-time students
Women	176 (68%)	
Men	84 (32%)	
George Fox College		149 full-time students
Women	85 (57%)	
Men	64 (43%)	

**TABLE TWO Retention Rates for 1986 Freshmen Classes -
Gordon College, George Fox College**

INSTITUTION	Retention Per- centage for Freshman Class		Retention Per- centage for Men		Retention Per- centage for Women	
Gordon	87%	227/260	87%	73/84	87%	154/176
George Fox	59%	88/149	51%	33/64	62%	53/85

Early consideration was given to securing a random sample of both institutions' returning and non-returning freshmen populations, thus conducting the study on a representative sample of returning and non-returning freshmen. The decision was made to survey the entire population of both freshmen classes since it became apparent that a random sample

could possibly result in an extremely small non-returning student sample size. Thus, it was decided to include all 409 Fall freshmen students attending the two colleges, excluding a total of 15 students from both institutions who were dismissed during or after their first year. The Gordon College population was 253 students after 7 were excluded since they were dismissed during their first year. The George Fox College population was 141 after 8 were excluded since they were dismissed during their freshman year. Only students who returned for their sophomore year and those who left voluntarily were involved in the research study. The final population for the study was 394 freshmen students from both institutions of which there were 138 men and 256 women.

DESIGN AND METHODOLOGY

The original intent of the study was to send the questionnaire to freshman students during the Spring of their freshman year. However, it was decided to delay sending the questionnaire until the 1986 freshmen were into their sophomore year and therefore had experienced a full year at their institution, and as a result would be more able to adequately assess their freshman year experiences at that institution.

During the Fall of 1987, when the entering freshmen classes

of 1986 were now sophomores, a list of returning and non-returning students was obtained from administrative officials at both Gordon College and George Fox College. Transfer students and students involuntarily dismissed were deleted from this list. During the 1987-88 academic year returning and non-returning students were mailed a packet which included a cover letter, the College Student Experiences Questionnaire (see Appendix B) and this investigator's self-addressed stamped envelope. Subjects were informed in the cover letter (see Appendix A) of the purposes of the survey and asked to participate in the research study. For non-returning students a second letter (see Appendix A) and questionnaire were sent approximately 90 days later to all non-respondents. This second mailing was followed by telephone calls to all non-respondents approximately two to three weeks later. The second mailing and subsequent telephone calls yielded very positive results. Eleven of the Gordon College non-returning students or 42% responded, while 18 or 34% of the George Fox non-returning students returned their questionnaires.

The questionnaire sent to all returning students was followed within two weeks by a reminder letter asking that they complete the questionnaire and return it to the researcher. Because the subjects were now in their sophomore year, special attention was given to assure that the respondents limit their responses in the questionnaire to their

involvement in their college environment during their freshman year only. The cover letter contained a sentence in all bold capital letters requesting them to limit their response to their freshman year.

It should be noted that the second reminder letter sent to all non-returning non-respondents did not contain the request asking non-returning students to limit their responses to involvement in their college environment during their freshmen year only. Thus the investigator was fearful lest some subjects would respond on the questionnaire to their sophomore year involvement. To adjust for this potential problem the investigator, upon telephoning non-respondents who failed to respond after the second letter, reminded them verbally on the telephone to respond only to their freshmen year experiences, and followed this call with a third note in which the student was again reminded to respond on the questionnaire only to their freshman year experiences. The first mailing yielded a 23% response from Gordon non-returning students and a 25% response from George Fox non-returning students. The second mailing and telephone calls yielded an additional 42% response from Gordon non-returning students and a 34% response from George Fox non-returning students.

In summary, during the 1987-88 academic year, returning and non-returning students from the freshman classes of 1986

were mailed the College Student Experiences Questionnaire. Two hundred and twenty-seven returning students and twenty-four non-returning students from Gordon college*, and eighty-eight returning students and fifty-three non-returning students from George Fox College made up the populations for the study. The percentages of freshmen students from both institutions completing the questionnaire is shown in figure two.

TABLE THREE Percentages of Freshmen Students Completing the College Student Experiences Questionnaire

Institution	Possible Respondents	Actual Respondents	Percentage of Respondents
<u>Gordon College</u>			
Returning Students	227	101	44%
Non-Returning Students	26	17	65%
<u>George Fox College</u>			
Returning Students	88	63	72%
Non-Returning Students	53	31	58%
<u>Both Institutions Combined</u>			
Returning Students	315	164	52%
Non-Returning Students	79	48	61%

* Actually the number should have been 26, however two names were not included on the original non-returning list provided to this investigator.

DATA COLLECTION AND DATA ANALYSIS PROCEDURE

A concerted effort was made to collect a representative number of questionnaires from the four populations in this study. Gordon College's returning students numbered 227 and non-returning students numbered 26. George Fox College had 88 returning students and 53 non-returning students. The original packets (which included the College Student Experiences Questionnaire, cover letter and self-addressed stamped envelope) were sent to returning and non-returning students from both institutions. Non-returning students who failed to respond were sent a second packet containing a shorter cover letter (see Appendix A) appealing for their response. Returning student non-respondents were sent only a second letter asking for their completed questionnaire. Although it was difficult to contact non-returning students since they were no longer students at Gordon and George Fox College, and since both non-returning populations were small (Gordon, 26 students and George Fox, 53) the investigator believed it was critical that a representative number respond. Therefore, in addition to a second mailing of the packet containing the questionnaire and a second appeal letter, the investigator also decided to telephone non-returning non-respondents from both institutions. The telephone calls and second mailing to both non-returning non-respondent populations yielded very positive results. Eleven (11) of the Gordon College non-returning students or 42%

responded to the second mailing. Eighteen (18) of the George Fox College non-returning students or 34% responded to the second mailing.

Data Analysis Procedure

Data collected from the freshmen student populations at both Gordon College and George Fox College were statistically analyzed. The data analysis specifically attempted to determine whether a positive statistical correlation existed (.05 alpha level) between students who invested more time and energy in college activities and programs, their peer and faculty relationships, and, persistence (returning to the same institution for their sophomore year).

The data were statistically analyzed by individual institution, as well as a comparative analysis of both institutions. Nine hypotheses were developed in the null form. The data collected from the College Student Experiences Questionnaire were statistically analyzed, comparing returning and non-returning student populations from Gordon College (1), George Fox College (2), and combined returning and non-returning student populations from both institutions (3), regarding their perceived level of involvement and interaction with seven selected campus environmental variables, attempting to determine whether there were any

differences and if these differences were statistically significant at the .05 alpha level.

Statistical Procedures

The data collected from the returning and non-returning students in this study was analyzed using the T-test. Bruning and Kintz (1977) wrote that the "most common use of the T-test is to determine whether the performance difference between two groups is significant" (pg. 10). Lewin (1979) said that problems "suitable" for the T-test are those that ask the question, "Is the difference between the two means significant?" (pg. 346). The T-test is appropriate when the investigator is analyzing two independent variables. In this study, the two independent variables were returning and non-returning students. A two tailed test was used since such a procedure is appropriate when a prediction is made that in fact a difference exists between two independent variables and the difference could fall in either direction along a normal distribution. A final rationale for using the T-test was that the T-test is useful in studies where interval or continuous data is compiled.

The T-test is limited somewhat in that such a statistical procedure cannot determine if there is an interaction between variables. Since this study did not attempt to

address any interaction between variables, though such an investigation has possibilities for future research, this limitation was not a concern to the investigator.

A .05 alpha level of significance was selected. According to William L. Hays (Statistics for the Social Sciences), 1973, the .05 alpha level of significance is one which is "conventional" (pg. 368) and appropriate in order to avoid a Type I (alpha) error, in which the null hypothesis is rejected (i.e. to "conclude falsely that a difference exists in the data, when in fact it does not," Isaac 1971, pg. 143).

In conclusion, since the investigator attempted to examine differences between two independent variables the T-test appeared to be a suitable statistical procedure. Bruning and Kintz wrote that, "The T-test is used to determine which specific means differ significantly from each other, if these differences have been hypothesized prior to the selection of the data" (pg. 113).

This investigator hypothesized differences between two major independent variables (returning and non-returning students) and used the T-test as a statistical procedure to test for significant differences (.05 alpha level).

Data Analysis Breakdown

There were nine null hypotheses tested in this study. The analysis of the data tested these hypotheses in three different categories of student populations.

1. Data from returning Gordon College Students were statistically analyzed and compared with non-returning Gordon College students in each of the nine hypotheses.
2. Data from returning George Fox College students were statistically analyzed and compared with non-returning George Fox College Students in each of the nine hypotheses.
3. Data from returning Gordon College and George Fox College students were statistically analyzed and compared with non-returning Gordon College and George Fox College students in each of the nine hypotheses.

The following composite variable sets and single variables were employed in the survey and the results statistically analyzed within the three student populations described above.

1. College Activities and Programs, Peer Relationships and Faculty Relationships

This variable set contained all seven different variables and is the composite of all seven. Each variable allowed for responses using the following scale: (___ Never ___ Occasionally ___ Often ___ Very Often). The seven variables were:

1. Library Experiences
2. Experiences with Faculty
3. Student Union
4. Athletic and Recreation Facilities
5. Clubs and Organizations
6. Personal Experiences
7. Dormitory or Fraternity/Sorority

2. Extracurricular Activities

This variable set contained three different variables and is the composite of all three. Each variable allowed for responses using the following scale: (___ Never ___ Occasionally ___ Often ___ Very Often). The three variables were:

1. Student Union
2. Clubs and Organizations
3. Athletic and Recreational Facilities

3. Student Union

This single variable allowed for a student response using the following scale: (___ Never ___ Occasionally ___ Often ___ Very Often).

4. Library Experiences

This single variable allowed for a student response using the following scale: (___ Never ___ Occasionally ___ Often ___ Very Often).

5. Clubs and Organizations

This single variable allowed for student responses using the following scale: (___ Never ___ Occasionally ___ Often ___ Very Often).

6. Athletic and Recreational Facilities

This single variable allowed for student responses using the following scale: (___ Never ___ Occasionally ___ Often ___ Very Often).

7. Personal Experiences

This single variable allowed for student responses using the following scale: (___ Never ___ Occasionally ___ Often ___ Very Often).

8. Dormitory or Fraternity/Sorority

This single variable allowed for student response using

the following scale: (___ Never ___ Occasionally ___ Often ___ Very Often).

9. Experiences with Faculty

This single variable allowed for student response using the following scale: (___ Never ___ Occasionally ___ Often ___ Very Often).

HYPOTHESES

The following nine research hypotheses were developed and tested in the null form.

Hypothesis I

There is no significant statistical difference between persisting and non-persisting freshmen students with respect to their interaction and involvement with college activities and programs, and their peer and faculty relationships.

Hypothesis II

There is no significant statistical difference between persisting and non-persisting freshmen students with relation to their investment of time and energy in extracurricular activities.

Hypothesis III

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in the college library.

Hypothesis IV

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in clubs and organizations.

Hypothesis V

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in their college's student union.

Hypothesis VI

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in their college's athletic and recreational facilities.

Hypothesis VII

There is no significant statistical difference be

tween persisting and non-persisting freshmen students in relation to their investment of time and energy in residence hall life.

