

2012

# College satisfaction among students enrolled at religious four-year colleges

Darby Young  
*Iowa State University*

Follow this and additional works at: <https://lib.dr.iastate.edu/etd>

 Part of the [Educational Administration and Supervision Commons](#), and the [Education Policy Commons](#)

## Recommended Citation

Young, Darby, "College satisfaction among students enrolled at religious four-year colleges" (2012). *Graduate Theses and Dissertations*. 12539.  
<https://lib.dr.iastate.edu/etd/12539>

This Dissertation is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact [digirep@iastate.edu](mailto:digirep@iastate.edu).

**College satisfaction among students enrolled at religious four-year colleges:  
A longitudinal study**

by

**Darby J. W. Young**

A dissertation submitted to the graduate faculty  
in partial fulfillment of the requirements for the degree of  
**DOCTOR OF PHILOSOPHY**

Major: Education (Educational Leadership)

Program of Study Committee:  
Frankie Santos Laanan, Major Professor  
Gloria Betcher  
Larry Ebbers  
Daniel Robinson  
Soko Starobin

Iowa State University

Ames, Iowa

2012

Copyright © Darby J. W. Young, 2012. All rights reserved.

## TABLE OF CONTENTS

LIST OF FIGURES .....	v
LIST OF TABLES .....	vi
ABSTRACT .....	viii
CHAPTER 1. INTRODUCTION .....	1
Background .....	1
Statement of the Problem .....	3
Purpose of the Study .....	8
Research Questions .....	10
Methodology .....	10
Conceptual and Theoretical Frameworks .....	11
Significance of the Study .....	19
Definition of Terms .....	20
Outline of Dissertation .....	21
CHAPTER 2. REVIEW OF THE LITERATURE .....	23
Overview .....	23
Retention Strategies .....	28
Student Support .....	37
Student Life .....	41
Student Engagement .....	43
Academic Support .....	45
Summary .....	49

CHAPTER 3. METHODOLOGY OF THE STUDY .....	51
Overview.....	51
Assumptions.....	51
Hypotheses .....	52
Research Questions .....	52
Research Design.....	53
Population and Sample .....	54
Survey Instrument.....	55
Ethical Considerations .....	80
Limitations of the Study.....	80
Delimitations of the Study .....	84
Summary .....	84
CHAPTER 4. RESULTS .....	86
Introduction and Background .....	86
Analyses: Part One.....	86
Analyses: Part Two .....	91
Analyses: Part Three .....	97
Analyses: Part Four.....	98
Analyses: Part Five .....	99
Summary .....	103
CHAPTER 5. DISCUSSION AND RECOMMENDATIONS .....	105
Introduction.....	105

Discussion of Results .....	106
Implications for Policy .....	115
Implications for Practice .....	118
Recommendations for Future Research .....	121
Conclusion .....	122
APPENDIX A .....	123
APPENDIX B .....	127
APPENDIX C .....	131
REFERENCES .....	140
ACKNOWLEDGEMENTS .....	149

## LIST OF FIGURES

Figure 1.1. Astin's (1975) I-E-O model.....	11
Figure 1.2. Tinto's (1993) model of student integration.....	14
Figure 1.3. Pascarella's (1985) model for assessing the effects of differential college environments on student learning and cognitive development .....	17
Figure 1.4. Clemes et al. (2007) conceptual model of university student satisfaction in higher education .....	19
Figure 3.1. Predictive model regression analysis: Overall college satisfaction (sequential hierarchical regression model).....	83

## LIST OF TABLES

Table 3.1. Other Religious Four-Year Colleges, Medium Level.....	55
Table 3.2. Dependent Variable: Campus Satisfaction: Overall College Experience.....	59
Table 3.3. Background Characteristics Independent Variables .....	60
Table 3.4. Student Activities Independent Variables.....	62
Table 3.5. Student Satisfaction Independent Variables .....	63
Table 3.6. Selected Student Goals Independent Variables .....	66
Table 3.7. Research Questions, Variables, and Methods of Analysis .....	67
Table 3.8. Factor Loadings and Reliability Coefficients of Adjustment Factors (Independent Variables).....	71
Table 3.9. Block 1 Background Characteristics Independent Variables .....	77
Table 3.10. Block 2 Freshmen Student Goals Independent Variables .....	77
Table 3.11. Block 3 Student Activities Independent Variables .....	78
Table 3.12. Block 4 Student Integration Independent Variables .....	79
Table 3.13. Block 5 Senior Student Goals Independent Variables.....	79
Table 3.14. Variables that Represent Possible Predictive Characteristics of Institutional Satisfaction .....	82
Table 4.1. Satisfaction with the Overall College Experience (n = 993) .....	87
Table 4.2. Student Background Characteristics.....	89
Table 4.3. Student Scores.....	91
Table 4.4. First Generation College Student Status Versus College Satisfaction (n = 990).....	92
Table 4.5. First Generation College Student Status Versus Sex (n = 998).....	92
Table 4.6. High School GPA Versus Degree Aspiration (n = 821).....	93

Table 4.7. First Generation College Student Versus High School GPA (n = 989).....	94
Table 4.8. First Generation College Student Versus College Activities.....	94
Table 4.9. Estimated Household Income Versus College Satisfaction (n = 990).....	95
Table 4.10. High School GPA Versus College Satisfaction (n = 909).....	96
Table 4.11. College Activities Versus College Satisfaction.....	98
Table 4.12. Paired Samples T-test for Student Goals.....	99
Table 4.13. Summary of Hierarchical Regression Analysis for Variables Predicting Student's Likelihood That They Will Be Satisfied with Their College (n =398) .....	102



## ABSTRACT

The purpose of this study was (a) to explore descriptions of students who attended selected religious four-year colleges; (b) to explore relationships between background characteristics and overall college satisfaction and relationships between college experiences and overall college satisfaction; (c) to explore changes over time with respect to the goals of these students; and (d) to explore possible predictive elements, such as background characteristics, goals, and college experiences that may influence institutional satisfaction. A CIRP survey was used to collect data concerning the background characteristics, freshmen goals, college experiences, college integration, and senior goals of students who attended religious four year colleges.

The researcher employed a hypothetical framework of student satisfaction primarily based on Tinto's (1993) theoretical framework of student integration. The hypothesized model was used to examine how selected variables—background characteristics, goals, activities, and integration—impacted student satisfaction with the overall college experience. Quantitative analysis, including descriptive statistics, correlations, paired samples t-tests, and hierarchical multiple regression, were used to analyze the data.

A hierarchical multiple regression model was used to examine the background characteristics, goals, activities, and integration that predict satisfaction with the overall college experience. The results of this study suggest that degree aspiration, student engagement activities, relevance of coursework, a sense of community, and the classroom experience impacted student satisfaction with the overall college experience. This study also revealed the need to address students who attended religious four year colleges and were categorized as first generation college students.

The study may be replicated in other two or four year institutions to explore impacts on student satisfaction. In addition, it is imperative that policymakers, faculty, and staff understand the factors that can influence student satisfaction and possibly student retention.

## CHAPTER 1. INTRODUCTION

### Background

In the middle of the campus of a small, four-year, private college in the Midwest stands a lonely monument. Located between the library and the administrative building, it would be difficult for any student not to notice it. Standing about 15 feet tall, this narrow pyramid at first appears to be unfinished. Vertically, it is separated into four sections. The base of this pyramid is quite incomplete, with gaping holes and random cracks. As observers move their eyes up the structure, each section appears to be more complete and stable. Finally, the top section of the pyramid appears very sharp and whole.

This pyramid represents a student's academic progression toward a bachelor's degree in an institution of higher learning. Typically, a freshman student has general goals (represented by the bottom section) and may be exploring options. The student may have many unanswered questions, represented by the foundational gaps and cracks. As the student progresses toward degree completion, the goals become narrower and more focused, and the student appears to be on a clear path.

An excellent analogy, this monument shows that many risks and pitfalls lie in the path of students, especially during their first two years of college. If a student is to "reach the top" and graduate, his/her support and goals need to become more focused and concrete, lest the student leaves the institution or, possibly, leaves academics altogether.

This pyramid may also serve to remind institutions of higher learning of two challenges. First, the foundation is not whole; a student's life has much uncertainty. Second, the top of the pyramid is smaller than the bottom; as a freshman class progresses through college, the overall enrollment typically shrinks.

Whether one chooses to visualize the pyramid as a representation of one student's academic life or as a representation of the academic lives of a whole group of students, it does depict a challenge that many institutions face every day as it pertains to student enrollment (Tinto, 1993). Higher education institutions have discovered that a more overall cost effective way to maintain enrollment is through retention as compared to recruitment (Tinto, 1993).

Considering the importance of student retention on an educational institution's overall enrollment, it may be surprising that most institutions do not seem to take retention as seriously as they should (Tinto, 1993). Tinto (1993) claimed that most institutions treat retention as a part of a variety of other programs. They see it not as a program in itself, but Tinto suggested that it should. Because student retention remains one of the most important topics in higher education as well as one of the most complicated topics to understand, a new perspective on retention is needed. One major factor that figures into student retention is institutional satisfaction (Tinto, 1993).

Many theories regarding retention exist (Astin, 1975; Pascarella & Terenzini, 1977; Tinto, 1993), with each considering varied inputs. Examples of these inputs may be attributes of the student, experiences of the student, or attributes of the general environment. The outcomes of these theories vary as well: (a) course completions, (b) degree completions, (c) general persistence, or (d) general satisfaction with the institution. This study will attempt to analyze multiple student inputs as they relate to the students' satisfaction with their most recent colleges.

### Statement of the Problem

Many colleges see increased competition and rising educational costs as threats to their undergraduate enrollment goals. If enrollment slips, tuition may have to increase to maintain fiscal responsibility. If tuition increases, the burden of recruiting new students and retaining current students may become a slippery slope which any institution would want to avoid. In 2000, the rate of retention at one Midwestern college hit an all-time low of 63%, but later increased to over 74% by 2007. Though an improvement, the goal must be to continue to improve upon this rate (Reynders, 2007).

Reynders (2007) pointed to a number of factors he believed led to the improvement of retention of first-year students at that college. The overall orientation experience had been enhanced by incorporating activities for specific student cohorts. Also, new first-year classes were introduced which included the college's unique Passport seminar and its necessary Composition and Communication course.

The college currently has three key retention-related requirements for graduation. Students must complete the Passport: First-Year Seminar for four credit hours. It provides a foundational experience for students as they make the transition from high school to college. The instructor for each section also serves as the principal advisor for the students in that section. Topics covered in this course include basic academic skills such as writing, study skills, and critical thinking. Generally, the course is designed to assist the student to successfully adjust to college academically and, to a lesser extent, socially (*Morningside College Catalog*, 2008).

A second requirement for graduation is the completion of a four-credit course called Composition and Communication. The college has designed basic pre-requisites for this

course. Students who score a 19 or below in English or reading on their ACT exam or who do not have a recorded ACT score (or equivalent) are required to participate in a placement test. A successful score on the placement test allows the student to enroll in the Composition and Communication course which is designed to establish a college-level foundation in writing and public speaking (*Morningside College Catalog, 2008*).

The college has also established the required “May Term,” the time on the school calendar that falls between spring term commencement and the beginning of the summer term, generally comprising the whole month of May. Students are offered an opportunity to experience innovation or experimentation in academics through courses that are unique and exclusive to May Term. These courses typically are four credits and last for three weeks. It is not uncommon for a May Term course to include extensive travel (*Morningside College Catalog, 2008*).

Other than typical graduation requirements common to all colleges—such as grade point average requirements or residency requirements—these three requirements focus on foundational academic skills and cultural courses that supplement social skills and involvement. Tinto (1993) mentioned the importance of these attributes when attempting to retain students. To complement this initiative, the college encourages faculty of these courses to continually rethink pedagogical approaches for a stream of continuous course improvement, as well as the improvement of first-year advising.

At big risk for first-year students is their academic performance. The college implemented an early warning system not only to the struggling students, but also to the faculty and first-year student advisors. This led to a meaningful prevention of dropouts in

most cases. Because students tend to relate more to their own peer group (Tinto, 1993), the college also nurtured a peer mentoring program for the students.

All of these programs fall in the venue of the college's Academic Support Services Center (ASSC). Its mission is to:

assist students in developing the skills and strategies to become confident, independent learners, to adjust to the college learning environment, to strive for academic success and personal growth by enhancing students' learning potential, and to encourage students to become life-long learners. (*Morningside College Catalog*, 2008, p. 22)

The college acknowledges that challenges still exist. First-year advising is one such challenge. The limited faculty and staff resources create the struggle for balance between advising the freshmen and advising the rest of the students in the faculty's own disciplines. An estimated 25% of the college's freshmen have not declared a major by the time they start college and are exploring interests through general education courses (Reynders, 2007). Two possibilities have helped to alleviate this problem. First, the Student Services department hoped to relieve the pressure on first-year students with the new Exploring program designed to help students with undecided majors. The Exploring program was established in the 2008-2009 academic year, and students who were identified as having an undeclared major were placed in the program. Two sections of Passport courses were involved with an enrollment cap of 20 students. Along with regular course content, particular attention was given to career and major exploration by using the Discover survey instrument. Until a major is declared, students are placed into an interdisciplinary major (*Morningside College*

*Catalog*, 2008). At the end of the first year, none of the participants in the Exploring program had left the college.

The college also explored the possibility of hiring first-year advising specialists. This would allow the faculty to focus more on mentoring their advisees than on scheduling courses for freshmen, which could be handled by the first-year specialists (Reynders, 2007).

Another challenge for the college was to re-evaluate the expectations for 100-level courses. Five points were given:

1. Students' absences should be actively addressed. If an excessive pattern emerged, then the instructor would notify not only the student, but also the student's advisor and Student Services.
2. It is recommended that students should meet with their instructors outside of class, especially during the first half of the term. Students are more likely to stay with their institution if they are engaged by their professors outside of the classroom (Tinto, 1993).
3. The instructors should be encouraged to explore different teaching and learning styles in the classroom.
4. The instructors are encouraged to use a diverse set of grading units. This should promote student engagement and course rigor with frequent assignments, projects, and presentations in addition to attendance and exams.
5. Instructors are encouraged to provide feedback to students early and often (Reynders, 2007).

Enrollment numbers are the result of good recruitment and quality retention. With a focus on recruiting, attention also needs to be directed to the opportunities of successful



retention, leading to a healthy balance of student enrollment. Overall, student satisfaction with the institution must be maintained.

A study based on the results of the Cooperative Institutional Research Program's (CIRP) freshmen survey given during the fall in 2004 at this college was conducted. In this study, a freshman was defined as an incoming student who is new to the college and has less than 30 credit hours. The purpose of this study was to prepare a background to the venue of retention.

The important reasons that students chose to attend the college tended to reside in areas such as the academic reputation of the college, the fact that they received financial assistance, the perception that the college's graduates get good jobs, and that they simply visited the campus (Young, 2008). Tinto (1993) suggested that campus visits are a likely reason students would consider attending a college.

The frustrating observations with this study supported previous results regarding retention (Kuh & Gonyea, 2006; Sax, Astin, Korn, & Mahoney, 1997; Tinto, 1993; Zhang, Chan, Hale, & Kirshstein, 2005). In short, there was no one factor that could consistently point to retention related outcomes. The best predictor of student satisfaction was the college's aesthetic appeal.

Like many higher education institutions, this college also participates in the CIRP's College Senior Survey (CSS) on a rotational basis. Because the freshmen survey and the CSS are both conducted by the same program, CIRP, the data may be connected for further study on student satisfaction. It may be suggested that a longitudinal study be conducted, encompassing similar students who participated in both surveys. As a piece of the retention

equation, a longitudinal study based on data from a CIRP study may help determine important aspects of student satisfaction.

### **Purpose of the Study**

The purpose of this study was to determine the various influences of student satisfaction with their respective institutions by conducting a quantitative analysis study using a secondary dataset. More specifically, this study explored the:

- descriptions of students who attended selected religious four-year colleges,
- relationships between background characteristics and overall college satisfaction,
- relationships between college experiences and overall college satisfaction,
- changes over time with respect to the goals of these students, and
- possible predictive elements, such as background characteristics, goals, and college experiences that may influence institutional satisfaction.

Much research has been done to determine why students choose to leave an institution (Kuh & Gonyea, 2006; Sax et al., 1997; Tinto, 1993; Zhang et al., 2005) or why they would be dissatisfied. Tinto's (1993) theory of student integration/student departure provides a framework to help determine causes of dissatisfaction and persistency.

Colleges admitted inconsistency in the results of their exit interviews. Reasons for dissatisfaction were plentiful, but a common theme was elusive, and a recommendation to prevent attrition could not be formulated (Tinto, 1993).

Colleges attempted to capture as much information from leavers (students who decided to leave college) as possible in the form of an exit interview. Regardless of the students' intentions, colleges encouraged its leavers to pre-register for the following term to keep their options open. Occasionally, this strategy worked. The data from these interviews

included such information as the academic year they left (e.g., freshman, sophomore), the reason they left, and the institution they were transferring to, if appropriate.

Though some trends eventually emerged, it was too early to discover specific reasons why students chose to leave their respective college. If the exit interviews were conducted consistently and persistently, the data may become more meaningful. After attempting to consolidate the reasons students chose to leave, the categories may still appear numerous. It may be virtually impossible to anticipate all of these challenges and prevent the students from desiring to leave.

Another potential problem with this tactic existed with the validity of the data. Students may report one reason while concealing the true reason for leaving an institution. It was virtually impossible to discover the true reason a student may leave. The challenges of solving this mystery appeared monumental. The answers to the causes of dissatisfaction were elusive. It may be easier, however, to discover specific as well as valid reasons why a student was satisfied with an institution and, therefore, chose to stay.

Research was difficult to find as to why students chose to stay. If a student made it to their junior year, they were most likely going to be a completer (a student who graduates) at the same institution (Tinto, 1993). Seniors were even more likely to stay at the same institution than juniors (Tinto, 1993). By focusing this study on seniors, it is likely that the cases resulted in completers. From this group, many hypotheses regarding institutional satisfaction may be substantiated.

### **Research Questions**

The research questions in this study will help to discover the makeup of the students who attend religious four-year colleges and the factors that influence their satisfaction with their respective institutions. The study attempted to answer the following questions:

1. What are the background characteristics of students who attend selected religious four-year colleges?
2. Is there a relationship between student institutional satisfaction and background characteristics?
3. Is there a relationship between student institutional satisfaction and college experiences?
4. Are there any significant changes over time with regard to students' goals from their freshmen year to their senior year?
5. What background characteristics, pre-college experience goals, college academic activities, college general activities, student integrations, and post-college experience goals predict students' overall college satisfaction?

### **Methodology**

A quantitative approach using survey research was used to answer the research questions. Descriptive statistics were used to explore the background characteristics. Various correlations were used to determine possible relationships between experiences and background characteristics and college satisfaction. Paired samples t-tests were conducted to determine any changes over time with respect to goals. In addition, a multiple regression analysis was conducted to study possible predictive elements as related to college satisfaction.

## Conceptual and Theoretical Frameworks

A number of theories have been developed when assessing various results regarding student outcomes such as persistence or satisfaction (Aitken, 1982; Astin, 1975; Clemens, Gan, & Kao, 2007; Pascarella, 1980; Pascarella & Terenzini, 1977; Tinto, 1993). Many of these theories may be applied when analyzing student satisfaction as an outcome.

### Astin's Input-Environment-Output Assessment Model

Astin's (1975) Input-Environment-Output (I-E-O) model provides a conceptual framework that is useful for a longitudinal research study. The inputs can be represented by a student's background characteristics or traits that are present before any college experiences. The environment can be represented by the exposure to the student at the college. Environmental impact on a student covers a wide range of possibilities including living experiences, academic experiences, social experiences, or access to various organizations. Finally, the outcomes can be represented by the skills the student may have learned as a result of the inputs and the environment. The model for Astin's theory is presented in Figure 1.1.

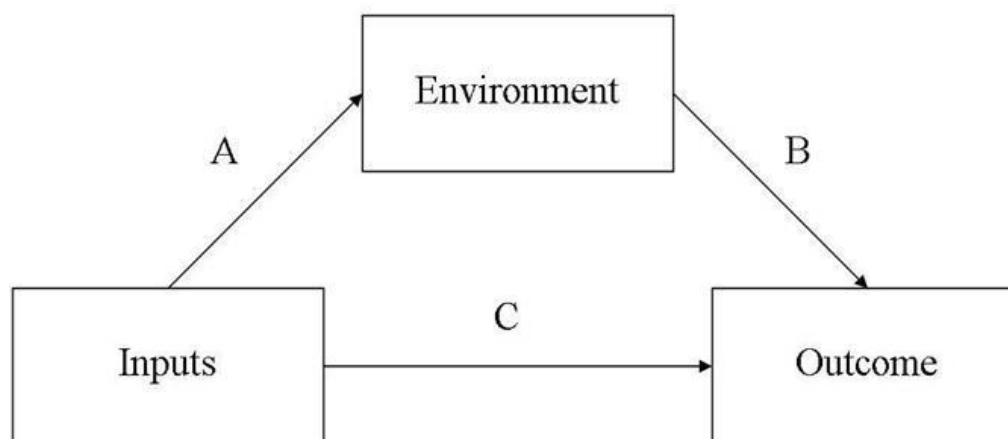


Figure 1.1. Astin's (1975) I-E-O model

It is important to understand the meaning of the relationships represented by A, B, and C. Because the student inputs represented by A and C are related to both the outcome and the environment, they can also affect B (the relationship between the environment and the outcome). Therefore, relationship C (the student's unaffected background) can provide a control for the environmental impact as represented by relationship B.

### **Tinto's Model of Student Integration**

Tinto (1993) offered an intriguing theory on retention with the Longitudinal Model of Departure from Institutions of Higher Education (Theory of Individual Departure). Tinto identified a number of past theories on student retention that were based on many different ideas, such as economics, sociology, or history (1993). What all the theories agreed on was that there was no clear-cut cause and effect for student attrition. Generally, all of the theories played an important part in determining reasons students chose to leave (Tinto, 1993).

For example, financial considerations seemed to be a deciding factor in whether a student stayed at an institution. Indeed, it was a consideration, but many studies showed that it was a secondary factor in most cases. Students may have cited financial reasons for leaving, but usually it was a cover for another reason upon which they chose not to elaborate. Studies have also shown that if a student was committed to an institution, they would stay despite possible financial burdens (Tinto, 1993).

Tinto's theory was partly derived from Arnold Van Gennep's (1960) work, *The Rites of Passage* (as cited in Tinto, 1993). This theory may be applied to many situations, including retention. Van Gennep's sociological theory stated that there are three separate phases people move through when advancing from one stage of life to the next: (a) separation, (b) transition, and (c) incorporation (Tinto, 1993).

As it applies to the student, the stage of separation begins when the student has decided to attend an institution and may take a while to develop. The student physically separates from not only past physical surroundings but also past norms, behaviors, and intellectual styles (Tinto, 1993). The separation may be literal and symbolic and may be difficult depending on the level of support that is available from the surrounding people, such as family or friends. Sometimes the transition may be shared with a friend who is following the same path.

In the case of a student who attends a local college and remains at home with the family, the separation may be difficult or not happen at all as the physical surroundings do not change. On the other hand, the support of the family may encourage the separation on an intellectual level.

The second stage, transition, may occur after or even during the separation stage. The difficulty of the transition phase depends on the degree of the change the individual needs to endure. A vastly different culture and physically distant transition may prove to be too much for a student while attending college. However, a college whose norms fall in line with the student's familiarities may be a very pleasant transition (Tinto, 1993).

The final stage, incorporation, defines the moment when either the student is accepted by the new group or the student accepts the new environment. This may be accomplished through established organizations such as fraternities or residency associations, extracurricular programs, or even daily routines. In other words, the student cannot complete this stage without external help (Tinto, 1993).

Until the student reasonably completes all three of these stages, there will be a risk of the student leaving an institution because there is a lack of acceptance of the new

environment. Only by fostering the student through all three stages will an institution minimize its challenge of student attrition.

As it stands alone, however, the theory appears to be incomplete. Tinto (1993) recognized that even though Van Gennep's theory may have the right foundation, it needed to be molded specifically to student retention. His theory integrated a number of dichotomies such as academic and social, formal and informal, and internal and external factors. He also added the variables of a student's intentions, goals, and commitments. These added variables were applied to Van Gennep's first stage of separation and again to the third stage of incorporation (Tinto, 1993). The model for Tinto's theory is presented in Figure 1.2.