Hypothesis VIII

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in college peer relationships.

Hypothesis IX

There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy towards experiences with college faculty.

INSTRUMENTATION

The College Student Experiences Questionnaire (Appendix B), developed by the Higher Education Research Institute at the University of California at Los Angeles and Dr. C. Robert Pace in 1979 was used to measure the subjects' perceived frequency of interaction and level of involvement with college activities and programs and peer and faculty relationships within their college environment. The 1986 format revision edition (revised by Pace, UCLA) was used in

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this current study.

The reliability and validity of the College Student Experiences Instrument is supported by several factors. Prior to 1979 when the instrument was first introduced it was pre-tested with samples of students from 13 colleges. Revisions were made on several test measures as a result of the pre-testing (Pace, 1984). Secondly, the standard deviations of scores generally fell between 5 and 7 on a possible range of scores between 10-40 or 30 points. According to Pace, this, coupled with the fact that in a "normal distribution two sigmas from the mean would encompass 95% of all the scores, the fact that the obtained scores range from two-thirds to nine-tenths of this theoretical territory indicates a very good spread of individual differences" (pg. 25). Thirdly, a factor analysis of test content indicated a coherence and interrelatedness of the items within the scales (Pace, 1984, pg. 25). Finally, student respondents (in the pretests) reported no difficulty with answering the instrument's questions (Pace, 1984, pg. 35).

The questionnaire initially asks for some background information from the student. The instrument then seeks to measure fourteen college related activities in which students might engage. For the purposes of this study, and to test the nine hypotheses upon which this study was predicated, seven of these college-related activities were analyzed.

The questionnaire measured the frequency of student involvement and interaction within these college related activities using a scale of never, occasionally, often, to very often.

Each response item was assigned a point value: Never = 1, Occasionally = 2, Often = 3 and Very Often = 4. These values were then used to compile a score per student per variable from which the T-test was used to test for an .05 alpha level of significance between the populations in the study. Each variable contained ten questions so a student's score could range from a low of 10 to a high of 40. To test for differences when more than one variable was included in the Null hypothesis (Hypotheses I and II) the composite scores of all the variables was tested.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND FINDINGS

INTRODUCTION

The purpose of Chapter Four is to present the analysis of the data collected from the College Student Experiences Questionnaire. Each hypothesis is restated along with the results of the statistical analysis. Since there were nine hypotheses with three different populations under study, twenty-seven findings were reported. The statistical analysis used was the T-Test. Lewin (1979) says the T-Test is suitable when the investigator is attempting to determine whether the difference between two means is significant and specifically when two independent groups are being analyzed (pg. 345). In this study the two independent variables were returning and non-returning students.

The .05 alpha level of significance was selected to test the nine hypotheses. McCall (1970) says that the .05 level/value is a standard significance level in social science research (pg. 159). The .05 alpha level was appropriate in order to avoid a Type I error, in which the null hypothesis was rejected leading the investigator to conclude that a significant difference existed between the populations in the study when in fact no significant difference existed. While the .05 level is a commonly used

value in social science research it may not be considered appropriate in certain situations "...depending upon how critical it is to be wrong in rejecting the null hypothesis" (McCall, 1970, pg. 163). The .01 significance level may be considered more appropriate.

The final section of Chapter Four is a summary of the overall research findings.

DESCRIPTION OF SUBJECTS

The Fall 1986 entering freshmen classes at Gordon College and George Fox College served as subjects for this investigator's study. The 1986 entering Gordon College fall freshmen class numbered 260 with 84 of them men and 176 women. The 1986 entering freshmen class at George Fox College was 149 with 64 of them men and 85 women.

Following the 1986 academic year a list of all returning and non-returning freshmen students from the class of 1986 was obtained from officials at both institutions. These returning and non-returning students (defined as returning or not returning to the institution they attended as freshmen for the Fall of their sophomore year) were then surveyed by this investigator. Two hundred and sixty students matriculated as fall freshmen at Gordon, two hundred and twenty-seven of

whom returned to Gordon for their sophomore year while twenty-six chose not to return to Gordon. Seven students were involuntarily dismissed and therefore not included in this study. One hundred and forty-nine students matriculated as freshmen at George Fox College, eighty-eight of whom returned to George Fox for their sophomore year while fifty-three chose not to return to George Fox. Eight students were involuntarily dismissed and therefore not included in the study.

The populations for the study then were the 227 returning and 26 non-returning Gordon College Students and 88 returning and 53 non-returning George Fox College students. Fifteen students from both institutions who were involuntarily dismissed were not included in the study.

One hundred and one, or 44% of the Gordon returning students responded to the survey, while 17 or 65% of the Gordon non-returning students returned surveys. Sixty-three, or 72% of the George Fox returning students responded to the survey, while 31 or 58% of the non-returning returned surveys. One hundred and sixty-four, or 52% of both Gordon College and George Fox College returning students responded to the survey, while 48 or 61% of the non-returning students from both institutions returned surveys.

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Retention data for Gordon College, 1986 entering freshmen indicated that 87%, or 227 out of 260, returned to Gordon for their sophomore year. Eighty-seven percent of the entering freshmen men, or 73 out of 84, returned to Gordon for their sophomore year while 87%, or 154 out of 176, women returned.

Retention data for George Fox 1986 entering freshmen indicated that 59%, or 88 out of 149, returned to George Fox for their sophomore year. Fifty-one percent, or 33 out of 64, of the entering freshmen men returned to George Fox for their sophomore year, while 62%, or 53 out of 85, women returned.

Forty-eight, or 47% of the Gordon College responding returnees have parents who have completed college, while nine, or 53% of the responding non-returnees have parents who have completed college. Seventeen or 27% of the George Fox College responding returnees have parents who have completed college, while nine or 29% of the George Fox responding non-returnees have parents who have completed college. Sixty-five or 40% of responding returning students from both institutions have parents who have completed college while eighteen or 38% of the non-returning responding students have parents who have completed college.

TABLE 4 DEMOGRAPHIC DATA ON 1986 FRESHMEN STUDENTS FROM GORDON COLLEGE AND GEORGE FOX COLLEGE

INSTITUTION	Entering 1986 Freshmen Class	Men	Women
Gordon College	260	84	176
George Fox College	149	64	85

INSTITUTION	1987 Returning Students (Sophomore Year)	Men	Women	Non-Returning Students	Men	Women
Gordon College	227	73	154	33	11	22
George Fox College	88	33	55	53	24	29

INSTITUTION	Returning Respon- dents to Survey	Men	Women	Non-Returning Re- spondents to Survey	Men	Women
Gordon College	101 or 44%	22	79	17 or 65%	4	13
George Fox College	63 or 72%	21	42	31 or 58%	10	21
Gordon College & George Fox College	164 or 52%	43	121	48 or 61%	14	34

INSTITUTION	Retention Percentage for Freshman Class	Retention Percentage for Men	Retention Percentage for Women
Gordon	87% 227/260	87% 73/84	87% 154/176
George Fox	59% 88/149	51% 33/64	62% 53/85

PRESENTATION OF FINDINGS AND ANALYSIS OF THE DATA

HYPOTHESIS I

Stated in the null form: There is no significant statistical difference between persisting and non-persisting freshmen students at George Fox College and Gordon College with respect to their interaction and involvement with college activities and programs, and their peer and faculty relationships.

Hypothesis I was tested using the composite scores of seven selected variables from the College Student Experiences Questionnaire (see Appendix B). The set of seven variables contained seventy (70) questions or ten questions for each variable. These seven variables were: Library Experiences, Experiences with Faculty, Student Union, Athletic and Recreational Facilities, Clubs and Organizations, Personal Experiences (Peer Relationships) and Dormitory or Fraternity/Sorority (Residence Life).

Group 1: Gordon College Persisting and Non-Persisting Freshmen

Group 2: George Fox College Persisting and Non-Persisting Freshmen

Group 3: Gordon College and George Fox College Persisting and Non-Persisting Freshmen

The results of the T-Test (see Table 4) showed that for Group 1, Gordon College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their interaction and involvement with college activities and programs, and their peer and faculty relationships (the composite scores of the seven variables). The T-Test results showed a statistical probability of .2912 (.05 level required), an unpaired T value of 1.06 (1.980 statistical significance level required), with 113 degrees of freedom. Therefore for Group 1, Gordon College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (I) was not rejected.

The results of the T-Test revealed that for Group 2, George Fox College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their interaction and involvement with college activities and programs, and their peer and faculty relationships (composite scores of the seven variables). The T-Test results showed a statistical probability of .216 (.05 level required), an unpaired T value of 1.245 (1.980 statistical significance level required), with 82 degrees of freedom. Therefore for Group 2, George Fox College Persisting and Non-Persisting Students, the Null Hypothesis (I) was not rejected.

The results of the T-Test revealed that for Group 3, Gordon College and George Fox College Freshmen, the difference between persisting and non-persisting freshmen students at both institutions was not statistically significant with respect to their interaction and involvement with college activities and programs, and their peer and faculty relationships (the composite scores of the seven variables). The T-Test results showed a statistical probability of .1034 (.05 level required), an unpaired T value of 1.637 (1.960 statistical significance level required), with 189 degrees of freedom. Therefore for Group 3, Gordon College and George Fox College Persisting and Non-Persisting Freshmen Students in this study, the Null Hypothesis (I) was not rejected.

Table 5 T-Test Results: Interaction and involvement with seven variables: Library Experiences, Student Union, Experience with faculty, Athletic and Recreation Facilities, Clubs and Organizations, Personal Experiences and Residence Hall Life.

Population	N	Mean	DF	Statistical Probability	T-Test	Required Significance Level	
1. Persisting Gordon College Freshmen	99	157.69					
Non-Persisting Gordon College Freshmen	16	151.18	113	.2912	1.06		1.980
2. Persisting George Fox College Freshmen	60	161.33					
Non-Persisting George Fox Freshmen	24	154.25	82	.216	1.245		1.980
3. Persisting Gordon/ George Fox Freshmen	151	159.73					
Non-Persisting Gordon/ George Fox Freshmen	40	153.02	189	.1034	1.637		1.960

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HYPOTHESIS II

Stated in the null form: There is no significant statistical difference between persisting and non-persisting freshmen students with respect to their interaction and involvement with Extracurricular Activities.

Hypothesis II was tested using the composite scores of three variables from the College Student Experiences Questionnaire (see Appendix B). The set of three variables contained thirty (30) questions or ten questions for each variable. These three variables were: Student Union, Clubs and Organizations, and Athletic and Recreational Facilities.

Group 1: Gordon College Persisting and Non-Persisting Freshmen

Group 2: George Fox College Persisting and Non-Persisting Freshmen

Group 3: Gordon College and George Fox College Persisting and Non-Persisting Freshmen

The results of the T-Test (see Table 5) revealed that for Group 1, Gordon College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in extracurricular activities (composite score of the three variables). The T-Test results showed a

Statistical probability of .1689 (.05 level required), an unpaired T value of 1.384 (1.980 statistical significance level required) with 116 degrees of freedom. Therefore for Group 1, Gordon College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (II) was not rejected.

The results of the T-Test showed that for Group 2, George Fox College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in extracurricular activities (composite score of the three variables). The T-Test results showed a statistical probability of .222 (.05 level required), an unpaired T value of 1.228 (1.980 statistical significance level required), with 91 degrees of freedom. Therefore, for Group 2, George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (II) was not rejected.

The results of the T-Test revealed that for Group 3, Gordon College and George Fox College Freshmen, the difference between persisting and non-persisting freshmen students at both institutions was not statistically significant with respect to their investment of time and energy in extracurricular activities (composite scores of the three variables). The T-Test results showed a statistical probability of .1048 (.05 level required), an unpaired T value of 1.629 (1.960 statistical significance level required),

with 209 degrees of freedom. Therefore, for Group 3, Gordon College and George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (II) was not rejected.

Table 6 T-Test Results: Investment of time and energy with three variables: Student Union, Clubs and Organizations, and Athletic and Recreational Facilities.

Population	N	Mean	DF	Statistical Probability	T-Test	Required Significance Level
1. Persisting Gordon College Freshmen	101	65.70				
Non-Persisting Gordon College Freshmen	17	61.23	116	.1689	1.384	1.980
2. Persisting George Fox College Freshmen	63	67.54				
Non-Persisting George Fox College Freshmen	30	64.06	91	.222	1.228	1.980
3. Persisting Gordon/ George Fox Freshmen	164	66.40				
Non-Persisting Gordon/ George Fox Freshmen	47	63.04	209	.1048	1.629	1.960

HYPOTHESIS III

Stated in the null form: There is no significant statistical difference between persisting and non persisting freshmen in relation to their investment of time and energy in the college library.

Hypothesis III was tested using one variable from the College Student Experiences Questionnaire (see Appendix B). The College Library variable contained ten questions related to the student's quality of time and involvement in using the college library.

Group 1: Gordon College Persisting and Non-Persisting Freshmen

Group 2: George Fox College Persisting and Non-Persisting Freshmen

Group 3: Gordon College and George Fox College Persisting and Non-Persisting Freshmen

The results of the T-Test (see Table 6) revealed that for Group 1, Gordon College Freshmen, the difference between persisting and non-persisting freshmen students was statistically significant with respect to the investment of time and energy in their institution's library. The T-Test results showed a statistical probability of .0368 (.05 level required), an unpaired T value of 2.113 (1.980 statistical

significance level required), with 116 degrees of freedom. Therefore for Group 1, Gordon College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (III) was rejected.

The results of the T-Test showed that for Group 2, George Fox College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in their institution's library. The T-Test results showed a statistical probability of .1752 (.05 level required), an unpaired T value of 1.366 (1.980 statistical significance required), with 92 degrees of freedom. Therefore for Group 2, George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (III) was not rejected.

The results of the T-Test revealed that for Group 3, Gordon College and George Fox College Freshmen, the difference between persisting and non-persisting freshmen at both institutions was statistically significant with respect to their investment of time and energy in their college's library. The T-Test results showed a statistical probability of .0146 (.05 level required), an unpaired T value of 2.463 (1.960 statistical significance required), with 210 degrees of freedom. Therefore for Group 3, Gordon College and George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (III) was rejected.

Table 7 T-Test Results: Investment of time and energy in the college library.

Population	N	Mean	DF	Statistical Probability	T-Test	Required Significance Level
1. Persisting Gordon College Freshmen	101	20.64				
Non-Persisting Gordon College Freshmen	17	18.41	116	.0368	2.113*	1.980
2. Persisting George Fox College Freshmen	63	20.44				
Non-Persisting George Fox College Freshmen	31	19.22	92	.1752	1.366	1.980
3. Persisting Gordon/ George Fox Freshmen	164	20.56				
Non-Persisting Gordon/ George Fox Freshmen	48	18.93	210	.0146	2.463*	1.960

* Significance at the .05 level

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HYPOTHESIS IV

Stated in the null form: There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in clubs and organizations.

Hypothesis IV was tested using one variable from the College Student Experiences Questionnaire (see Appendix B). The Clubs and Organizations variable contained ten questions relating to the student's level of involvement and interaction with campus clubs and organizations.

Group 1: Gordon College Persisting and Non-Persisting Freshmen

Group 2: George Fox College Persisting and Non-Persisting Freshmen

Group 3: Gordon College and George Fox College Persisting and Non-Persisting Freshmen

The results of the T-Test (see Table 7) indicated that for Group 1, Gordon College Freshmen, the difference between persisting and non-persisting freshmen students approached statistical significance with respect to their investment of time and energy in their college's clubs and organizations. The T-Test results showed a statistical probability of .054 (.05 level required), an unpaired T value of 1.947 (1.980

statistical significance level required), with 116 degrees of freedom. Therefore for Group 1, Gordon College Persisting and Non-Persisting Freshmen Students, while statistical significance was approached, the Null Hypothesis (IV) was not rejected.

The results of the T-Test revealed that for Group 2, George Fox College Freshmen, the difference between persisting and non-persisting freshmen students was statistically significant with respect to their investment of time and energy in their college's clubs and organizations. The T-Test results showed a statistical probability of .0191 (.05 level required), an unpaired T value of 2.386 (1.980 statistical significance level required), with 92 degrees of freedom. Therefore for Group 2, George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (IV) was rejected.

The results of the T-Test revealed that for Group 3, Gordon College and George Fox College Freshmen, the difference between persisting and non-persisting freshmen students at both institutions was statistically significant with respect to their investment of time and energy in their college's clubs and organizations. The T-Test results showed a statistical probability of .0018 (.05 level required), an unpaired T value of 3.162 (1.960 statistical significance required), with 210 degrees of freedom. Therefore for Group

3, both Gordon College and George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (IV) was rejected.

Table 8 T-Test Results: Investment of time and energy in clubs and organizations.

Population	N	Mean	DF	Statistical Probability	T-Test	Required Significance Level
1. Persisting Gordon College Freshmen	101	22.059				
Non-Persisting Gordon College Freshmen	17	18.64	116	.054	1.947	1.980
2. Persisting George Fox College Freshmen	63	22.01				
Non-Persisting George Fox College Freshmen	31	18.64	92	.0191	2.386*	1.980
3. Persisting Gordon/ George Fox Freshmen	164	22.04				
Non-Persisting Gordon/ George Fox Freshmen	48	18.64	210	.0018	3.162*	1.960

* Significance at the .05 level

HYPOTHESIS V

Stated in the null form: There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in their college's student union.

Hypothesis V was tested using one variable from the College Student Experiences Questionnaire (see Appendix B). The Student Union variable contains ten questions relating to the student's time and energy spent in using their college's student union.

Group 1: Gordon College Persisting and Non-Persisting Freshmen

Group 2: George Fox College Persisting and Non-Persisting Freshmen

Group 3: Gordon College and George Fox College Persisting and Non-Persisting Freshmen

The results of the T-Test (see Table 8) indicated that for Group One, Gordon College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in their college's student union. The T-Test results showed a statistical probability of .6496 (.05 level required), an unpaired T value of .455 (1.980

statistical significance level required), with 116 degrees of freedom. Therefore for Group 1, Gordon College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (V) was not rejected.

The results of the T-Test showed that for Group 2, George Fox College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in the college's student union. The T-Test results showed a statistical probability of .1747 (.05 level required), an unpaired T value of 1.368 (1.980 statistical significance level required), with 92 degrees of freedom. Therefore for Group 2, George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (V) was not rejected.

The results of the T-Test revealed that for Group 3, Gordon College and George Fox College Freshmen, the difference between persisting and non-persisting freshmen students at both institutions was not statistically significant with respect to their investment of time and energy in their college's student union. The T-Test results showed a statistical probability of .0826 (.05 level required), an unpaired T value of 1.744 (1.960 statistical significance level required), with 210 degrees of freedom. Therefore for Group 3, both Gordon College and George Fox College

Persisting and Non-Persisting Freshmen Students, the Null Hypothesis was not rejected.

Table 9 T-Test Results Investment of time and energy in their college's student union.

Population	N	Mean	DF	Statistical Probability	T-Test	Required Significance Level
1. Persisting Gordon College Freshmen	101	24.99				
Non-Persisting Gordon College Freshmen	17	24.41	116	.6496	.455	1.980
2. Persisting George Fox College Freshmen	63	24.27				
Non-Persisting George Fox College Freshmen	31	22.54	92	.1747	0.53	1.368
3. Persisting Gordon/ George Fox Freshmen	164	24.71				
Non-Persisting Gordon/ George Fox Freshmen	48	23.20	210	.0826	1.744	1.960

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HYPOTHESIS VI

Stated in the null form: There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in their college's athletic and recreational facilities.

Hypothesis VI was tested using one variable from the College Student Experiences Questionnaire (see Appendix B). The Athletic and Recreational Facilities Variable contained ten questions relating to the student's level of involvement with their college's athletic and recreational facilities.

Group 1: Gordon College Persisting and Non-Persisting Freshmen

Group 2: George Fox College Persisting and Non-Persisting Freshmen

Group 3: Gordon College and George Fox College Persisting and Non-Persisting Freshmen

The results of the T-Test (see Table 9) indicated that for Group 1, Gordon College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in their college's athletic and recreational facilities. The T-Test results showed a statistical probability of .7731 (.05 level required), an unpaired T value

of .289 (1.980 statistical significance level required), with 116 degrees of freedom. Therefore for Group 1, Gordon College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (VI) was not rejected.

The results of the T-Test showed that for Group 2, George Fox College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in their college's athletic and recreational facilities. The T-Test results showed a statistical probability of .4905 (.05 level required), an unpaired T value of .692 (1.980 statistical significance level required), with 91 degrees of freedom. Therefore for Group 2, George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (VI) was not rejected.

The results of the T-Test revealed that for Group 3, Gordon College and George Fox College Freshmen, the difference between persisting and non-persisting freshmen students from both institutions was not statistically significant with respect to their investment of time and energy in their college's athletic and recreational facilities. The T-Test results showed a statistical probability of .2796 (.05 level required), an unpaired T value of 1.084 (1.960 statistical significance level required), with 209 degrees of freedom. Therefore for Group 3, Gordon College and George Fox College

Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (VI) was not rejected.

Table 10 T-Test Results: Investment of time and energy in the college's athletic and recreational facilities.

Population	N	Mean	DF	Statistical Probability	T-Test	Required Significance Level
1. Persisting Gordon College Freshmen	101	18.65				
Non-Persisting Gordon College Freshmen	17	18.17	116	.7731	.289	1.980
2. Persisting George Fox College Freshmen	63	21.34				
Non-Persisting George Fox College Freshmen	30	22.56	91	.490	0.692	1.980
3. Persisting Gordon/ George Fox Freshmen	164	19.68				
Non-Persisting Gordon/ George Fox Freshmen	47	20.97	209	.2796	1.084	1.960

HYPOTHESIS VII

Stated in the null form: There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in residence hall life.

Hypothesis VII was tested using one variable from the College Student Experiences Questionnaire (see Appendix B). The Dormitory or Fraternity/Sorority variable contained ten questions relating to the student's level of involvement within their residence hall environment.