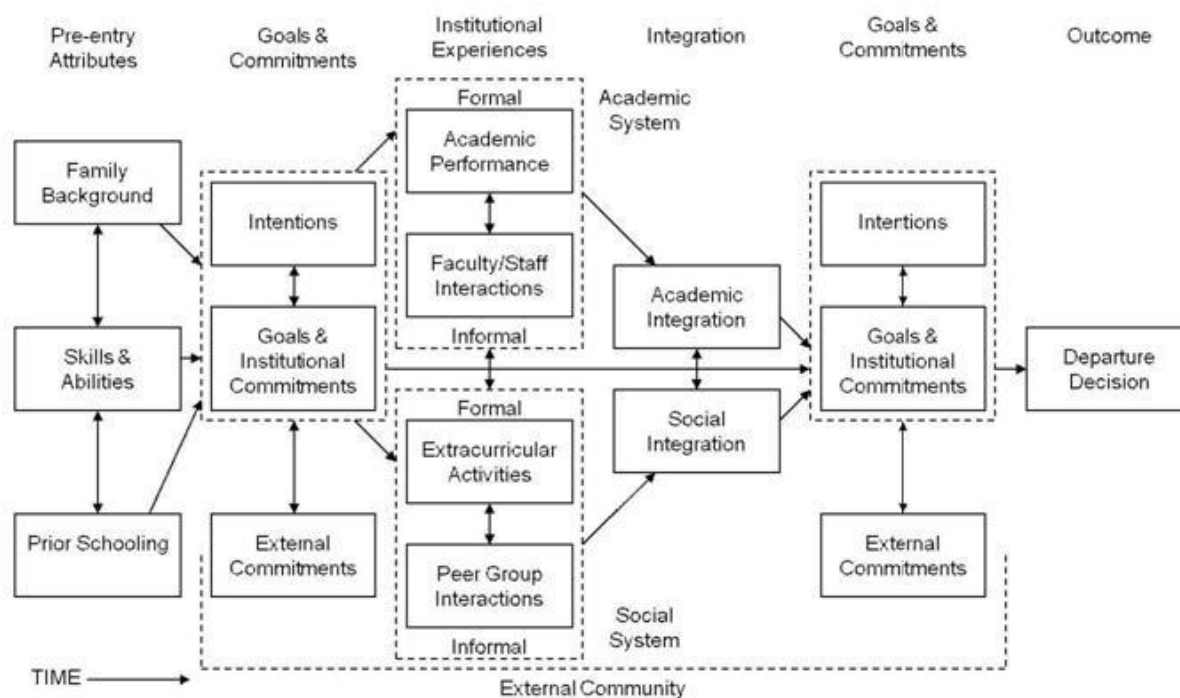


Figure 1.2. Tinto's (1993) model of student integration

This longitudinal model begins with the phase of Pre-Entry Attributes by taking a look at the student's background, which may include personal attributes such as sex, age, and ethnic background. It may also include the student's family background, socio-economic



status, and parental education. The student's prior schooling, skills, and talents also factor into the model. For example, if a student enters into college with a head start of college credits earned while in high school, this will lighten the academic burden the student will face at the institution.

The next phase, Goals/Commitments, explores the student's possible intentions, goal commitments, and institutional commitments. A goal may be set high or low, while a commitment to that goal may be high or low (Tinto, 1993). He suggested that a commitment may be a better indicator than simply setting the goal. This may be likened to how an individual holds a particular norm. Students who maximize their own efforts tend to have high norms (or commitments) and are more positively motivated to complete college. This phase also considers external commitments to represent the factors the student faces outside of the college.

The third phase, Institutional Experiences, begins the transition phase Van Gennep posited. This phase includes four categories on two axes: academic and social; formal and informal. Under the academic system, the formal category is represented by academic performance (e.g., grades, attendance, participation), while the informal category is represented by faculty or staff interactions. Under the social system, the formal category is represented by extracurricular activities (e.g., Greek systems, intramural sports), and the informal category is represented by peer group interactions.

The fourth phase, Integration, is the result of the previous stage. The level of academic or social integration is determined by the level of participation as well as how positive were the experiences. A student with more overall positive experiences is more likely to integrate into the college. To emphasize the point, Tinto (1993) stated that an

institution with a balance between academic and social activities leads to a positive experience. If a student has a negative academic experience but a positive social one, they are likely to depart. The converse is also true for a bright student to have no social interaction. They also are likely to depart.

The fifth phase, Goals/Commitments, revisits the second phase of the same name. This phase, however, is observed after the student has been exposed to the college experience. In many cases, the goals and commitments may have changed for better or worse. It should also be noted that the external factors still apply. These factors may promote or impede the college experience and, therefore, have an impact on the decision of the student to leave or stay (Tinto, 1993).

The final phase, Outcome, is comparable to Van Gennep's last stage of incorporation. Quite simply, if the student successfully completed the three stages, then the student is likely to persist at the institution. In other words, if the student experienced Tinto's model with a positive experience overall, then the student is likely to remain at the institution.

Tinto (1993) summarized that positive integration strengthens one's commitments and his/her likelihood to remain. The lower the degree of one's social or academic integration, the higher the likelihood that the student will depart from the institution.

### **Pascarella's Model for Assessing Change**

Pascarella (1980) developed a causal model that suggests that outcomes are the result of five sets of variables: the student's background/precollege traits, college structural/organizational characteristics, college environment, interactions with peers and faculty, and the quality of the student's effort. The model for Pascarella's theory is presented in Figure 1.3.

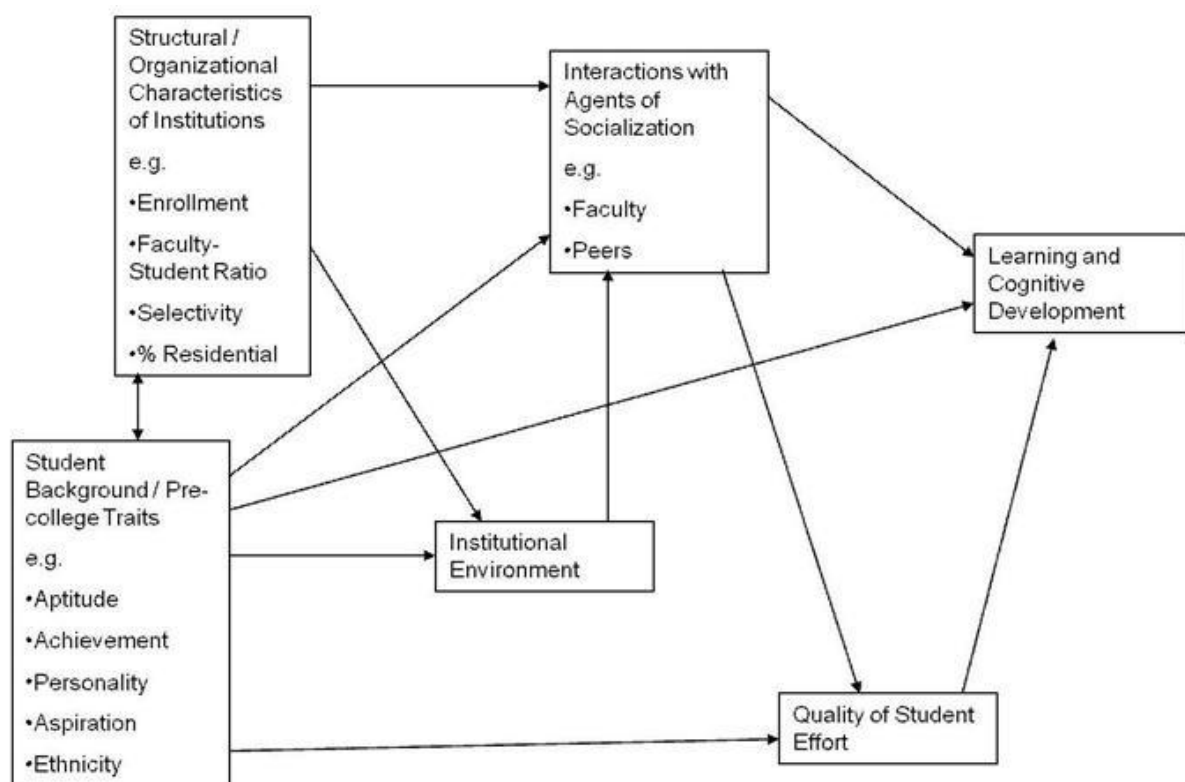


Figure 1.3. Pascarella's (1985) model for assessing the effects of differential college environments on student learning and cognitive development

Pascarella's (1980) model was not as linear as the previously mentioned models. He suggested that the outcomes of this model may be impacted directly or indirectly by the five variables. For example, institutional environment (e.g., it rains frequently) may serve as an intermediary between a student's background characteristics as it relates to the student's quality of effort (e.g., a student will attend class). A student's quality of effort, however, may also be impacted directly by the background characteristics of the student (e.g., the student likes to sleep) outside of the college environment. The student may not attend class because it is raining, because the student is too tired, or because of both conditions.

Ultimately, however, a student's outcome is affected by all five variables whether the impact is direct or indirect.

### **Aitken's Model of College Student Adjustment and Retention**

Aitken (1982) developed a retention model that factored in variables represented by three major categories: academic satisfaction, living satisfaction, and academic performance. He considered factors that were determined within the model, factors that occurred outside of the model, and factors of random error.

This model, though complex, followed the basic principles of the previous models and applied them linearly as a mathematical formula. A student's background characteristics were empirically considered as outside factors. Institutional attributes and student experiences were considered as inside factors. The likelihood that a student would be retained by an institution was the result of the sum of the model's factors. The higher the result, the more likely a student would be retained (Aitken, 1982).

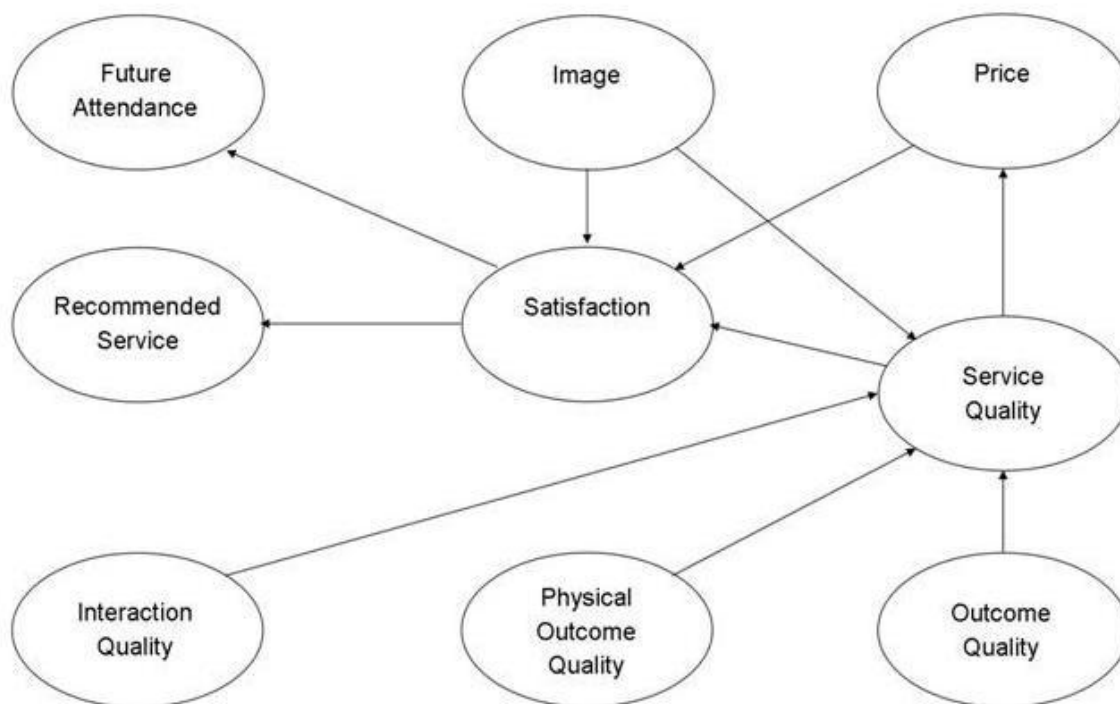
### **Conceptual Model of University Student Satisfaction in Higher Education**

Clemes, Gan, and Kao (2007) developed a hierarchical satisfaction model that began with three general categories and ended with two main outputs. The input variables were Interaction Quality, Physical Environment Quality, and Outcome Quality. Each of the main input variables were broken down into sub-sets.

Interaction Quality included categories such as personal interaction, attitudes and behaviors, course content, and accessibility. Physical Environment Quality included categories such as library facilities, computer room facilities, campus layouts, and social factors. Outcome Quality included categories such as general education, vocational preparation, information technology, and intellectual development (Clemes et al., 2007).