Group 1: Gordon College Persisting and Non-Persisting Freshmen

Group 2: George Fox College Persisting and Non-Persisting Freshmen

Group 3: Gordon College and George Fox College Persisting and Non-Persisting Freshmen

The results of the T-Test (see Table 10) indicated that for Group 1, Gordon College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in residence hall life. The T-Test results showed a statistical probability of .3321 (.05 level required), an unpaired T value of .974 (1.980 statistical

significance level required), with 115 degrees of freedom. Therefore for Group 1, Gordon College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (VII) was not rejected.

The results of the T-Test showed that for Group 2, George Fox College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in residence hall life. The T-Test results showed a statistical probability of .2015 (.05 level required), an unpaired T value of 1.288 (1.980 statistical significance level required), with 83 degrees of freedom. Therefore, for Group 2, George Fox Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (VII) was not rejected.

The results of the T-Test revealed that for Group 3, Gordon College and George Fox College Freshmen, the difference between persisting and non-persisting freshmen students at both institutions was not statistically significant with respect to their investment of time and energy in residence hall life. The T-Test results showed a statistical probability of .943 (.05 level required), an unpaired T value of .072 (1.960 statistical significance level required), with 200 degrees of freedom. Therefore for Group 3, Gordon College and George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (VII) was not rejected.

Table 11 T-Test Results: Investment of time and energy in college residence hall life.

Population	N	Mean	DF	Statistical Probability	T-Test	Required Significance Level
1. Persisting Gordon College Freshmen	101	25.92				
Non-Persisting Gordon College Freshmen	16	27.43	115	.3321	.974	1.980
2. Persisting George Fox College Freshmen	61	27.80				
Non-Persisting George Fox College Freshmen	24	26.20	83	.2015	1.288	1.980
3. Persisting Gordon/ George Fox Freshmen	162	26.63				
Non-Persisting Gordon/ George Fox Freshmen	40	26.70	200	.943	.072	1.960

HYPOTHESIS VIII

Stated in the null form: There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in college peer relationships.

Hypothesis VIII was tested using one variable from the College Student Experiences Questionnaire (see Appendix B). The Personal Experiences variable contained ten questions relating to the student's peer relationships in the context of his personal experiences at his institution.

Group 1: Gordon College Persisting and Non-Persisting Freshmen

Group 2: George Fox College Persisting and Non-Persisting Freshmen

Group 3: Gordon College and George Fox College Persisting and non-Persisting Freshmen

The results of the T-Test (see Table 11) indicated that for Group 1, Gordon College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in college peer relationships. The T-Test results showed a statistical probability of .6425 (.05 level required), an unpaired T value of .465 (1.980 statistical

significance level required), with 116 degrees of freedom. Therefore for Group 1, Gordon College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (VIII) was not rejected.

The results of the T-Test showed that for Group 2, George Fox College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in college peer relationships. It should be noted however, that the findings did approach statistical significance. The T-Test results showed a statistical probability of .0601 (.05 level required), an unpaired T value of 1.904 (1.980 statistical significance level required), with 91 degrees of freedom. Therefore for Group 2, George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (VIII) was not rejected.

The results of the T-Test revealed that for Group 3, Gordon College and George Fox College Freshmen, the difference between persisting and non-persisting freshmen students at both institutions was not statistically significant with respect to their investment of time and energy in college peer relationships. The findings, however, did approach statistical significance. The T-Test results showed a statistical probability of .0572 (.05 level required), an unpaired T value of 1.912 (1.960 statistical significance level

required), with 209 degrees of freedom. Therefore for Group 3, Gordon College and George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (VIII) was not rejected.

Table 12 T-Test Results: Investment of time and energy in college peer relationships.

Population	N	Mean	DF	Statistical Probability	T-Test	Required Significance Level
1. Persisting Gordon College Freshmen	101	24.63				
Non-Persisting Gordon College Freshmen	17	23.88	116	.6425	.465	1.980
2. Persisting George Fox College Freshmen	62	24.46				
Non-Persisting George Fox College Freshmen	31	22.03	91	.0601	1.904	1.980
3. Persisting Gordon/ George Fox Freshmen	163	24.57				
Non-Persisting Gordon/ George Fox Freshmen	50	22.48	209	.0572	1.912	1.960

HYPOTHESIS IX

Stated in the null form: There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy towards experiences with college faculty.

Hypothesis IX was tested using one variable from the College Student Experiences Questionnaire (see Appendix B). The Experiences with Faculty contained ten questions relating to the student's level of involvement and interaction with college faculty members.

Group 1: Gordon College Persisting and Non-Persisting Freshmen

Group 2: George Fox College Persisting and Non-Persisting Freshmen

Group 3: Gordon College and George Fox College Persisting and Non-Persisting Freshmen

The results of the T-Test (see Table 12) indicated that for Group 1, Gordon College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy towards experiences with college faculty. The T-Test results showed a statistical probability of .301 (.05 level required), an unpaired T value of 1.039 (1.980

statistical significance level required), with 116 degrees of freedom. Therefore for Group 1, Gordon College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (IX) was not rejected.

The results of the T-Test showed that for Group 2, George Fox College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy towards experiences with college faculty. The T-Test results showed a statistical probability of .0776 (.05 level required), an unpaired T value of 1.785 (1.980 statistical significance level required), with 92 degrees of freedom. Therefore for Group 2, George Fox College Persisting and Non-Persisting Freshmen Students, the Null Hypothesis (IX) was not rejected.

The results of the T-Test revealed that for Group 3, Gordon College and George Fox College Freshmen, the difference between persisting and non-persisting freshmen students at both institutions was statistically significant with respect to their investment of time and energy towards experiences with college faculty. The T-Test results showed a statistical probability of .0277 (.05 level required), an unpaired T value of 2.217 (1.960 statistical significance level required), with 210 degrees of freedom. Therefore for Group 3, Gordon College and George Fox College Persisting and

**Non-Persisting Freshmen Students, the Null Hypothesis (IX).
was rejected.**

Table 13 T-Test Results: Investment of time and energy toward experiences with college faculty.

Population	N	Mean	DF	Statistical Probability	T-Test	Required Significance Level
1. Persisting Gordon College Freshmen	101	20.75				
Non-Persisting Gordon College Freshmen	17	19.35	116	.301	1.039	1.980
2. Persisting George Fox College Freshmen	63	20.47				
Non-Persisting George Fox College Freshmen	31	18.48	92	.0776	1.785	1.980
3. Persisting Gordon/ George Fox Freshmen	164	20.64				
Non-Persisting Gordon/ George Fox Freshmen	48	18.79	210	.0277	2.217*	1.960

* Significance at the .05 level

SUMMARY

The following is a summary of the results of the T-Test used to test the nine hypotheses in the study.

Hypothesis I

The results revealed that for all three groups in the study, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their interaction and involvement with college activities and programs, and their peer and faculty relationships. In summary, for all three groups the Null Hypothesis was not rejected.

Hypothesis II

The results revealed that for all three groups in the study, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to their investment of time and energy in extracurricular activities. In summary, for all three groups the Null Hypothesis was not rejected.

Hypothesis III

The results revealed that for Group 1 (Gordon College

Freshmen) and Group 3 (Gordon College and George Fox College Freshmen) the difference between persisting and non-persisting freshmen students was statistically significant with respect to their investment of time and energy in their institution's library. In summary, for Groups One and Three, the Null Hypothesis was rejected. The Null Hypothesis was not rejected with Group 2, George Fox College Freshmen.

Hypothesis IV

The results revealed that for Group 2 the difference between persisting and non-persisting freshmen students was statistically significant with respect to the investment of time and energy in their college's clubs and organizations. Statistical significance was approached with Group 1, Gordon College Freshmen. In summary, for Groups Two and Three the Null Hypothesis was rejected, and not rejected for Group One.

Hypothesis V

The results revealed that for all three groups in the study, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to the investment of time and energy in their college's Student Union. In summary, for all three groups

the Null Hypothesis was not rejected.

Hypothesis VI

The results revealed that for all three groups in the study, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to the investment of time and energy in their college's athletic and recreational facilities. In summary, for all three groups the Null Hypothesis was not rejected.

Hypothesis VII

The results revealed that for all three groups in the study, the difference between persisting and non-persisting freshmen students was not statistically significant with respect to the investment of time and energy in their college's residence hall life. In summary, for all three groups the Null Hypothesis was not rejected.

Hypothesis VIII

The findings revealed similar results for all three groups with respect to the persisting and non-persisting freshmen students' investment of time and energy in college peer relationships. The results revealed that for Group 1, Gordon College Freshmen, the difference between persisting

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and non-persisting freshmen students was not statistically significant. The results also revealed that for Group 2, George Fox College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant. The results revealed that for Group 3, Gordon College and George Fox College Freshmen Students, the difference between persisting and non-persisting freshmen students was also not statistically significant with respect to the investment of time and energy in college peer relationships. However it should be noted that with Group 3, statistical significance was approached. In summary, for Groups One, Two and Three the Null Hypothesis was not rejected.

Hypothesis IX

The findings revealed different results for one of the three groups with respect to the persisting and non-persisting freshmen students' investment of time and energy toward experiences with college faculty. The results found that for Group 1, Gordon College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant. The results also revealed that for Group 2, George Fox College Freshmen, the difference between persisting and non-persisting freshmen students was not statistically significant. The results found that for Group 3, Gordon College and George Fox College Freshmen, the

difference between persisting and non-persisting freshmen students was statistically significant with respect to their investment of time and energy towards experiences with college faculty. In summary, for Groups One and Two the Null Hypothesis was not rejected, while for Group Three the Null Hypothesis was rejected.

CHAPTER FIVE

SUMMARY OF RESEARCH STUDY, MAJOR FINDINGS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

SUMMARY OF RESEARCH STUDY

College and university leaders have traditionally been concerned with student enrollments, particularly those in the small private liberal arts sector. In recent years this concern has intensified as the competition for the dwindling pool of high school graduates has increased. In 1984, Nelson, Scott and Bryan wrote that according to Duea (1981), when a group of college presidents was asked to rank the 20 most critical issues facing higher education, the issue of student retention was ranked second. The problem of student retention is particularly acute for the private college sector which tends to rely heavily upon student enrollments to generate revenue and balance budgets. The survivability of a number of private colleges may rest upon their ability to stabilize enrollments. Certainly one effort to maintain or increase enrollments has focused on the retention of students.

Why do some college students remain enrolled while others drop out? What factors exist within the college environment which facilitate early departure for some students and strengthen commitment to stay for others?

Two theoretical models of student retention were developed to lend some understanding to the issue of why some college students remain enrolled while others drop out. These two models (Astin, 1984 and Tinto, 1975), sought to explain student retention in terms of the relationship between persistence and the student's social and academic integration into his or her college environment. According to Tinto in his Theory of College Student Attrition (Tinto, 1975), the ability or inability of the college student to successfully integrate himself into the social and academic structure of the institution is directly related to the likelihood of his remaining enrolled (persisting). Astin, in his Theory of Student Involvement (Astin, 1984) believes that the more time and energy the college student invested in the college experience (involvement) the higher the likelihood of his or her remaining enrolled (persisting). Both Tinto and Astin emphasized the relationship between the student's level of interaction and involvement in campus life, and retention. The student retention models of Tinto and Astin have served to give direction to this investigator's research study on college student retention.

The purpose of the study was to investigate student retention tendencies at two small, private, religious, liberal arts colleges. The study examined the relationship between the time and frequency college freshmen students devoted to selected aspects of their college environment (college

activities, programs and peer and faculty relationships), and student retention.

The two colleges selected for the study were Gordon College in Wenham, Massachusetts and George Fox College in Newberg, Oregon. The entering freshmen classes of 1986 served as subjects for the study. Following the completion of their freshmen year, freshmen students from both schools were divided into two groups, returning and non-returning students, using information furnished by the Registrar's Office at George Fox College and the Student Life Office at Gordon College. These returning and non-returning students (defined as returning or not returning to their same institution for the fall quarter or semester of their sophomore year) were then asked to complete the College Student Experiences Questionnaire (Pace, 1986). A statistical analysis using the T-test was employed to test for any statistical significance between returning and non-returning students at each institution and then at both institutions, with respect to their level of involvement with seven selected environmental variables. An alpha level of .05 was used as a standard for determining significance.

Nine null hypotheses were developed and subsequently tested. Since there were three population groups investigated for each hypothesis (1 - Gordon returning and Gordon non-returning, 2 - George Fox returning and George Fox non-returning,

3 - Gordon and George Fox returning and Gordon and George Fox non-returning) twenty seven different findings were generated by the data analysis.

MAJOR FINDINGS

Six major findings emerged from the analysis of the data. These findings are considered major by this investigator since three of the findings support other retention research studies while three of the findings in fact do not support much of the retention research. This investigator believed these results were important (major) and therefore should be discussed since research findings that support or do not support other research may both be useful for future investigators.

The findings revealed no positive relationship between student persistence and the student's involvement with his residence hall, and with student peer relationships. Hypothesis I, when all seven institutional variables were tested collectively also revealed no significant difference between returning and non-returning students. These findings are thought to be important because they do not support much of the literature on student retention. Two of the findings, residence life and peer relationships, directly contradict research studies that have indeed established a positive relationship between persistence and student

involvement with these two activities.

Three other findings revealed a positive relationship between retention and student involvement with faculty, one's institutional library, and clubs and organizations. Such findings are considered significant since they support the retention research studies that have established a positive relationship between student involvement and persistence.

Three findings in which no statistical significance was found, student involvement with one's student union, athletic and recreational facilities, and college programs and activities will not be discussed. These findings were statistically lower than most of the findings (except for residence life and Hypothesis I).

Hypothesis I There is no significant statistical difference between persisting and non-persisting freshmen students with respect to their interaction and involvement with college activities and programs, and their peer and faculty relationships.

Hypothesis I, in which the composite scores of all seven college environmental variables were tested was not rejected. Statistical significance was approached however when Group 3, Gordon College and George Fox College freshmen students were collectively tested. The findings that no

significant statistical difference occurred between persisting and non-persisting students appear not to support Astin's (1984) and Tinto's (1975) theoretical models of student attrition as they relate to student involvement and interaction with their campus environment. The study's findings do not support Tinto's belief that ... "other things being equal, the higher the degree of integration of the individual into the college systems, the greater will be his commitment to the specific institution" (Pascarella and Terenzini, 1978, pg. 347). The results also do not support the research findings by Terenzini and Pascarella (1983) who concluded that while pre-college characteristics had an impact upon the student's integration into the life of his or her institution, it was the student's social and academic interactions with elements of that environment that influenced decisions to leave or stay in college. It should be noted that seven variables dealing with the student's level of involvement with college programs and activities, and his faculty and peer relationships were tested collectively in Hypothesis I. It may be that one or more of the variables could have significantly influenced the overall results. Tested individually in Hypotheses three through nine, three of the variables achieved statistical significance with at least one of the three population groups. These individual findings would indicate support for the student involvement theories of Tinto and Astin, however, when the composite scores of all seven variables

were tested, significance was not achieved. Therefore the findings from Hypothesis I do not support Astin and Tinto's student involvement theories as they relate to student persistence.

Hypothesis III There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in the college library.

The study revealed a significant statistical difference between persisting and non-persisting freshmen students at Gordon College, Group 1, and Gordon College and George Fox College students combined, Group 3, in relation to their investment of time and energy in their college library. George Fox College persisting and non-persisting students, Group 2, did not achieve significance with this variable. It appears from the findings that at least Gordon College returning freshmen and the combined returning freshmen from both institutions spent more time in their college's library than did non-returning students. This activity may have strengthened their institutional commitment. Astin and Tinto contend that student retention is related to how well the student confronts his or her college environment. The student who involves himself with his or her college environment (i.e. library use) may be more apt to positively influence institutional satisfaction and hence commitment.

Hypothesis IV There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in clubs and organizations.

A third major finding from the study revealed a significant statistical difference between persisting and non-persisting in two groups (George Fox Freshmen, Group 2 and Gordon and George Fox Combined, Group 3) in relation to their investment of time and energy in their college's clubs and organizations. Group 1, Gordon Freshmen, did not quite achieve statistical significance at 1.947. These findings are not supported by Fishman and Pasanella (1960) who found that nonintellective predictors were not positively related to persistence (pg. 303). Pantages and Creedon (1978) also concluded after their comprehensive review of attrition studies from 1950-1975 that extra curricular activities are not a "primary factor in attrition" (pg. 79).

In contrast, the findings of this study support research by Astin (1975), who wrote that, "participation in extracurricular activities, especially membership in fraternities and sororities is significantly related to staying in college" (pg. 78). Since Gordon and George Fox do not have a Fraternity and Sorority system the findings in this study only support Astin's findings that participation in extracurricular activities is positively associated with

persistence (i.e. clubs and organizations).

Sexton (1965) concluded that, "As a rule, unsuccessful students (particularly those who withdraw) participate less in college activities" (pg. 307). Pascarella and Chapman in their 1983 study of University Freshmen found that student participation in extracurricular activities has a "strong positive influence on persistence for students at the relatively lowest levels of commitment to the institution and commitment to the goal of graduation, respectively" (pg. 45). Astin (1975) found that students who persisted also showed a greater participation in student activities than those students who left school.

In summary, findings particular to student involvement with clubs and organizations and student persistence support the literature on attrition that found a positive relationship between participation in extracurricular activities and student persistence.

Hypothesis VII There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in Residence Hall Life.

A fourth major finding revealed no significant statistical difference between persisting and non-persisting freshmen

students in relation to their investment of time and energy in their institution's residence hall life. These findings do not support the findings of Astin (1975), who concluded that...

... a student's chances of completing college can be significantly influenced by environmental circumstances. The positive effect of living in a dormitory during the freshmen year has obvious implications for students, administrators and policy makers. Students concerned about maximizing their chances of finishing college should seriously consider leaving home and living in a college dormitory (pg. 107).

Provost (1982) wrote that colleges should support residential and social organizations as factors influencing student persistence" (pg. 2894, Vol. 43/090-A of Dissertation Abstracts International).

It may be that freshmen students at both Gordon College and George Fox College were satisfied with their residence hall life but that this variable was neither overtly positive or negative enough for there to be a significant statistical difference between persisting and non-persisting freshmen students. Approximately 85% of all Gordon and George Fox students live on campus. In summary, findings particular to

the student's investment of time and energy in his residence hall life and persistence do not support the literature (i.e. Astin, 1975; Provost, 1982; Newcomb, 1962 and others) that residence hall life does in fact positively have an impact upon retention.

Hypothesis VIII There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy in college peer relationships.

The findings on the relationship between student peer relationships and persistence were the same for all three groups. No significant statistical difference was found between persisting and non-persisting freshmen in relation to their investment of time and energy in college peer relationships with either Gordon College or George Fox freshmen, or when both Gordon College and George Fox College freshmen were combined and tested. However, when both Gordon College and George Fox College freshmen were combined, statistical significance was approached. It may be that statistical significance was not achieved due to the smaller population sizes of Group One, Gordon College Freshmen, and Two, George Fox College Freshmen, and that significance was approached with Group 3 (combined groups) because of the larger population.

The research literature appears to strongly support a positive relationship between college student retention and peer group relationships. Bolbrock (1981) found that colleges which "facilitated personal contact between students, faculty and staff were more likely to have higher retention rates" (pg. 578). Panos and Astin (1968) found that "students are more likely to complete four years if they attend a college where student peer relationships are characterized by cohesiveness, cooperativeness and independence" (pg. 66). Pascarella and Chapman (1983) found that two measures of social involvement with peers, "participation in extracurricular activity and extent of social activity with peers has their strongest positive influence on persistence for students at the relatively low levels of commitment to the institution and commitment to the goal of graduation, respectively" (pg. 45). Where no significant statistical difference was found, as in the case of Gordon College freshmen and George Fox College freshmen, such findings are not supported by the literature. The statistical significance that was approached between persisting and non-persisting freshmen students when both institutions were combined and tested would in fact support the research literature.

Hypothesis IX There is no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy towards experiences with college faculty.

A final major finding revealed no significant statistical difference between persisting and non-persisting freshmen students in relation to their investment of time and energy toward experiences with faculty, for Gordon College and George Fox College freshmen students. Yet, when the composite scores from both institutions were tested, significance was achieved. Again, as noted in the previous discussion, it may be that significance was not achieved with either the Gordon or George Fox freshmen group due to a small population sample. Possibly a larger population sample would have achieved significance. The findings for Group One (Gordon College Freshmen) and Group Two (George Fox College Freshmen) do not support the literature. The findings which resulted when both institutions (Group 3, combined groups) were tested (a positive relationship between interaction and involvement with faculty and persistence) do in fact support the literature. Pascarella and Chapman (1983) found that "freshmen persisters in both residential university and liberal arts samples were significantly more involved in the non-academic life of the institution and had significantly more non-classroom interaction with faculty members focusing on both intellectual academic and social/personal topics" (pg. 42). Miller and Brickman (1981) found that faculty and staff mentoring had a "positive impact on the retention and academic performance of freshmen" (pg. 27). Cope, in his 1978 article, "Why Students Stay, Why They Leave," cites a number of studies, Jones (1962), Flack (1966), Spady (1971),

Rootman (1972) and Baagen (1977) that have found peer support to be positively associated with persistence.

Finally, Terenzini and Pascarella's Study of Syracuse University Freshmen found that the combined measures of "both frequency and quality of contact" between freshmen students with faculty "appeared to be involved in subsequent attrition decisions" (pg. 278).

CONCLUSIONS

The finding that a significant statistical difference occurred between persisting and non-persisting freshmen students regarding their investment of time and energy in their institution's clubs and organizations with Groups Two and Three, and significance was approached with Group One (1.947), finds support in the literature. Astin (1975) concluded that participation in extracurricular activities is indeed related to persistence. Sexton (1965) wrote that non-persisters participate less in extracurricular activities. Pascarella and Chapman (1983) found extracurricular activities have a strong, positive influence on persistence.

The findings revealed a significant statistical difference between persisting and non-persisting freshmen students in two population groups and significance was approached with

the remaining group. It would be the conclusion of this study based on the significance levels achieved and approached, and the supporting literature, that freshmen students who participate in extracurricular activities (clubs and organizations) are more likely to persist (return to their same institution in the Fall of their sophomore year).

The findings indicate that involvement in clubs and organizations and the college library should be encouraged by college officials. Freshmen students who are actively involved in clubs and organizations and the college library are more apt to persist. Such involvement may serve to strengthen their institutional commitment, hence persistence.