Intermediate variables within the model included Service Quality, Price (or cost), Image, and Satisfaction. Each of the inputs would directly or indirectly affect the next level

of variables and trickle down to the ultimate outputs. The two outputs were identified as recommending the institution to others and future attendance (Clemes et al., 2007). The basic concept of this model is presented in Figure 1.4



*Figure 1.4.* Clemes, Gan, and Kao's (2007) conceptual model of university student satisfaction in higher education

### **Significance of the Study**

This study will help religious four-year colleges determine specific strategies to increase student satisfaction and possibly retention. Because this study is specific to this sector of higher education, it becomes significant to those institutional participants. More broadly, this study may have meaningful applications for other four-year, private institutions across the country. It may even have implications in the area of recruitment and retention for higher educational institutions in general.

The challenge of retention does not end at the freshman year (Tinto, 1993). Colleges do recognize the need to address the problem during the second year, as well. It is understood that the lack of attention to the sophomore student antagonizes retention (Schreiner & Pattengale, 2000). Overall, the problem of retention seems to be best solved by focusing on the first and second year students.

This study may reveal avenues to help remedy retention problems or perhaps even prevent them. By discovering predictive elements, colleges may invest further resources into positive attributes while seeking ways to reduce negative attributes as they relate to student satisfaction, attrition, retention, and graduation rates.

### **Definition of Terms**

The following definitions were used for the purposes of this study:

*CIRP*: Cooperative Institutional Research Program

*Completer*: A student who completes a college bachelor's degree

*CSS*: College Student Survey (Senior Survey)

*Drop out*: A student who leaves college

*Four-year schools*: Colleges that offer the Baccalaureate degree

*Freshman*: A student attending college with less than 30 earned credit hours, and who has participated in the 2001 or 2002 CIRP Student Information Form (SIF) survey conducted in the fall

*Involved student*: A description of student engagement; a student who indicated he/she participated in events or engaged others

*Medium schools*: Colleges that maintain an enrollment range of 1,040–1,109 full-time students

*Other religious schools:* Colleges that are faith-affiliated and non-Catholic

*Persistence:* Student continues in college without skipping a term

*Satisfied student:* One who answered on the SIF that they were either “very satisfied” or “satisfied” regarding their overall college experience

*Senior:* A student who has participated in the 2005 or 2006 CIRP College Student Survey (CSS)

*SIF:* Student Information Form (Freshmen Survey)

*Unsatisfied student:* One who answered on the SIF that they were either “neutral” or “dissatisfied” regarding their overall college experience

### **Outline of Dissertation**

This study’s goal is to contribute to the body of research that pertains to student retention, student engagement, and overall student satisfaction. Ultimately, this study seeks to aid institutions that strive to have more degree completers and to reduce the number of college drop-outs.

Chapter 2 summarizes the literature on student retention and student satisfaction. The literature review is broken down into sub-sections to frame the perspective of student satisfaction from its various attributes of the college experience.

Chapter 3 demonstrates the quantitative methodology used in designing and implementing this study. The study’s assumptions, hypotheses, and research questions are presented. Descriptions of the survey instrument, the population and sample, variables, and method of data analysis are given.

Chapter 4 is an overview of the results of the study. Reports on the various statistical tests are presented. Descriptive statistics of the background characteristics of the student

participants are shown here. Results of the *t*-tests as well as the multiple regression analysis are also shown.

Chapter 5 interprets the research and offers conclusions. Recommendations for policy and practice are proposed. Finally, future research may be suggested to further knowledge in this area.



## CHAPTER 2. REVIEW OF THE LITERATURE

### Overview

Twenty-five years ago, Tinto (1993) reported estimates that more than 50% of students left their first college. They may have transferred to another institution, decided to take a break from education, or even decided to terminate the pursuit of a college degree altogether. Of the 2.4 million students, 1.5 million left their first institution, and 1.1 million of those left education in general (Tinto, 1993).

In a study four years later, incoming freshmen indicated a different leaning (Astin, Korn, Mahoney, & Sax, 1997). As a weighted national norm, 1.1% of freshmen indicated that chances were likely that they would drop out of college temporarily. The same study showed that 0.8% indicated they were likely to drop out permanently. Finally, almost 11% indicated they were likely to transfer to another institution (Astin et al., 1997). This was what freshmen were predicting about their future and was, therefore, only a possibility. On the other hand, Tinto's information from 1993 was not based on freshmen self-speculation. Because of this observation, it may be likely that the retention challenge is larger than was first realized.

These observations were supported in a study conducted by Stover in 2007. Ninety-five percent of incoming freshmen were overwhelmingly enthusiastic about graduation, yet less than half actually followed through within five years (Stover, 2007). This study suggested that students possessed poor study habits even though their intentions were good. It also suggested the need for a comprehensive and collaborative institution-wide retention program (Stover, 2007).

One of the challenges to the retention problem was the need to effectively cater to at-risk students once they arrived at an institution. An at-risk student may be defined as being from a low-income household, having a disability, or being a first-generation student (Zhang et al., 2005). The students' success in college was at-risk because of these barriers over which they had no control. The perspective of such students may have been that their futures were predestined as a result of their socio-economic background, their associations, or their parents' expectations (Zhang et al., 2005).

When an institution feels impotent about trying to determine causes of student attrition, it may help to know that a recent study suggested that most students drop out not because of institutional factors, but rather because of specific student issues. The study , however, did state that available financial aid and student fit may also be significant causes of student attrition (Heldman, 2008). These areas should be explored in more detail.

A number of strategies have been developed to accommodate at-risk students and, therefore, to help alleviate student attrition. One method is to design a cluster-schedules program which promotes student engagement. Another is to establish a peer-counseling program to help students get off academic probation. Finally, the option to change a program to a liberal arts major allows for students to leave an existing program without leaving the institution (Santa Rita & Scranton, 2001).

Goals were set along these guidelines to promote persistence through course completion instead of dropping, to control student attrition by monitoring retention term by term instead of year by year, and generally to promote goal setting and goal keeping (Santa Rita & Scranton, 2001).

Another study involving the effects of a mentoring program showed that grade point averages (GPA) and retention improved for students who were involved in a mentoring program versus those who were not (Moman, 2002). In this study, the students who were at the extreme end of the scale in age (15–19) benefited the most from the program on these same measures (Moman, 2002).

It is rare to see a post-secondary institution lacking an orientation program. A study was conducted to see if a freshman orientation course would affect the student outcomes as related to their GPA and whether they would remain at the institution. Surprisingly, the GPA did not seem to be affected in this qualitative study through the interview results, but the students who attended the orientation were more likely to stay at the same institution (Robles, 2002).

In 2002, Tinto focused on the first year experience and provided a snapshot of where higher education seemed to be regarding student retention. He suggested that most colleges do not take student retention seriously. Instead of a topic in its own right, institutions addressed retention as a sub-group within various other departments. When retention is viewed as a problem, the institution responded to it in a reactionary manner. They focused on the remedy instead of the prevention, giving the appearance of a low priority and, if perception was reality, then the problem of retention was not seriously addressed (Tinto, 2002).

In order to turn the reactionary tactic into a sound preventative strategy, Tinto (2002) suggested that institutions first must recognize the need to embed the retention strategy into the foundations of the institution, referring to the “character” of the school. This may be present in the philosophies of the institution and also the literal physical aesthetics of the

campus, such as the classrooms, laboratories, and dormitories (Tinto, 2002). The theory is that, although the institution cannot directly control the student, it can directly control their environment. In this way, they can communicate a commitment to the experience of the student and indirectly control or influence the student's commitment to the institution.

Tinto (2002) mentioned five conditions that may positively affect student retention: (a) expectations, (b) support, (c) feedback, (d) involvement, and (e) relevant learning. If students perceive high expectations have been set for themselves, they are more likely to persist and graduate. A harsh reality, Tinto pointed out, is that "no one is drawn to sub-standard goals. The expectations need to meet two requirements: (a) they must be clear and understandable, and (b) the expectations need to point to a goal or a series of goals that may be academic and/or personal.

As intuitive as it may sound, students are likely to succeed if they have an acceptable support system. The two primary areas of support for students are academic support and social support. A predominant challenge for students is the fact that many are not prepared for the rigor of academic work in the college setting. Support systems for students may present themselves in the form of study groups, tutoring, and supplemental instruction. The second area of support lies in the social well-being of the student. In many cases, students find themselves as a minority in a new environment and need to find a social structure into which they fit. One student issue that may be overlooked is harassment by peers, specifically for students of gay or lesbian sexual orientation. This is indeed a serious issue to be addressed in areas that go beyond (and include) student retention (Mitchell, 2007). To remedy these challenges, students may turn to counseling, mentoring, or possibly ethnic student centers (Tinto, 2002).

A third condition is in the area of feedback. The most widely used form of feedback provided to students is a form of an early warning system so they may appropriately and promptly react to a possibly negative outcome. Feedback may be introduced on a holistic level as a course or on a smaller level, perhaps on a daily basis. Though this concept of feedback predominantly addresses the student's academic performance, it may also be used to assist the student's social experiences, such as in student housing (Tinto, 2002).

The level of a student's involvement correlates to the likelihood of persistence. Student engagement, which will be discussed further, is particularly important during the first year of college, and is as important academically as it is socially. It is in this area that learning communities lend themselves to promote student involvement (Tinto, 2002).

Finally, in order for the student to persist, an environment of relevant learning must be present. Not only should students be interested in what they learn, they should also find value in their experiences. The idea of relevant learning may be illustrated by a group of diverse students from different backgrounds coming together in the spirit of a common interest or a common goal. This sense of community cements their purpose and promotes their persistence (Tinto, 2002).

Tinto's (2002) primary suggested solution to these challenges is in the promotion of learning communities whose academic and social significance encourage the five conditions previously mentioned. Tinto (2002) also suggested that learning communities provide shared knowledge, shared knowing (the experience of learning), and shared responsibility. Students are likely to persist as a group more than as individuals. The group is stronger and is connected by a common goal that gives purpose to their experience.

A final suggestion from Tinto (2002) was to integrate the “freshmen seminar” into other courses rather than present it as a stand-alone experience. Similar to the idea of a learning community, this integration idea provides strength with common goals, common purpose, and common meaning.

### **Retention Strategies**

In 2001, Santa Rita and Scranton conducted a study on retention at the Bronx Community College in New York City. This study included the implementation of a strategy that produced outcomes. They designed three levels of goals to be achieved, each progressing to a larger venue. The first goal was for course completion. The second goal was for term-to-term retention or term completion. The final goal was for degree completion. Each goal could only be successful if the previous one was met (Santa Rita & Scranton, 2001).

They defined their terms for clarity. A student who temporarily left the institution was deemed a “stopout” while a “dropout” was a student who permanently left. A “dropout” may convert to a “stopout” if re-enrollment occurs. The term “at-risk student” is so widely used that they decided to make clear distinctions to define this term. The “at risk” student may meet any of the following criteria: (a) failure to meet the minimal standards based on placement tests to enroll in college-level courses, (b) placement on academic probation, (c) placement on suspension waivers or re-admits after suspension, (d) maintaining a cumulative GPA below 2.00 on a 4.00 scale, and (e) facing non-academic barriers to success, such as financial difficulties (Santa Rita & Scranton, 2001).

Excellent profiles of students who are unlikely to persist fall into two categories: at-risk students or undecided students. The at-risk student profile was defined as a student

who possesses an expectation of failure, possesses an unrealistic self-appraisal, possesses a lack of familiarity with academic requirements, is a first-generation college student, or may lack a peer group/role model. The undecided student profile was defined as a student who has too many interests, lacks understanding, cannot make decisions, possesses little career research or guidance, or may lack interest (Santa Rita & Scranton, 2001).

For at-risk students, the suggested strategy is to provide a comprehensive and strong support system such as a Freshmen Academy (Santa Rita & Scranton, 2001). This academy would possess many traits, such as a cluster-scheduled program led by faculty and counselors. An academic early-alert system would be included. Exclusive study groups with various support services would be present. Because students are likely to persist if they attend school for two consecutive terms, the academy would last no less than two terms. Finally, it is imperative that a computer literacy course be included in this academy (Santa Rita & Scranton, 2001).

Undecided students would be assisted by helping them focus on career goals. By examining students' interests, abilities, and values, their goals may become clearer. If these areas are assessed properly, then a student is likely to focus on an area of interest and, therefore, declare a major (Santa Rita & Scranton, 2001).

The strategy designed for students who are on academic probation differs because these students may leave college involuntarily, although their perceived desire to be in college may not be for academic reasons. These students would work with a peer-counseling program to determine the GPA goal to be removed from probation, to finish any incomplete grades, and allow a major change option to a generic degree, such as a liberal arts program (Santa Rita & Scranton, 2001).

Students who are readmitted into the institution are essentially on a “last chance” basis and need special attention to avoid becoming a drop-out. The goal of this strategy is for the student to avoid a permanent suspension. These students are often referred to as “second-chance” students (Santa Rita & Scranton, 2001). The strategies are similar to those employed for students on academic probation. The requirements for the second-chance students are more stringent, for example, the student cannot receive a grade lower than a C regardless of the GPA.

Retention strategies introduced here also emphasize collaboration with academic faculty and the counseling relationship in the classroom. By participating in curriculum days, faculty lend their support to students and show their commitment to the students’ goals. Faculty also can provide an important tool in the feedback they report regarding students who happen to drop out. Finally, by integrating a counseling element into the classroom, the combination of academics and counseling help develop a relationship with the students (Santa Rita & Scranton, 2001).

Stover (2007a) echoed this idea of collaboration. Four factors emerged from her observations of a successful strategy at Dakota State University. First, student success requires efforts from all departments across campus. Second, clear communication is vital when relaying and designing measurable goals. Third, a level of risk-taking and innovation should be mixed into the efforts. Finally, the group steering the retention strategies must have iron-clad college support (Stover, 2007b).

These strategies appear quite sound, and it would be beneficial to witness the results of these practices in this venue to see if they worked or if they needed to be changed. Like most retention studies, this focuses on why the students left the institution and what attempts



were made to remedy that issue. It is suggested that the researchers also approach the problem by examining the students who were not at-risk or undecided and therefore completed a degree. By determining why the students stayed, a reverse approach may work just as affectively.

Tinto (2007) fell in line with theories and strategies on retention. He noted that many years ago theories on retention were based on psychological ideas. But now, the relationship between the academic environment, the social environment, and the individual defined the basis for retention theories (Tinto, 2007).

The topic is complex, and the answers are elusive. Tinto (2007) provided three lessons that may help pinpoint answers to the questions of retention:

1. It is one thing to understand why students leave; it is another to know what institutions can do to help students stay and succeed.
2. It is one thing to identify effective action; it is another to implement it in ways that significantly enhance student retention over time.
3. Though access to higher education for low-income students has increased, and gaps in access between high- and low-income students has decreased, the gap between well-to-do and poor students in four year degree completion remains.

The first lesson echoes what Tinto (2007) mentioned earlier regarding the idea that retention is viewed as an afterthought or an appendix to other programs. This may also foreshadow the idea that research on retention may be conducted on why students chose to stay. Tinto (2007) also supported the idea of longevity in the strategy. Results are best observed over time. He mentioned that identifying a problem does not mean the same thing as implementing a solution. A call to action is imperative. Finally, the challenge of retention is

still a problem that extends outside the realm of academics. The problem lies not in the beginning of the student's journey, but rather in the lack of the end of the academic journey. Though the problem appears to be lessening, there is still a long way to go to observe the effects in society at large.

In 2004, the Texas State Higher Education Coordinating Board produced a handbook addressing the issues of retention. Familiar themes regarding retention were present here, too. It suggested that the strategy for student retention must be institutional-wide and not segregated. Also, they suggested an enforceable policy, commitment to the strategy at the highest levels, comprehensive services, and collectable data in order to measure the effectiveness of the strategies. The college leadership as well as faculty ownership would lead to an effective and long-standing retention strategy (Texas State Higher Education Coordinating Board, 2004).

As a popular measure for effectiveness, the student retention rate may nevertheless come under scrutiny. Astin (2006) suggested that retention rates may ultimately be considered unfair because they do not take into consideration the demographics or academic preparedness of the students involved in the measure. He concluded that the measures of academic preparedness were strong predictors of degree completion and, therefore, students from well-educated backgrounds have an advantage over their less fortunate counterparts (Astin, 2006). The problem of retention may be compounded by the fact that the measures may be misleading. This concern once again points to the idea that academic and social support is critical to the success of the student.

In a study investigating retention at a two-year college, degree completion was influenced by the sex of the student, the high school record of the student, the student's hours

of employment while in school, the student's academic activities, the GPA, and students choosing to re-enroll in their freshmen college. Students likely to complete their degree were usually female, had a good high school record, worked fewer hours per week in employment, participated in college academic activities, had a high GPA in college, and re-enrolled in their freshmen college institution. This study also concluded that academic integration and satisfaction with the institution were highly associated with degree completion (Nippert, 2001).

Another example of an effective retention strategy presented itself at Utah Valley State College (UVSC). The push for a strategy stemmed from an astounding figure—nearly 58% of full-time freshmen students did not return to the institution for the second year. The college concluded that many factors contributed to this high rate of attrition. Typical demographics for this institution did not reflect the national average. Almost one of three students was married, less than half of the students were female, students typically had at least four siblings, and students usually worked at least 20 hours per week while enrolled (Hanewicz, Hammond, & Ness, 2008).

Another set of factors were discovered when analyzing this trend. Challenges to students included difficulty finding classes that fit their schedule, financial challenges, and a lack of balance between demands of academics and demands of work. Other factors included students entering college and then leaving to fulfill their mission work (common for The Church of Jesus Christ of Latter-Day Saints which was prevalent in the area). After the typical two-year mission, not all of the students would return specifically to UVSC. Also, not only was the student population high for married students, they typically married at ages lower than the national average (Hanewicz et al., 2008).

USVC experimented with a number of solutions to help student retention. The school created a hotline for students to call for assistance. The turnout was low, but 100% of those who called were retained. UVSC also initiated proactive strategies to help alleviate the rate of dropouts, such as early alert systems for low grades or low attendance. Finally, UVSC planned for the future by setting up “retention” activities for new students for the following academic year to begin in the fall term, such as a Student Success Week, scavenger hunts, and passive contests (Hanewicz et al., 2008).

A unique perspective on student retention is to determine when a student becomes a drop out. Typically, a student does not count toward an institution’s official enrollment until enrollment verification has occurred; in many cases, this occurs after the term has begun. Because of this, some research has been conducted to explore the leaving student before the enrollment census date arrives. Retention rates would surely drop if the numbers were calculated prior to this official moment in time.

In 2001, a study was conducted to explore leaving students before the enrollment verification. The results were appalling. They concluded that about 10% of the initial enrollees withdrew before enrollment verification. Two-thirds dropped their courses before the term began. About half of these students enrolled for only one course and then dropped it. It also appeared that there was no defined pattern that could suggest a solution to prevent this phenomenon from ever happening. One possible theory was that the students could not afford to pay the tuition and were dis-enrolled. Because this does occur before the courses begin, it has been determined that the likely reasons students withdraw are non-academic related (Bers & Nyden, 2001).

More specific to the issue of retention, sophomore students seem to be ignored by the institution. Most retention studies tend to focus on the freshmen experience. Although this is a most critical year for a student, researchers should realize that sophomores are more or less second-year freshmen, who have yet to enter into their areas of major study and are still completing their general education courses. The college sophomore is given the least amount of attention by researchers (Schreiner & Pattengale, 2000).

Boivin, Fountain, and Baylis (2000) claimed that the reasons most second-year students state for leaving an institution are problems with the institution itself and its failure to meet student expectations. In the realm of student development, the stages a sophomore is likely to be in are achieving competence, developing autonomy, establishing identity, and developing purpose. As opposed to the first-year student, the sophomore student is theorized to be a lower maintenance student and would require less inspiration to stay at the institution (Boivin et al., 2000).

Recently, a study investigating the “sophomore slump” revealed that sophomores responded better to individualized attention rather than group programs. Retained sophomores also benefited more from peer counseling, suggesting a connection with fellow upper classmen (Sanchez-Leguinel, 2008).

Normyle (2007) suggested guidelines for a successful retention plan. Primarily, the strategies would focus on student success. This may seem intuitive, but many institutions become distracted by the process and forget the goals. As Tinto (2007) stated earlier, the commitment to the strategy should be ongoing. The institution should also include all of the vital stakeholders, echoing the idea of collaboration across different departments, and making sure the strategies can be measured. This is crucial in order to deliver feedback. A strategy

will always be adjusted to adapt to its environment. Because changes happen, the strategy should include contingencies to react to the unexpected. Finally, the institutions must understand the rewards that will come with the successful strategy, thus fueling the continuance of the program and benefiting the institution (Normyle, 2007).

Overall, there are many theories and strategies pertaining to student retention that may work, and some only work for specific institutions. Because many relevant important ideas surface, it can become easy for an institution to become overwhelmed if a shotgun strategy is employed. This may result in ineffectiveness, a waste of money, and the loss of students anyway. Instead, retention strategies should focus more on results instead of activities. These strategies should be defined specifically, be concise to address crucial processes, and use data to develop goals and provide measures for effectiveness (Skaruppa, 2007).

It was also mentioned that although academics are an important factor for retention, preparing students for careers is an emerging strategy for retaining students. If students see the relevance of their college experience to their future goals (life and career), they were likely to succeed (Adams, 2011).

One study suggested that contributors to student retention are the levels of academic preparedness and age. The older the student and the more academically prepared a student is prior to entering college, the more likely they will be satisfied with their experience and complete their degree (Schofield & Dismore, 2010).

Wild and Ebbers (2002) suggest a number of procedures to implement to assist with student retention strategies. Staff should be trained in the overall college strategy to retain students. Identify current projects that encourage retention and reinforce them. Provide an

early warning system to help those students in academic need. Be sure to provide tutoring services in subject areas susceptible to students failing. Finally, implement a supplemental instructor program for difficult courses.

Yet another study suggested that links between student retention and student satisfaction may exist. However, the links seemed relevant only in the context of other frames, such as clear career goals, academic progress monitoring, and timely feedback (Gaskell, 2009).

### **Student Support**

One of the themes of student retention involves maintaining a good student experience with the institution. Over the last decade information technologies (IT) and many other forms of technology have been placed center stage in academics. Ten years ago terms such as MP3, iPod, wiki, blog, or Facebook did not exist or were not widely known. Every student did not have a cellular telephone, let alone “texted” their peers constantly. But now, students live in a world of instant gratification and want their information yesterday. Most traditional age students have never known life without these types of technology (Morrison & Oblinger, 2002).

Technology is a critical piece of the student experience. For example, many colleges like Morningside College administer a laptop program that distributes a laptop to all of its full-time students (Reynders, 2007). In many ways, these technology tools can assist with the student retention strategies. The student experience with technology may be implemented holistically. Technology helps connect a student to an institution for the first time by using web sites, e-mail, or other marketing tools. It can help admit, enroll, and matriculate. Technology can help a student to learn through the use of computers, the

internet, or distance education. Technology may even be used to help the students find a start at their career (Morrison & Oblinger, 2002).

Student finances is one factor regarding students who drop out prior to the beginning of the term. One of the initial support services a student encounters is financial aid, as 65.4% of students who attend college apply for financial aid, 81.1% of full time students apply for financial aid, and 55.7% of non-full time students apply for financial aid as indicated in *Postsecondary Education Opportunity* (2005). Completing the Free Application for Federal Student Aid (FAFSA) can be a complicated procedure especially for first generation students. Financial aid counselors are made available to provide the expertise for these students and their parents. In many cases, the financial aid award determines the likelihood that a student can attend and may be the student's only means of affording college.

Financial aid challenges perceived by students may distract them from academic and social issues that should be resolved, thus affecting retention. If students are more concerned about fulfilling the basic needs of life (i.e., food, clothing, and shelter), then their focus will divert away from their college needs and academic success (Bylaska, 2008). A few suggested counters to this issue have been attempted with some success. Responding to a survey that found almost half of a college's enrollees did not prepare a budget, information sessions have reduced this number to five percent. This same institution has also implemented a peer counseling program to have Masters of Business Administration (MBA) students inform incoming freshmen about the pitfalls and wisdom of financial planning for higher education (Bylaska, 2008).

More research in the area of financial assistance as it pertains to student retention needs to be done often and contemporarily for effective analysis and comparison. It may also



help establish whether specific types of aid improve students' persistence. So far, the study did not conclude any significant relationship between receipt of financial aid and freshmen persistence (Braunstein, McGrath, & Pescatrice, 2001).