The data analysis revealed a significant statistical difference between the returning and non-returning populations of Gordon, Group 1, and, Gordon and George Fox freshmen when combined, Group 3, in terms of their investment of time and energy in the college library. No statistical significance occurred with George Fox College returning and non-returning students, Group 2. It would be the conclusion of this investigator that, based on the significance levels achieved, freshmen students who invest time and energy in the college library are more likely to persist (return to their same institution in the Fall of their sophomore year) than those students who invest less time and energy in the college library.

IMPLICATIONS FOR ADMINISTRATORS

Gordon College and George Fox College are both traditional, small, religious, liberal arts institutions with student populations that are fairly homogenous in nature. The two schools belong to the thirteen member Christian College Consortium, an organization of similar religious, liberal arts colleges across the United States. The similarities between these thirteen institutions and their homogeneous student populations may allow for the findings and implications of this study to be generalizable to these thirteen colleges as well as other very similar colleges and universities.

Retention and Extracurricular Activities The findings appeared to establish a positive relationship between participation in extracurricular activities (clubs and organizations) and persistence. These findings are consistent with Pascarella and Chapman (1983) who found that student involvement in extracurricular activities has a positive impact upon retention. Astin (1975) also found that students who persisted showed a greater participation in student activities than those students who left school. The findings of this study imply that freshmen students who participate in extracurricular activities are more likely to persist.

The Student Life Offices at both Gordon College and George Fox College as well as other colleges and universities may want to seriously address this matter in terms of student activities programming, and more specifically, encourage a wider range of student participation in these types of campus activities early in their college careers. If, in fact, students who participate less are less apt to persist, identification of these students may allow college officials to develop an early detection (of potential dropouts) and intervention strategy towards strengthening retention. Such strategies might include alerting the student's residence assistant, residence hall director and academic advisor, or other college personnel who might be successful in intervention efforts.

Retention and Student Involvement with Faculty The findings appeared to reveal a positive relationship between student involvement with faculty, and freshmen student persistence when students from both Gordon College and George Fox College (Group 3) were combined and tested. The findings, when Group Three was tested, were consistent with a number of retention studies seeking to establish a link between student involvement with faculty and persistence. Pascarella and Chapman (1983) found that "freshmen persisters were more significantly involved in the non-academic life of the institution and had significantly more non-classroom interaction with faculty members..." (pg. 42). Miller and

Brickman (1981) developed a retention study focusing on faculty and staff mentoring of freshmen students and found that the program had a "positive impact on the retention and academic performance of freshmen" (pg. 27). Gordon and George Fox may want to consider identifying and training faculty who are particularly skilled in interpersonal relationships and assigning freshmen students to these faculty members during their first semester or term in college. Such a faculty-student mentoring process could serve to ease the freshman student's transition into college. This might be especially effective for the less involved student who exhibits dropout tendencies.

The results derived from examination of this particular variable imply that out-of-class faculty contact may be important to student retention. College and University officials may want to conduct further research on the relationship between student involvement with faculty and persistence, using a larger population sample than that used in this study. If such research findings were significant, administrators should consider developing strategies to encourage greater interaction between faculty and students, especially students who are less apt to take the initiative to do so on their own. Particular attention by faculty towards the less involved student may provide this student the relationship needed to remain in college.

Retention and Student Peer Relationships

The findings from the T-Test revealed that for all three groups, the difference between returning and non-returning freshmen students was not statistically significant with respect to their investment of time and energy in college peer relationships. However, for Group 3, Gordon and George Fox population groups combined, statistical significance was approached (1.912).

The findings would appear not to support much of the literature on student retention and peer relationships. The fact that statistical significance was approached when Group 3 was tested, and that a larger population sample may have resulted in significance, may imply a sensitivity towards a positive relationship between peer relationships and retention. Newcomb (1962) wrote that the "more incongruent the student is with his overall environment, the more likely he is to withdraw from that environment or higher education in general" (pg. 294). Developing peer relationships would seem to indicate a fit or congruence with one's institutional environment. Cope (1978) cites a number of retention studies that have found peer support to be positively associated with persistence (Jones, 1962; Flack, 1966; Spady, 1971; Rootman, 1972; and Haagen, 1977).

The results derived from examination of this particular variable may imply that forming student peer relationships

could be important to retention. Again as noted in the previous discussion, higher education officials may want to conduct further research on the relationship between the development of college peer relationships and retention, using a larger population sample than that used in this study. If such research findings were significant, administrators should consider creating strategies to foster the development of college peer relationships among students, especially with those students who may have less social integration skills. In particular, student life and residence hall staff may want to devise programs aimed at identifying freshmen students who are not mixing well with other students and implement appropriate intervention strategies. Administrators may want to consider training faculty and other college staff (i.e. Financial Aid, Student Accounts, Registrar, Academic Advisors) in identifying the student who may be dropout prone. Early detection and intervention could prove particularly effective in successfully addressing the retention issue.

Retention and Student Involvement with the College Library

The findings indicated a positive relationship between time and energy invested in one's institutional library and persistence, when Gordon College freshmen were tested and when both Gordon College and George Fox College freshmen were combined and tested. Significance was not achieved when George Fox freshmen were tested as a group.

The results derived from examination of this particular variable imply that freshmen students who use their college's library are more likely to persist than those students who frequent the library less. Gordon and George Fox officials and others may want to conduct further research on the relationship between the freshman student's investment of time and energy in his library and persistence, using a larger population sample than that used in this study. If such research findings were significant administrators should consider developing strategies directed towards encouraging greater library use by a wider segment of the freshmen student population. Officials may want to consider developing a Freshman Library Orientation Program which carries through the entire freshman year. Administrators might even contemplate making such an ongoing activity a requirement, possibly giving academic credit for successful participation. Both colleges should also consider assisting freshmen students in strengthening their study habits along with encouraging wider use of the library.

RECOMMENDATIONS FOR METHODOLOGY

1. This investigator recommends to future researchers that careful attention be given in the methodology section to the timing of when the survey instruments are mailed to participants in the study. In the current study

participants were mailed the surveys in the middle of their sophomore year which resulted in some confusion as to which year they should respond on the survey, their freshman year or current sophomore year. It is recommended that future researchers conducting freshman retention research consider mailing respondent surveys after the completion of the student's freshman year and prior to the fall of the sophomore year. This strategy should serve to eliminate confusion on the part of the respondent.

2. The investigator recommends to future researchers that careful attention be given in the methodology section to obtaining accurate student population numbers and names from institutions being studied. It is critical that the researcher clearly communicate what he or she wants from the institution. When the request for the number of entering freshmen is made the distinction between those entering in the Fall and those entering in subsequent terms should be clear. This investigator experienced some problems with determining exactly how many actual freshmen matriculated at Gordon College in the Fall of 1986.

A second recommendation is to make it clear that if the researcher does not want to include involuntary dismissals that this be communicated to whomever is providing

the non-returning student list. This investigator discovered he had included two involuntary dismissals in the data analysis and as a result had to conduct a second data analysis on a portion of the study.

3. The College Student Experiences Questionnaire (Pace, 1986) was used by this investigator to measure freshmen student interaction and involvement with their institutional environment. As college officials and researchers attempt to address retention issues and conduct retention research, a valuable source of information is the student himself. The recommendation would be for retention officials and researchers to use the College Student Experiences Questionnaire as one means of accurately and systematically gathering information from students. The resulting information would allow college officials, for example, to identify student perceptions of their college environment and by doing so, more accurately develop intervention strategies and programs aimed at successfully addressing retention issues. It is the recommendation of this investigator that future researchers and collegiate institutions conducting retention research consider using instruments like the College Student Experiences Questionnaire (Pace, 1986).

RECOMMENDATIONS FOR FURTHER RESEARCH

In summary, since retention is such a critical issue for the small liberal arts college and this study has supported the literature in part, college administrators may want to seriously consider reexamining institutional commitment and monies to these retention related campus activities. (Variables: Faculty, clubs and organizations, and library.)

This investigator attempted to examine the relationship between freshmen student interaction and involvement with selected variables of their college environment and student persistence. Several recommendations for further research have emerged as a result of the findings from this study. It is hoped that these recommendations will be helpful to others conducting college student retention research as well as collegiate institutions interested in the findings and implications.

1. This study has revealed that with some college environmental variables there occurred a significant statistical difference between the scores of persisting and non-persisting students. The study did not however, address the issue of why some students become involved with their institutional environment while others do not. It is recommended that a follow-up study be made of persisting and non-persisting students as to why they

participated in campus based programs and activities, and developed peer and faculty relationships. Further research may reveal dropout proneness and the identification of a profile of the student who is apt to be less involved in campus life. College student retention researchers may want to further explore the issue of why college students participated in campus based programs and activities. Such research is recommended as a logical follow-up of this investigator's retention study which sought to determine the levels of campus involvement between persisters and non-persisters. This study did not attempt to examine why students chose to become involved or not involved in the life of their institution.

2. Since a positive relationship was found between persisting and non-persisting students in terms of their interaction and involvement with faculty, the college library, and clubs and organizations, when freshmen students from both institutions were combined and tested (Group 3), researchers may want to replicate this study for each variable using a larger population sample in an effort to determine whether statistical significance occurs.
3. Since it appeared that there may be a positive relationship between student involvement and interaction with

college faculty and student persistence. When Group Three, Gordon College and George Fox College Freshmen combined, was tested, significance occurred. Significance was not achieved when the individual institutions were tested. As previously noted, this outcome may be attributed to a small population sample size. It is recommended that retention researchers further explore this relationship between student involvement with faculty and retention by using a larger population sample than that used in this study.

A logical question which arises is what is meant by involvement and interaction (qualitative) and how much is necessary (quantifiable)? Secondly, how do faculty and students perceive involvement and interaction? College administrators and future retention researchers may want to identify student and faculty perceptions of these terms, and in so doing identify common meaning to more accurately devise research studies and subsequent strategies to encourage quality student and faculty interaction. Such research could be coordinated by those staff responsible for institutional research and student retention. Holbrock (1981), who found that "institutions whose activities facilitated personal contact between students, faculty and staff were more likely to have higher retention rates" (pg. 578) would certainly applaud such an effort.

FINAL THOUGHTS

In general, colleges and universities may want to direct their own institutional research on student retention using the findings from this study, as well as current retention literature and retention studies to further examine the relationship between their students' involvement and interaction with their college environment and the likelihood of his or her persisting. Future retention studies may want to focus on the college environment and the students' involvement and interaction within that environment.

Tinto (1975) summed it up well when he wrote that the

... process of dropout can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during which a person's experience in these systems continually modifies his goal and institutional commitment in ways which lead to persistence and or varying forms of dropout (Review of Educational Research, 1975, pg. 90).

This study has increased this investigator's understanding of the college student retention issue. Student retention is complex, with a multitude of variables requiring consideration. While there are no simple answers to understanding retention, it is this investigator's conclusion that environmental variables are factors in retention, and the student's interactions with these variables has an impact upon persistence. Colleges and universities that want to successfully address the retention issue should focus

upon the college student's level of involvement and interaction within his institutional environment.