It is suggested that financial aid woes may be the tipping point in a student's decision to leave college. Affordability problems in college added to existing problems such as overwhelming academic work, academic underperformance, and difficulty in social adjustment may be enough to convince a struggling student to give up (Scannell, 2011).

As an institution provides services to its students, perhaps the idea of the student as a customer may provide a valuable perspective to the arena of student retention. When trying to blend business philosophies to an educational setting, it may seem sound at first sight, but ultimately does not work. One of the challenges is to define who the customer is. In most cases, researchers define it as the student. However, the customer may also be defined as an institution's employee or society at large. Because each of these "customers" has different wants and needs, a universal business philosophy cannot be implemented.

The more important issue is the idea of wants versus needs. Generally, the rule of marketing is that the customer buys what he/she wants. In the framework of higher education, if the student is the customer the "wants" are represented by passing a course, getting a good grade, or learning practical concepts that may be used for immediate employment. Perhaps, though, the institution should not deliver what the customer wants, but rather what the customer needs, such as the challenge of intellectual independence (Schwartzman, 1995).

Perhaps the idea of student retention as a marketing strategy has merit. Most institutions use marketing strategies to recruit students, but they don't give it a second

thought for student retention strategies (Lorenzetti, 2007a). When using the analogy of a product life cycle (PLC) to a student, the college is compared to a business. Though this often-used comparison has its critics as well as supporters, it is worth consideration.

Instead of a PLC, the strategy utilizes the concept of a student life cycle (SLC). It is generally defined as the time period a student is involved with a college or university. This begins when there is an initial contact from an outreach program or an inquiry and virtually ends when the student graduates. It should be noted, however, that the student is perpetually involved with the institution by merit of being an automatic member of the institution's alumni association (Lorenzetti, 2007b).

The concept of customer relationship management (CRM) could be easily applied to a retention strategy. During the SLC, the composition, wants, and needs of the student vary. By understanding this, retention strategies may be dynamic and comprehensive enough to be successful. For example, a continuing student may need to be reminded to register for the next term. The benefits to the student would be a desirable schedule and an additional step toward the goal of a degree. Marketing concepts of advertising can be employed to inform and encourage students to use services available to them. A call to action may persuade the students to continue what they need to be successful while in college (Lorenzetti, 2007b).

As this pertains to student retention, one should wonder if the correct strategy should be to cater to a student's wants or needs. Further research in this area would help answer this question and would pose an interesting answer.

Another facet of student support often used in colleges is in the area of counseling. There appears to be a positive relationship between student retention and the utilization of needed counseling services (Van Brunt, 2008). It should be noted that counseling does not

equate to advising. Advising denotes assistance with academic issues such as scheduling or degree requirements. Counseling denotes professional guidance in resolving personal conflicts or emotional problems (*Merriam-Webster's Collegiate Dictionary*, 1993).

Three points are emphasized regarding counseling in college. First, students with counseling needs are not likely to be degree-completers. Second, students who utilize the counseling opportunities available to them are likely to be retained. Finally, counseling can help students confront their respective challenges and therefore stay in college (Van Brunt, 2008).

### **Student Life**

As one of the key areas pertaining to student retention, social support plays an important role. As mentioned earlier, the gap for higher education access is closing, but the gap for degree completion is not. The solution for many disadvantaged students is to design a learning community. The definition and implementation of a learning community, however, may differ by institution. In order to appeal to disadvantaged students and to be effective for the same students, a learning community has to be more than simple cluster scheduling. The approach to learning communities has to be holistic, including the academic support and the social support (Engstrom & Tinto, 2008).

Buller (2008) echoes this idea. He points out three concepts regarding student retention as it relates to student life. First, the institution should approach the issue as a macrocosm. Because the students are affected by so many facets of the college, the retention strategy should encompass all of these areas. Second, students tend to stay if they perceive a reason to do so. Their total experiences should be appealing. Finally, institutions should look for reasons why students stayed instead of why they departed. Many of the positive

influences of student life will come to life and steer the retention strategies to continue what is successful (Buller, 2008).

As Tinto (2002) mentioned earlier, the approach to student retention cannot place the strategy at the peripherals of the institutions. Similarly, the learning communities must cross all sections of the institution and not be a simple added-on function to a larger program.

A qualitative study done in the United Kingdom (UK) focused on the experiences of first-year college students who withdrew from their institutions. The most often cited reasons for withdrawal were course expectations that were not met, the wrong course was chosen, difficulty settling in, personal/social reasons, and the accommodation was not suitable (Harrison, 2006).

Most of the negative experiences reported in this study revolved around academic support and seemed to occur early on within the course. Social support was also cited. These students mentioned under preparedness or simply difficulties fitting in (Harrison, 2006). These themes are hardly foreign to researchers studying student retention.

Another qualitative study explored the participation of minority students in college. Though sub-cultures exist in predominantly white colleges, minority students do experience alienation, and it negatively affects their retention at that institution (Gonzalez, 2001). It is suggested that the best way to create a multi-cultural campus is to use the administrators in a facilitator role and let the students use their leadership as a bottom-up strategy to accomplish this task (Gonzalez, 2001).

Another group of students that faces social adjustment is that of the international students. Student life would be a huge adjustment not only from one academic arena to another but also from one culture to another. A study conducted in 2003, however, produced

surprising results. Generally, the challenges experienced by international students closely mirrored the challenges faced by American students. Also, international students tend to adjust socially very well as opposed to their American counterparts. It is suggested that this is true because of their willingness to live far from home. They are not as socially dependent upon a network of close friends (Rajapaksa & Dundes, 2003).

The important factor for international students is their perception of their social network. If this perception is positive, then their adjustment is positive and, therefore, their adjustment to their new environment will be successful. When compared to other groups, American students do not appear to adjust to their new college environment based on perception of social networking nor their number of friends (Rajapaksa & Dundes, 2003).

### **Student Engagement**

Student involvement has been listed as one of many factors correlating positively to degree completion (Tinto, 1993). One study in 2006 correlated student engagement with desirable learning outcomes. The more engaged the student was with the institution, the more likely the grades were high and the critical thinking skills were developed. Though it was not mentioned, it is likely that these students also were degree completers (Carini, Kuh, & Klein, 2006). A study to verify this hypothesis would be warranted.

Two interesting results were discovered with this study. First, students with lower college placement scores seemed to benefit from student engagement more than their counterparts. It cannot be determined whether these students needed it, but they clearly benefited from it. Also, student engagement values differed from institution to institution. All students benefited from it at various degrees. Some institutions were stronger than others (Carini et al., 2006). This may indicate to researchers that there is indeed a subjective nature

between institutions, or their student engagement systems vary in intensity and in scope. Further research in this area would also be warranted.

A common attribute of a private, four-year college is to have a religious affiliation. There have been studies done to see if there is a relationship between student engagement or student retention and the practicing of student spirituality. These studies have found three interesting outcomes. Students who engage in spirituality enhancing practices also engage more in collegiate activities. Campus culture is a priority to spirituality and liberal learning outcomes than most other institutional characteristics. Finally, students at faith-based colleges take on spiritual practices more, but participate less often in certain other activities related with liberal education outcomes (Kuh & Gonyea, 2006).

Academic advising appears to be an under-used service, according to the 2006 Community College Survey of Student Engagement (Lorenzetti, 2007a). During their first year of college, over a quarter (26%) of students did not use the academic advising services available to them. Also, over a quarter (26%) of students used their family and friends for advising resources instead of the institution's resources. A suggestion to overcome this negative statistic would be to make academic advising mandatory or less optional (Lorenzetti, 2007b). Another similar instrument that measures student engagement, the National Survey of Student Engagement typically shows positive correlations between engagement and retention, but may not demonstrate accurate predictors (McCormick & McClenney, 2011).

The strength of learning communities in college was also considered. In one study, the learning community strategy effect was strengthened when student engagement was a factor (Rocconi, 2011).

## Academic Support

Probably the most important area of student support and the primary reason students attend college is for academic purposes. As a broad topic, this may include learning styles, faculty concerns, and classroom settings. Academic support is vital to degree completion. In fact, the knowledge the students gain from a college degree will grow beyond the bounds of turning in papers and earning grades. These academic skills will allow them to contribute to society years after they receive their degree (Miller, 2005).

Obviously, faculty has a large impact on students' academic support. Not only are they the primary source of instruction, they serve as advisors and act as mentors. Because they play an important part in academic support, they also have an effect on student retention to a degree. For example, at Woodbury University, student retention is linked positively with successful faculty advising (Marques, 2007). Factors that lead to this success are a reasonable ratio of advisors to students, close, pleasant guidance for an ease of transition into the college environment, and the availability of necessary tools, such as tutoring, peer-mentoring, and proper facilities (Marques, 2007).

In 2003, Lundquist, Spalding, and Landrum conducted a study to determine the effects, if any, faculty attitudes had on student retention. The study suggested that faculty can have a positive impact on student retention by: (a) being supportive of students' needs, (b) returning phone calls and e-mails in a timely manner, and (c) simply being approachable.

Conversely, it suggested that faculty can have a negative impact on student retention by: (a) insulting and humiliating students, (b) possessing excessive course demands, and (c) possessing negative attitudes and inappropriate behaviors (Lundquist et al., 2003).

The underlying theme was a solid foundation in communication. College seniors were most likely to complete their degree if they engaged with their faculty and advisors on a regular and meaningful basis (Lundquist et al., 2003).

As an academic initiative in many colleges, a freshmen seminar or orientation course is offered and sometimes required of entering freshmen. In one particular study in 2003, a freshmen seminar was analyzed for effectiveness at Eastern New Mexico University (ENMU). Two points of view were given in this study: one from faculty and the other from peer learning facilitators (who were students themselves). Each group was asked what they would like to see happen in the seminar. Initially, it was understood that the seminar could not be universally offered. In other words, the goals of the program could not be the same for all of the students (Brown, 2003).

Faculty saw the seminar as a way to smooth the transition from high school to college from an academic point of view. They also believed that the seminar could use any course in the college's curriculum as a template. Peer facilitators saw the seminar as a tool to provide the necessary tools for success in the classroom (Brown, 2003).

As supporters of critical thinking skills, both the faculty and peer facilitators agreed that the priority of the seminar would be to develop "higher order thinking skills" for the students. The peer facilitators diverged from the faculty in emphasizing the need for career preparation skills. It is suggested that the importance of general education is misunderstood by peer facilitators as well as the students in the seminars (Brown, 2003).

Overall, it is suggested that faculty subscribe to a more traditional view of higher education while the peer facilitators subscribe to the paradigm of college as an investment to future careers and income (Brown, 2003). Neither observation may be incorrect, but this



study does validate former research suggesting the difference between faculty and student perceptions of college. Both ideas are fundamental to student retention.

Studies on learning communities and cohorts (Hlyva & Schuh, 2004; Johnson, 2001; Potts, Schultz, & Foust, 2004) have resulted in variable results on retention, making their impact unclear. Potts et al. (2004) suggest that student cohorts may not increase retention or that there is no evidence that cohorts increase retention in general. They do suggest that regardless of academic performance, cohorts do appear to increase retention during the first semester in college (Lenning & Ebbers, 1999).

Another study suggests that established learning communities appear to be more effective at retaining students than other less structured retention programs. Students who were deemed to be at higher risk were retained at a better rate in learning communities than their counterparts (Johnson, 2001).

A qualitative study concluded in 2004 explored student perception on a cross-cultural learning community. Students who participated in the learning community reported that it enriched their transition experiences by enhancing their cross-cultural knowledge and understanding (Hlyva & Schuh, 2004).

Because of the apparent success of this program, it was recommended that the studies in this area be continued and expanded. Not only did it positively affect the likelihood of the students' retention, it also served as a catalyst for student development (Hlyva & Schuh, 2004). This brings up an important theme in student retention of student development. If students are not mature for the next stage in their development, they are unlikely to complete a degree until they are ready for that stage.

Another factor in academic support for students as it pertains to retention is the student's academic preparedness. In some cases, a high school graduate is not ready for college level academic work and may need remedial coursework to continue. This is especially prevalent in community colleges that employ an open enrollment policy.

Kreysa (2007) conducted a study comparing two groups of students: one group who participated in remedial coursework and one group who did not need remediation. There were some surprising results. Kreysa found no significant difference in retention and graduation rates between the two groups. He suggested that this substantiated the success of the remediation program and allowed the participants to succeed in their academic ventures. One group that was not present in this study was the group of students who needed remediation but chose not to participate in those courses, instead enrolling in regular college coursework. It may be assumed that there would be negative results for these students, but the research should be presented.

Overall, there was an indication that graduation rates were predicted by cumulative GPAs. Also, the participants who reported a positive satisfaction with the institution positively correlated to higher GPAs (Kreysa, 2007).

Choosing majors presented interesting results, as well. Declaring a major was a positive indicator in predicting student retention for non-remedial students, but was not significant in predicting retention for remedial students. However, changing majors was a negative indicator in predicting student retention for non-remedial students and was a positive indicator in predicting student retention for remedial students (Kreysa, 2007). Generally, a student who needs remediation either does not declare a major or chooses a

generalist major as a placeholder. Because of this, the results for the remedial students are somewhat intuitive.

When exploring financial implications between these two groups, the results were not surprising. Generally, students who can afford college tend to do well and complete a degree. Students in this study who needed financial aid correlated negatively to degree completion. They also correlated positively to minority status. Consequently, minority students were less likely to graduate. These results were independent of the need for remediation (Kreysa, 2007).

This study can conclude that students who place into remedial courses are likely to persist and complete if they follow the advice and enroll in these appropriate courses. This would give a strong implication that institutions should require needed remediation. This would help the institution's student retention as well as help students succeed in their academic journeys.

### **Summary**

Student retention and student satisfaction have been challenges for a long time. Solutions do not seem to be universal. Different solutions, however, may work in respective venues. One universal perspective is that strategic solutions lie in comprehensive programs rather than in compartmentalization. Solutions must exist across students' time in college, exist in all academic experiences in college, and exist in all aspects of the students' life in college. Solutions cannot be enforced during a student's freshman year only. Solutions cannot exist exclusively in the most challenging of academic areas, nor can solutions exist exclusively in academics.

Examples of successful retention strategies include using progressive goal orientation, learning communities, and a focus on at-risk programming. Other strategies focus in specific areas such as student life, academic support, or student engagement.

The original problem of full access for all students has been migrated to full retention and institutional satisfaction for all students. Getting the students into college is not as big of a problem as keeping them there until they graduate.

## CHAPTER 3. METHODOLOGY OF THE STUDY

### Overview

The purpose of the study was to identify the possible factors that relate to student attrition and, more importantly, to determine the various influences of student satisfaction with their respective institutions by conducting a quantitative analysis study using a secondary dataset. The goal was to identify actions or strategies that are likely to ensure overall student satisfaction. This study utilized a longitudinal, multi-institutional sample of college students. Specifically, this study examined students who attended selected medium-sized, religious four-year colleges. This study attempted to consider factors from an academic perspective as well as a social perspective as Tinto (1993) suggested. This section will outline the assumptions, the hypotheses tested based on the assumptions, the sample utilized, the source of data, the independent and dependent variables, and the analyses used to achieve the objective of the study.

### Assumptions

Based on the review of literature concerning student persistence and student institutional satisfaction, three assumptions were given:

1. Previous research results regarding student integration vary. Though many plausible theories exist, not one is exclusively employed.
2. Religious four-year colleges have students who are at-risk for success.
3. College student satisfaction can be influenced by background characteristics, institutional characteristics, and student engagement measures. These attributes can be evaluated for their contribution to the causes of institutional satisfaction.

### **Hypotheses**

Based on the assumptions above, the following hypotheses were tested:

H1: There is a positive relationship between student institutional satisfaction and background characteristics.

H2: There is a positive relationship between student institutional satisfaction and college experiences.

H3: The college experience influences a student's goals.

H4: Background characteristics, goals, and student experiences significantly predict student institutional satisfaction.

### **Research Questions**

The research questions in this study helped to discover the makeup of the students who attend religious four-year colleges and what factors influence their satisfaction with their respective institutions. The questions also helped substantiate the previously stated hypotheses. The study attempted to answer these questions:

1. What are the background characteristics of students who attend selected religious four-year colleges?
2. Is there a relationship between student institutional satisfaction and background characteristics?
3. Is there a relationship between student institutional satisfaction and college experiences?
4. Are there any significant changes over time with regard to students' goals from their freshmen year to their senior year?

5. What background characteristics, pre-college experience goals, college academic activities, college general activities, student integrations, and post-college experience goals predict students' overall college satisfaction?

### **Research Design**

Figure 1.1 (in Chapter 1) shows the primary theoretical framework of student integration that was used as the guide for designing this study. Though Tinto's (1993) model was designed specifically for student integration or student departure, the model's linear approach was used to show progression toward a student's ultimate level of institutional satisfaction. Similar to Pascarella's model (1985) and the model presented by Clemes et al. (2007), it includes categories that consider background characteristics, college activities, and college environment. It also considers the student's goals at two points in time: (a) before the college experience and (b) after the college experience. Finally, Tinto's model also considers the student's intermediate and ultimate levels of integration. In this case, the integration is institutional satisfaction.

Following this framework, data for this study were obtained from the Higher Educational Research Institute (HERI) (2006a) out of the University of California, Los Angeles (UCLA). A survey research design was used to conduct this study. According to Creswell (2005), a survey design was useful to demonstrate trends, outlooks, or views of a population. A longitudinal study was conducted using data from the CIRP survey. This provided a large sample over a cross section of similar institutions otherwise not available by a primary research source.

### **Population and Sample**

CIRP has been in existence since 1966 and currently is the largest as well as the oldest empirical study of higher education. The scope of CIRP covers over 1,900 institutions and over 15 million students. CIRP holds a reputation as being the most comprehensive source of data on college students (HERI, 2006b).

Two of the surveys that CIRP conducted were used in this study, the Student Information Form (SIF) and the College Senior Survey (CSS). Data collected in the CSS are tied back to the same student who participated in the SIF. CIRP categorizes its participating institutions into various stratification cells (HERI, 2006b).

In order to obtain a meaningful and significant number of cases to be used in the study, a grouping of similar institutions (or stratification cell) was used (HERI, 2006b). This stratification was defined as “other religious four-year colleges” with medium selectivity (defined as the average SAT Composite Score of the entering class), where four-year colleges were defined as institutions that award master- and/or bachelor-level degrees and matches the Carnegie “Master’s (Comprehensive)” and “Baccalaureate (Liberal Arts)” descriptions. (HERI, 2006c).

By using a stratification cell of like institutions instead of a single institution, a larger set of similar institutions was provided and offered an opportunity to examine institutional satisfaction on a larger scale. One thousand cases in this stratification cell were randomly selected from the combined group of the 2005 CSS and 2006 CSS. Table 3.1 shows a list of the institutions included in this stratification cell.



### Survey Instrument

Like the SIF, CIRP also conducted the CSS annually. The CSS provided colleges and universities valuable information about their students and their respective institutions. It helped the educational industry with its topics of service-learning, leadership development, and student-faculty interactions (College Senior Survey [CSS], 2009).

Table 3.1

*Other Religious Four-Year Colleges, Medium Level*

Institution	State
Bethel College	IN
Bluffton University	OH
Monmouth College	IL
Morningside College	IA
Mount Vernon Nazarene University	OH
North Central University	MN
North Park University	IL
Northwest Nazarene University	ID
Palm Beach Atlantic University	FL
Tabor College	KS

The most recent available cohorts were the 2005 CSS and the 2006 CSS. This provided a large enough target population to randomly select 1,000 cases. In order to reduce sampling error, Creswell (2005) suggested that the researcher select the largest sample possible. Any cases that included freshmen survey data were also included (CSS, 2009).

This study was considered a longitudinal cohort study. Creswell (2005) defined this as a subgroup within a population that has common defining characteristics. Creswell (1994) also suggested that the researcher define the groups included in the study. In this case, the

population was the group of participants in the CIRP CSS. It was considered longitudinal because this same subgroup participated in the SIF more than three years earlier. The data from this same subgroup were observed from more than one point in time (Creswell, 2005). The Statistical Package for Social Sciences® (SPSS) for Windows® was used to execute the statistical analyses for this study.

These HERI surveys were the 2001 SIF and the 2002 SIF (also known as the freshmen surveys) and the 2005 CSS and the 2006 CSS (also known as the college senior surveys). Variables were included from the CSS survey as well as the corresponding SIF. Though the information in this study was not as current as 2012, it was more efficient to use data already collected by HERI.

### **The Student Information Form (SIF)**

The 2001 SIF was conducted either during freshmen orientation or during the first few weeks of the fall term at these institutions at the beginning of the 2001–2002 academic year. The 2002 SIF was conducted during the freshman orientation or during the first few weeks of the fall term at these institutions at the beginning of the 2002–2003 academic year. These surveys collected a plethora of information on students' background characteristics, degree aspirations, career aspirations, goals, and attitudes. Copies of the 2001 SIF and the 2002 SIF are in Appendix A.

The SIF asked incoming freshmen various questions to capture a snapshot of what a student may be like before entering college. Key sections of the SIF are:

- Recognized activities in high school
- Academic readiness
- Admissions decisions

- Expectations of college
- Dealings with peers and faculty
- Student values and objectives
- Student demographic characteristics
- Concerns about paying for college (HERI, 2006c)

### **The College Senior Survey (CSS)**

The 2005 CSS (formerly called the College Student Survey) was conducted during November 2004 and June 2005 to capture information from seniors expected to graduate from their institutions during the fall or spring terms. Likewise, the 2006 CSS was conducted during November 2005 and June 2006. This survey collected information that would serve as a follow-up to the appropriately corresponding SIF. Unlike the SIF which provided information about participants' experiences before their institutional experiences, the CSS provided information about participants' experiences after their institutional experiences. It also provided insight into students' post-college plans immediately after graduating. Copies of the 2005 CSS and the 2006 CSS are in Appendix B.

The CSS asked outgoing seniors various questions to capture a snapshot of what a student may be like after experiencing college. Key sections of the CSS are:

- Academic achievement and engagement
- Student-faculty contact
- Cognitive and affective development
- Student objectives and values
- Satisfaction with the college experience

- Degree aspirations and career plans
- Post-college plans (HERI, 2006a)

### **Reliability and Validity**

Reliability refers to whether scores to items on an instrument are internally dependable and whether there is dependability in test administration and scoring (Creswell, 2005). Creswell (2005) also stated that reliability is measured by item consistency and the degree to which the item responses are dependable across constructs. An exploratory factor analysis was conducted to examine the variability among variables for the multiple regression test. Constructs were then developed from the factor analysis. Coefficient alphas were calculated for each factor. If the alpha score was high enough, the construct was used.

Validity refers to the drawing of meaningful and suitable conclusions from scores on particular surveys (Creswell, 2005). Based on the large population of data collected annually, the standard error will be small (HERI, 2006a). There are, however, a few considerations to take into account. Though institutional repeat participation is about 90%, it is not 100%. Because of this, comparability of data from year to year is reduced. Secondly, over the years the exact wording and ordering of the survey questions has changed. It should be noted that the 2005 and 2006 CSS surveys that were studied here were carefully examined to assure consistency in the questions. Finally, changes in the stratification cells were conducted in 1968, 1971, 1975, 2001, and 2008. This was a result of institutional changes over time. Again, it should be noted that the 2005 and 2006 CSS surveys were not affected by this consideration (HERI, 2006c).

## Study Variables

A number of variables were used in this study from both the CSS and the corresponding SIF. These surveys provided the study with a wealth of background information, such as sex, age, and academic preparation. These surveys also provided a well-suited dataset for a longitudinal study such as this. The CSS included variables such as student satisfaction in several areas internal and external to the various colleges in the stratification cell.

## Dependent Variable

The study used one dependent variable. In the CSS, participants were asked to rate their satisfaction with this institution on the overall college experience. This variable was a continuous measure ranging among four levels: 4 = “very satisfied,” 3 = “satisfied,” 2 = “neutral,” and 1 = “dissatisfied.” Table 3.2 represents the results of the dependent variable.

Table 3.2

*Dependent Variable: Campus Satisfaction: Overall College Experience*

	Frequency	Percent
Dissatisfied	22	2.2%
Neutral	92	9.3%
Satisfied	509	51.3%
Very satisfied	370	37.3%
Total	993	100.0%

## Independent Variables

The independent variables used for this study were broken down into four categories: background characteristics, activities, satisfaction, and goals. Variables from the SIF that addressed personal background characteristics were the participants’ sex, citizenship status,

whether or not their native language was English, parental life status, household income, ethnic background, parental education, and freshmen age. Variables from the SIF that addressed academic background characteristics were high school GPA and college entrance exam scores (e.g., ACT or SAT). Table 3.3 represents a listing of the participants' background characteristics.