December 16, 1987

<name>
<address>
<city>, <state> <zip>

Dear <pname>:

**PLEASE HELP ME! I CANNOT FINISH MY PH.D. DISSERTATION WITHOUT YOUR HELP.
PLEASE TAKE A FEW MINUTES, COMPLETE THE SURVEY AND MAIL IT BACK TO ME IN THE
STAMPED SELF-ADDRESSED ENVELOPE.**

You are being asked to participate, along with other selected members of the 1986 entering freshman class at Gordon College in Wenham, Massachusetts and George Fox College in Newberg, Oregon, in a survey to measure freshman student retention tendencies of both institutions.

The enclosed survey is called the College Student Experiences Questionnaire and is designed to measure the level of student involvement with selected activities and college personnel within their college environment.

You will be asked to respond to items within the questionnaire which will attempt to determine the extent of your involvement within the college environment. **PLEASE LIMIT YOUR RESPONSES TO YOUR LEVEL OF INVOLVEMENT ONLY DURING YOUR FRESHMAN YEAR.**

How will the information be used? As part of my dissertation project, your participation in this survey will allow me to fulfill requirements toward my graduate work at Michigan State University. Secondly, the information that is generated may assist both institutions in furthering their understanding of freshmen student retention.

I encourage you to take the approximately twenty-five minutes to complete this questionnaire. Your responses will be kept strictly confidential and will also give you opportunity to share your experiences during your freshman year of college.

The stamped self-addressed envelope is provided for your convenience.

Thank you for taking the time to complete this questionnaire. **I NEED THIS BACK BY APRIL 15.**

Sincerely,

Dirk Barram
Doctoral Candidate

March 16, 1988

<name>
<address>
<city>, <state> <zip>

Dear <pname>:

**PLEASE HELP ME! I CANNOT FINISH MY PH.D. DISSERTATION WITHOUT
YOUR ASSISTANCE.**

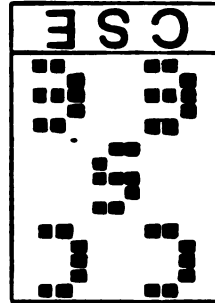
In December I sent you a letter asking that you complete a survey, the "College Student Experiences Questionnaire," as part of my research on student retention. I did not receive a survey from you and will need to if I am to complete my dissertation.

I have enclosed a second questionnaire for you to complete.
**PLEASE, I ASK THAT YOU TAKE A FEW MINUTES NOW, COMPLETE THE
SURVEY AND RETURN IT TO ME IN THE STAMPED SELF ADDRESSED
ENVELOPE. I NEED THE SURVEY BACK BY APRIL 15TH.**

I thank you in advance for your response.

Sincerely,

Dirk Barram
Ph.D. Student



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This questionnaire is available through the Center for the Study of Evaluation, UCLA Graduate School of Education, 405 Hilgard Ave., Los Angeles, CA 90024. It is intended for use by any college or university that wishes to have an inventory of the campus experiences of its students.

SECTION I INTRODUCTION

The main purpose of this inquiry is to learn more about how students spend their time - in course work, in the library, in contacts with faculty, in extracurricular activities, in various social and cultural activities, and in using other facilities and opportunities that exist in the college setting.

The information obtained from you and from other students at many different colleges and universities will provide new insight to administrators, faculty members, and others who provide the resources and shape the programs that are meant to be of benefit for student learning and development within the college experience.

At first glance you may think it will take a long time to fill out this questionnaire, but you will find that it can be answered quite easily, that you can do it in less than an hour and perhaps only 30 to 45 minutes. You will find, too, when you have finished it, that your answers provide a kind of self-portrait of what you have been giving and getting in your college experience.

The ultimate benefits in this or any other survey depend on the thoughtful responses and willing participation from those who are asked to help. Your willingness to participate is important and very much appreciated.

We do not ask you to write your name anywhere in this questionnaire; but we do need to know where the reports come from, and that is why each questionnaire has a number on the back page - certain blocks of numbers tell us that those questionnaires have come from your college.

And, as you will see on the next page, we need to know a few things about you and where you come from, so that we can learn how activities might be related to age, sex, year in college, major field, whether one lives on the campus, whether one has a job, etc.

The questionnaire responses will be read by an electronic scanning device. The machine can only read messages given to it with a soft, black lead pencil. Please be careful in marking your responses. Erase cleanly any response you wish to change.

BACKGROUND INFORMATION

DIRECTIONS: Indicate your response by filling in the appropriate space under each question.

Which of the following comes closest to describing your major field of study (or your expected major)?

☐ Agriculture

☐ Arts (art, music, theater, etc.)

☐ Biological Sciences (biology, biochemistry, botany, zoology, etc.)

☐ Business

☐ Computer Science

☐ Education (including physical education and recreation)

☐ Engineering

☐ Health related fields (nursing, physical therapy, health technology, etc.)

☐ Humanities (literature, languages, history, philosophy, religion, etc.)

☐ Physical Sciences (physics, chemistry, mathematics, astronomy, earth science, etc.)

☐ Social Sciences (economics, political science, psychology, sociology, etc.)

☐ Other What? _____

☐ Undecided

Did either of your parents graduate from college?

☐ no

☐ yes, both parents

☐ yes, father only

☐ yes, mother only

When, or if, you graduate from college, do you expect to enroll for a more advanced degree?

☐ yes

☐ no

Are you going to school full-time or part-time?

☐ full-time

☐ part-time

During the time school is in session, about how many hours a week do you usually spend on activities that are related to your school work? This includes time spent in class and time spent studying.

☐ about 50 hours a week or more

☐ about 40 hours a week

☐ about 30 hours a week

☐ about 20 hours a week

☐ less than 20 hours a week

Age

☐ 22 or younger

☐ 23-27

☐ 28 or older

Sex

☐ male

☐ female

Are you single or married?

☐ single

☐ married

What is your classification in college?

☐ freshman

☐ sophomore

☐ junior

☐ senior

☐ graduate student

Did you enter college here or did you transfer here from another college?

☐ entered here

☐ transferred from another college

Have you at any time while attending this college lived in a college dormitory, fraternity or sorority house, or other college housing?

☐ yes

☐ no

Where do you now live during the school year?

☐ dormitory or other college housing

☐ fraternity or sorority house

☐ private apartment or room within walking distance of the college

☐ house, apartment, etc. away from the campus

☐ with my parents or relatives

At this college, up to now, what have most of your grades been?

☐ A

☐ A-, B+

☐ B

☐ B-, C+

☐ C, C-, or lower

COLLEGE ACTIVITIES

DIRECTIONS: In your experience at this college during the current school year, about how often have you done each of the following? Indicate your response by filling in one of the spaces to the left of each statement.

- During the time school is in session, about how many hours a week do you usually spend working on a job?
- ☐ none: I am not employed during the school year.
☐ about 10 hours or less
☐ about 15 hours
☐ about 20 hours
☐ about 30 hours
☐ more than 30 hours
- About how much of your college expenses this year are provided by your parents or family?
- ☐ all or nearly all
☐ more than half
☐ less than half
☐ none or very little

- What is your racial or ethnic identification?
- ☐ White, Caucasian
☐ Black
☐ Hispanic, Mexican-American, Puerto Rican
☐ Oriental or Asian
☐ Other: What?
- How are you classified in the United States?
- ☐ Citizen of the United States
☐ Immigrant (permanent resident)
☐ Non-immigrant
- If you are not a citizen of the United States, in what country are you a citizen?

- Library Experiences
- ☐ Used the library as a quiet place to read or study materials you brought with you.
☐ Used the card catalogue to find what materials there were on some topic.
☐ Asked the librarian for help in finding material on some topic.
☐ Read something in the reserve book room or reference section.
☐ Used indexes (such as the Reader's Guide to Periodical Literature) to journal articles.
☐ Developed a bibliography or set of references for use in a term paper or other report.
☐ Found some interesting material to read just by browsing in the stacks.
☐ Ran down leads, looked for further references that were cited in things you read.
☐ Used specialized bibliographies (such as Chemical Abstracts, Psychological Abstracts, etc.).
☐ Gone back to read a basic reference or document that other authors had often referred to.

- Experiences with Faculty
- ☐ Talked with a faculty member.
☐ Asked your instructor for information related to a course you were taking (grades, make-up work, assignments, etc.).
☐ Visited informally and briefly with an instructor after class.
☐ Made an appointment to meet with a faculty member in his/her office.
☐ Discussed ideas for a term paper or other class project with a faculty member.
☐ Discussed your career plans and ambitions with a faculty member.
☐ Asked your instructor for comments and criticisms about your work.
☐ Had coffee, cakes, or snacks with a faculty member.
☐ Worked with a faculty member on a research project.
☐ Discussed personal problems or concerns with a faculty member.

DIRECTIONS: In your experience at this college during the current school year, about how often have you done each of the following? Indicate your response by filling in one of the spaces to the left of each statement.

	Very Often	Often	Sometimes	Not Often	Never
Had meals, snacks, etc. at the student union	0000	0000	0000	0000	0000
Looked at the bulletin board for notices about campus events	0000	0000	0000	0000	0000
Met your friends at the student union or student center	0000	0000	0000	0000	0000
Sat around in the union or center talking with other students about your classes and other college activities	0000	0000	0000	0000	0000
Used the lounge(s) to relax or study by yourself	0000	0000	0000	0000	0000
Seen a film or other event at the student union or center	0000	0000	0000	0000	0000
Heard a speaker at the student union or center	0000	0000	0000	0000	0000
Played games that were available in the student union or center (ping-pong, cards, pool, pinball, etc.)	0000	0000	0000	0000	0000
Used the lounge(s) or meeting rooms to meet with a group of students for a discussion	0000	0000	0000	0000	0000

	Very Often	Often	Sometimes	Not Often	Never
Set goals for your performance in some skill	0000	0000	0000	0000	0000
Followed a regular schedule of exercise, or practice in some sport, on campus	0000	0000	0000	0000	0000
Used outdoor recreational spaces for casual and informal individual athletic activities	0000	0000	0000	0000	0000
Used outdoor recreational spaces for casual and informal group sports	0000	0000	0000	0000	0000
Used facilities in the gym for individual activities (exercise, swimming, etc.)	0000	0000	0000	0000	0000
Used facilities in the gym for playing sports	0000	0000	0000	0000	0000
Bought instruction to improve your performance in some athletic activity	0000	0000	0000	0000	0000
Played on an intramural team	0000	0000	0000	0000	0000
Kept a chart or record of your progress in some skill or athletic activity	0000	0000	0000	0000	0000
Played in any varsity sport or athletic event	0000	0000	0000	0000	0000

Athletic and Recreation Facilities

	Very Often	Often	Sometimes	Not Often	Never
Took detailed notes in class	0000	0000	0000	0000	0000
Listened attentively in class meetings	0000	0000	0000	0000	0000
Underlined major points in the readings	0000	0000	0000	0000	0000
Tried to see how different facts and ideas fit together	0000	0000	0000	0000	0000
Thought about practical applications of the material	0000	0000	0000	0000	0000
Worked on a paper or project where you had to integrate ideas from various sources	0000	0000	0000	0000	0000
Summarized major points and information in your readings or notes	0000	0000	0000	0000	0000
Tried to explain the material to another student or friend	0000	0000	0000	0000	0000
Made outlines from class notes or readings	0000	0000	0000	0000	0000
Did additional readings on topics that were introduced and discussed in class	0000	0000	0000	0000	0000

	Very Often	Often	Sometimes	Not Often	Never
Talked about art (painting, sculpture, architecture, artists, etc.) with other students at the college	0000	0000	0000	0000	0000
Gone to an art gallery or art exhibit on the campus	0000	0000	0000	0000	0000
Read or discussed the opinions of art critics	0000	0000	0000	0000	0000
Participated in some art activity (painting, pottery, weaving, drawing, etc.)	0000	0000	0000	0000	0000
Talked about music (classical, popular, musicians, etc.) with other students at the college	0000	0000	0000	0000	0000
Attended a concert or other music event at the college	0000	0000	0000	0000	0000
Read or discussed the opinions of music critics	0000	0000	0000	0000	0000
Participated in some music activity (orchestra, chorus, etc.)	0000	0000	0000	0000	0000
Talked about the theater (plays, musicals, dance, etc.) with other students at the college	0000	0000	0000	0000	0000
Seen a play, ballet, or other theater performance at the college	0000	0000	0000	0000	0000
Read or discussed the opinions of drama critics	0000	0000	0000	0000	0000
Participated in or worked on some theatrical production (acted, danced, worked on scenery, etc.)	0000	0000	0000	0000	0000

Art, Music, Theater

Course Learning

DIRECTIONS: In your experience at this college during the current school year, about how often have you done each of the following? Indicate your response by filling in one of the spaces to the left of each statement.

Clubs and Organizations

Looked in the student newspaper for notices about campus events and student organizations

Attended a program or event put on by a student group

Read or asked about a club, organization, or student government activity

Attended a meeting of a club, organization, or student government group

Voted in a student election

Discussed policies and issues related to campus activities and student government

Worked in some student organization or special project (publications, student government, social event, etc.)

Discussed reasons for the success or lack of success of student club meetings, activities, or events

Worked on a committee

Met with a faculty adviser or administrator to discuss the activities of a student organization

Very often
Often
Sometimes
Not often
Never

Experience in Writing

Used a dictionary or thesaurus to look up the proper meaning of words

Consciously and systematically thought about grammar, sentence structure, paragraphs, word choice, and sequence of ideas or points as you were writing

Wrote a rough draft of a paper or essay and then revised it yourself before handing it in

Spent at least five hours or more writing a paper (not counting time spent in reading or at the library)

Asked other people to read something you wrote to see if it was clear to them

Referred to a book or manual about style of writing, grammar, etc.

Revised a paper or composition two or more times before you were satisfied with it

Asked an instructor for advice and help to improve your writing

Made an appointment to talk with an instructor who had criticized a paper you had written

Submitted for publication an article, story, or other composition you had written

Very often
Often
Sometimes
Not often
Never

Personal Experiences

Told a friend why you reacted to another person the way you did

Discussed with other students why some groups get along smoothly, and other groups don't

Bought out a friend to help you with a personal problem

Elected a course that dealt with understanding personal and social behavior

Identified with a character in a book or movie and wondered what you might have done under similar circumstances

Read articles or books about personal adjustment and personality development

Taken a test to measure your abilities, interests, or attitudes

Asked a friend to tell you what he/she really thought about you

Been in a group where each person, including yourself, talked about his/her personal problems

Talked with a counselor or other specialist about problems of a personal nature

Very often
Often
Sometimes
Not often
Never

Student Acquaintances

Made friends with students whose academic major field was very different from yours

Made friends with students whose interests were very different from yours

Made friends with students whose family background (economic and social) was very different from yours

Made friends with students whose age was very different from yours

Made friends with students whose race was different from yours

Made friends with students from another country

Had serious discussions with students whose philosophy of life or personal values were very different from yours

Had serious discussions with students whose religious beliefs were very different from yours

Had serious discussions with students whose political opinions were very different from yours

Had serious discussions with students from a country different from yours

Very often
Often
Sometimes
Not often
Never

DIRECTIONS: In your experience at this college during the current school year, about how often have you done each of the following?

- | | | | |
|---|-------|--------------|-------|
| Very often | Often | Occasionally | Never |
| 0000 | 0000 | 0000 | 0000 |
| Memorized formulas, definitions, technical terms | | | |
| 0000 | 0000 | 0000 | 0000 |
| Tried to express a set of relationships in mathematical terms | | | |
| 0000 | 0000 | 0000 | 0000 |
| Tested your understanding of some scientific principle by seeing if you could explain it to another student | | | |
| 0000 | 0000 | 0000 | 0000 |
| Read articles (not assigned) about scientific theories or concepts | | | |
| 0000 | 0000 | 0000 | 0000 |
| Practiced to improve your skill in using some laboratory equipment | | | |
| 0000 | 0000 | 0000 | 0000 |
| Showed a classmate how to use a piece of scientific equipment | | | |
| 0000 | 0000 | 0000 | 0000 |
| Attempted to explain an experimental procedure to a classmate | | | |
| 0000 | 0000 | 0000 | 0000 |
| Went to an exhibit or demonstration of some new scientific device | | | |
| 0000 | 0000 | 0000 | 0000 |
| Worked on a paper or project where you used a computer | | | |
| 0000 | 0000 | 0000 | 0000 |
| Used a computer to assist in course learning (language skills, math skills, etc.) | | | |
| 0000 | 0000 | 0000 | 0000 |
| Wrote a program to analyze data on a computer | | | |
| 0000 | 0000 | 0000 | 0000 |
| Sought out-of-class instruction in ways to use computers | | | |

Science/Technology

DIRECTIONS: If you are now living in a dormitory or fraternity/sorority, about how often have you done each of the following in that residence unit during the current school year? Indicate your response by filling in one of the spaces to the left of each statement. If you do not live in a campus residence, omit these items.

- | | | | |
|--|-------|--------------|-------|
| Very often | Often | Occasionally | Never |
| 0000 | 0000 | 0000 | 0000 |
| Had lively conversations about various topics during dinner in the dining room or cafeteria | | | |
| 0000 | 0000 | 0000 | 0000 |
| Gone out with other students for late night snacks | | | |
| 0000 | 0000 | 0000 | 0000 |
| Offered to help another student (with course work, errands, favors, advice, etc.) who needed some assistance | | | |
| 0000 | 0000 | 0000 | 0000 |
| Participated in bull sessions that lasted late into the night | | | |
| 0000 | 0000 | 0000 | 0000 |
| Asked others for assistance in something you were doing | | | |
| 0000 | 0000 | 0000 | 0000 |
| Borrowed things (clothes, records, posters, books, etc.) from others in the residence unit | | | |
| 0000 | 0000 | 0000 | 0000 |
| Attended social events put on by the residence unit | | | |
| 0000 | 0000 | 0000 | 0000 |
| Studied with other students in the residence unit | | | |
| 0000 | 0000 | 0000 | 0000 |
| Helped plan or organize an event in the residence unit | | | |
| 0000 | 0000 | 0000 | 0000 |
| Worked on some community service or fund raising project with other students in the residence unit | | | |

Dormitory or Fraternity/Sorority

CONVERSATIONS

In these conversations with other students, about how often have you done each of the following?

- | | | | |
|--|-------|--------------|-------|
| Very often | Often | Occasionally | Never |
| 0000 | 0000 | 0000 | 0000 |
| Referred to knowledge you had acquired in your reading | | | |
| 0000 | 0000 | 0000 | 0000 |
| Explored different ways of thinking about the topic | | | |
| 0000 | 0000 | 0000 | 0000 |
| Referred to something a professor said about the topic | | | |
| 0000 | 0000 | 0000 | 0000 |
| Subsequently read something that was related to the topic | | | |
| 0000 | 0000 | 0000 | 0000 |
| Changed your opinion as a result of the knowledge or arguments presented by others | | | |
| 0000 | 0000 | 0000 | 0000 |
| Persuaded others to change their minds as a result of the knowledge or arguments you cited | | | |

Information in Conversations

- | | | | |
|--|-------|--------------|-------|
| Very often | Often | Occasionally | Never |
| 0000 | 0000 | 0000 | 0000 |
| Job prospects, money, careers | | | |
| 0000 | 0000 | 0000 | 0000 |
| Movies and popular music | | | |
| 0000 | 0000 | 0000 | 0000 |
| Social events, parties | | | |
| 0000 | 0000 | 0000 | 0000 |
| Boyfriends, girlfriends | | | |
| 0000 | 0000 | 0000 | 0000 |
| Current events in the news | | | |
| 0000 | 0000 | 0000 | 0000 |
| Major social problems such as peace, human rights, equality, justice | | | |
| 0000 | 0000 | 0000 | 0000 |
| Different life styles and customs | | | |
| 0000 | 0000 | 0000 | 0000 |
| The ideas and views of other people such as writers, philosophers, historians | | | |
| 0000 | 0000 | 0000 | 0000 |
| Fine arts - painting, theatrical productions, ballet, symphony, etc. | | | |
| 0000 | 0000 | 0000 | 0000 |
| Science - theories, experiments, methods | | | |
| 0000 | 0000 | 0000 | 0000 |
| Computers and other technologies | | | |
| 0000 | 0000 | 0000 | 0000 |
| Social and ethical issues related to science and technology such as energy, pollution, chemicals, genetics, military use | | | |

Topics of Conversation

READING/WRTING

During the current school year, about how many books have you read? Fill in one space in each column.

Textbooks or assigned books

Non-assigned books

- ☐ none
- ☐ fewer than 5
- ☐ between 5 and 10
- ☐ between 10 and 20
- ☐ more than 20

During the current school year, about how many written reports have you made? Fill in one space in each column.

Essay exams in your courses

Term papers or other written reports

- ☐ none
- ☐ fewer than 5
- ☐ between 5 and 10
- ☐ between 10 and 20
- ☐ more than 20

OPINIONS ABOUT COLLEGE

How well do you like college?

- ☐ I am enthusiastic about it.
- ☐ I like it.
- ☐ I am more or less neutral about it
- ☐ I don't like it

If you could start over again, would you go to the same college you are now attending?

- ☐ Yes, definitely
- ☐ Probably yes
- ☐ Probably no
- ☐ No, definitely

What is your opinion about the following statement: "If students expect to benefit from what the college or university has to offer, they have to take the initiative."

- ☐ Strongly agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly disagree

THE COLLEGE ENVIRONMENT

Colleges differ from one another in the extent to which they emphasize or stress various aspects of students' development. Thinking of your own experience at this college, to what extent do you feel that each of the following is emphasized? The responses are numbered from 7 to 1, with the highest and lowest points described. Fill in the space of whichever number best indicates your impression on this seven-point rating scale.

Emphasis on the development of academic, scholarly, and intellectual qualities

- Strong emphasis 7
- Weak emphasis 1

Emphasis on the development of esthetic, expressive, and creative qualities

- Strong emphasis 7
- Weak emphasis 1

Emphasis on being critical, evaluative, and analytical

- Strong emphasis 7
- Weak emphasis 1

Emphasis on the development of vocational and occupational competence

- Strong emphasis 7
- Weak emphasis 1

Emphasis on the personal relevance and practical value of your courses

- Strong emphasis 7
- Weak emphasis 1

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