Variables from the CSS that addressed student activities, integration, and goals were the participants' goals as they were held their freshmen year, activities while in college,

Table 3.3

*Background Characteristics Independent Variables*

Variables	Coding/scale
Sex	Dichotomous 1 = Male 2 = Female
Race	Dichotomous 1 = Not white 2 = White
English as a native language	Dichotomous 1 = English is not native language. 2 = English is native language.
Citizenship status	Dichotomous 1 = Not American citizen 2 = American citizen
Parental life status	3-point scale 1 = One or both deceased 2 = Both alive, not living together 3 = Both alive and living together

Table 3.3 (continued)

Variables	Coding/scale
Estimated household income	5-point scale 1 = Less than \$20,000 2 = \$20,000 - \$39,999 3 = \$40,000 - \$59,999 4 = \$60,000 - \$99,999 5 = \$100,000 or more
Father's educational level	8-point scale 1 = Grammar school or less 2 = Some high school 3 = High school graduate 4 = Postsecondary 5 = Some college 6 = College degree 7 = Some graduate school 8 = Graduate degree
Mother's educational level	8-point scale 1 = Grammar school or less 2 = Some high school 3 = High school graduate 4 = Postsecondary 5 = Some college 6 = College degree 7 = Some graduate school 8 = Graduate degree
First generation student	Dichotomous 1 = Not a first generation student 2 = First generation student
Age	Continuous variable
High school grade point average	Continuous variable
SAT verbal score	Continuous variable

Table 3.3 (continued)

Variables	Coding/scale
SAT math score	Continuous variable
ACT composite score	Continuous variable

*Note.* From 2005 College Student Survey (HERI, 2006a)

satisfaction ratings with various aspects of the college experience, and their goals as they were held their senior year. Table 3.8 represents the results of the exploratory factor analysis (explained later) and the basis for the recalculation of the variables in Table 3.4.

Table 3.4 lists the recalculated variables representing participants' college academic and general activities. Table 3.5 lists the participants' satisfaction rating of various college experiences, and Table 3.6 represents a selected listing of the participants' goals.

Table 3.4

*Student Activities Independent Variables*

Variables	Coding/scale
Apathetic Activities	4-point scale
Too Busy Activities	4-point scale
Internet User Activities	4-point scale
Academic Independent Activities	4-point scale
Voted Activities	4-point scale
Party Activities	4-point scale
Engaged Activities	4-point scale
Distressed Activities	4-point scale

*Note.* From 2005 College Student Survey (HERI, 2006a)



Table 3.5

*Student Satisfaction Independent Variables*

Variables	Coding/scale
Ability to find a faculty or staff mentor	4-point scale
Academic advising	4-point scale
Availability of Internet access	4-point scale
Campus health services	4-point scale
Career counseling and advising	4-point scale
Computer facilities	4-point scale
Financial aid services	4-point scale
General education or core curriculum courses	4-point scale
Humanities courses	4-point scale
Job placement services for students	4-point scale
Laboratory facilities and equipment	4-point scale

Table 3.5 (continued)

Variables	Coding/scale
Leadership opportunities	4-point scale
Library facilities	4-point scale
Opportunities for community service	4-point scale
Quality of computer training/assistance	4-point scale
Recreational facilities	4-point scale
Science and mathematics courses	4-point scale
Social science courses	4-point scale
Student housing	4-point scale
Tutorial help or other academic assistance	4-point scale
Amount of contact with faculty	4-point scale
Availability of campus social activities	4-point scale
Class size	4-point scale

Table 3.5 (continued)

Variables	Coding/scale
Courses in your major field	4-point scale
Interaction with other students	4-point scale
Overall college experience	4-point scale
Overall quality of instruction	4-point scale
Overall sense of community among students	4-point scale
Relevance of coursework to everyday life	4-point scale
Relevance of coursework to future career plans	4-point scale
Respect for the expression of diverse beliefs	4-point scale

*Note.* From 2005 College Student Survey (HERI, 2006a)

### Data Analysis

The first group of variables was the background characteristics: sex, citizenship status, whether or not their native language was English, parental life status, household income, ethnic background, parental education, age, high school GPA, and college entrance exam scores (e.g., ACT or SAT). The second group represented the activities the participants engaged in while in college. The third group represented the goals of the participants at two

Table 3.6

*Selected Student Goals Independent Variables*

Variables	Definitions
Being very well off financially	4-point scale
Helping others who are in difficulty	4-point scale
Helping to promote racial understanding	4-point scale
Integrating spirituality into my life	4-point scale
Raising a family	4-point scale

*Note.* From 2005 College Student Survey (HERI, 2006a)

points in time—their freshmen year and their senior year. The dependent variable in this study was the measure of the participants' satisfaction with the overall college experience.

Descriptive statistics, correlations, and a multiple regression analysis were conducted on the data collected from the CIRP 2001, 2002 SIF and 2005, 2006 CSS instruments in order to understand the profiles of the 1,000 participants in the study. Table 3.7 displays each research question with the statistical analysis that was performed.

The first research question addressed the background characteristics of the survey participants. Measures of central tendency provided an understanding of the sample as a whole. Frequency distributions helped display the collected data in a meaningful form, revealed trends, and simply communicated the results effectively (Gravetter & Wallnau, 2007). The purpose of this analysis was to explore the background characteristics of the participants in this study.

Table 3.7

*Research Questions, Variables, and Methods of Analysis*

Research question	Independent variables	Dependent variable	Method of analysis
1. What are the background characteristics of students who attend selected religious four-year colleges?	Background characteristics		Descriptive
2. Is there a relationship between student institutional satisfaction and college experiences?	Background characteristics, overall college satisfaction		Cross tabulations and correlation
3. Is there is a relationship between student institutional satisfaction and college experiences?	Activities, overall college satisfaction		Cross tabulations and correlation
4. Are there any significant changes over time with regard to students' goals from their freshmen year to their senior year?	Goals		Paired samples <i>t</i> -test
5. What background characteristics, pre-college experience goals, college academic activities, college general activities, student integrations, and post-college experience goals predict students' overall college satisfaction?	Background characteristics, activities, goals, satisfaction	Overall college satisfaction	Multivariate analysis

The second research question narrowed the results from the first question. It explored any relationships between student institutional satisfaction and selected background characteristics. These characteristics were college first generational status (parental

education), estimated household income, and high school GPA. The purpose of this analysis was to explore for any significant relationships in student satisfaction with regard to these selected background characteristics.

Parental education was redefined into a dichotomous variable indicating whether the student was categorized as a first-generation college student, that is, whether or not either parent had a bachelor's degree. The new categories were: 1 = First Generation Student; 2 = Not a First Generation Student. Household income was also redefined into a five-point scale. The new categories were: 1 = Less than \$20,000; 2 = \$20,000 - \$39,999; 3 = \$40,000 - \$59,999; 4 = \$60,000 - \$99,999; and 5 = \$100,000 or more.

Because this study explored relationships, a cross tabulation was conducted with a Pearson correlation test. The correlation does not determine causation, but it does measure the degree of a relationship between two variables (Gravetter & Wallnau, 2007). The significance value (2-tailed) was used to determine the significance of the relationship. If  $p \leq .05$ , then the null hypothesis was rejected, suggesting a statistically significant relationship. If  $p > .05$ , the null hypothesis was not rejected, suggesting the relationship happened by chance (Gravetter & Wallnau, 2007). Hypothesis 1 was tested with the results of the first two research questions.

The third research question explored any relationships between student institutional satisfaction and college academic and general activities. Similar to the previous research question, the purpose of this analysis was to explore for any significant relationships in student satisfaction with regard to these activities. A cross tabulation with a Pearson correlation test was also used here. Hypothesis 2 will be tested with the results of this research question.

The fourth research question explored the participants' results regarding their goals and objectives. The purpose of this analysis was to explore any changes over time from their freshmen perspective to their senior perspective. A paired sample *t*-test was used to compare selected pre-college experience data against the post-college experience data. Hypothesis 3 was tested with the results of the fourth research question.

The fifth and final research question tested Hypothesis 4 by seeking to infer possible predictive characteristics that may lead to student satisfaction of their institution. Multiple regression analysis was used to answer this research question. This is an attempt to estimate the coefficient for the independent variables used to best predict the value of the dependent variable, student satisfaction. The following multiple regression equation was used:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_kX_k$$

Using block regression, independent variables may be entered into the regression model in a specific order. This type of strategy makes it possible to enter variables that are expected to be into the model before other variables and ensure control (Tabachnick & Fidell, 2007). In this case, a timeline is followed per Tinto's (1993) model, and each block of variables may be assessed at different times.

One assumption of multiple regression is that the difference between the predicted and obtained scores is normally distributed (residuals). The normal curve was plotted to measure the deviation from the expected value for each *x* value in the model. Tests of correlation were run on all independent variables to check for multicollinearity among the independent variables. A low standard error for the variables clarifies the assumption of multicollinearity was met. The correlation matrix is in Appendix C.

In order to answer this research question, the study chose five vectors of independent variables that lead into a dependent variable. Exploratory factor analysis was used to narrow the variables into meaningful categories. The significance of a set of factors was determined by the proportion of variance or covariance accounted for by the factors after rotation and interpreted by the underlying theme uniting the group of variables loading on it (Tabachnick & Fidell, 2007). Loadings over 0.71 were considered to be excellent, over 0.63 very good, 0.55 good, 0.45 fair, and 0.32 poor. In other words, the greater the loading, the more the variable was considered a pure measure of the factor (Tabachnick & Fidell, 2007).

After the results of the sorted loading matrices were interpreted, variables were grouped by their correlations with the factors, thus creating fewer variables. Construct validity was determined by using Cronbach's Alpha test for reliability. Alpha values above 0.50 were used. For variable groupings with acceptable alpha values, the variables were recalculated into one variable. Table 3.8 shows the factor analysis results.

When examining the models presented by Astin (1975), Pascarella (1985), and Tinto (1993), the variables followed a basic input-treatment-output formula. In this study, six sets of variables (five independent and one dependent) were used to follow the fundamental aspects of these frameworks.

### **Block 1 – Student Demographics**

The SIF collected important information about the participants' background characteristics. As indicated by the many theories discussed earlier (Astin, 1975; Pascarella, 1985; Tinto, 1993), the beginning stage comprised of inputs. These input variables represented the attributes a student will bring to the institution. Because of the importance of first generational status, household income, and academic preparedness seemed to have in



previous studies (Astin, 2006; Hanewicz et al., 2008; Tinto, 1993, 2002; Zhang et al. 2005), the variables concerning parental education, household income, and high school GPA were

Table 3.8

*Factor Loadings and Reliability Coefficients of Adjustment Factors (Independent Variables)*

Factor name	$\alpha$	Variables	Factor loadings
Involved goals (freshmen)	0.782	Helping to promote racial understanding	0.785
		Becoming involved in programs to clean up environment	0.691
		Participating in a community action program	0.664
		Improving my understanding of other countries/cultures	0.616
		Keeping up-to-date with political affairs	0.578
		Developing a meaningful philosophy of life	0.459
Leadership goals (freshmen)	0.727	Influencing the political structure	0.664
		Becoming an authority in my field	0.642
		Recognition from colleagues for contributions to my field	0.631
		Becoming a community leader	0.554
		Influencing social values	0.540
Managerial goals (freshmen)	0.577	Being very well off financially	0.760
		Becoming successful in a business of my own	0.663
		Having administrative responsibility for the work of others	0.589
		Making a theoretical contribution to science	0.430
Dutiful goals (freshmen)	0.532	Raising a family	0.711
		Integrating spirituality into my life	0.682
		Helping others who are in difficulty	0.560

Table 3.8 (continued)

Factor name	$\alpha$	Variables	Factor loadings
Artistic goals (freshmen)	0.573	Creating artistic work (painting, sculpture, etc.)	0.749
		Writing original works (poems, novels, etc.)	0.724
		Becoming accomplished in one of the performing arts	0.656
Apathetic activities	0.675	Failed to complete homework on time	0.746
		Overslept and missed class or appointment	0.740
		Came late to class	0.626
		Fell asleep in class	0.584
		Felt bored in class	0.480
Too busy activities	0.689	Did not have time to study due to job responsibilities	0.805
		Did not have time to study due to family responsibilities	0.728
		Missed class due to employment	0.689
Internet user activities	0.621	Received course assignments through the Internet	0.824
		Turned in course assignments electronically	0.783
		Used the Internet for research or homework	0.460
Academic independent activities	0.504	Took interdisciplinary courses	0.671
		Worked on independent study projects	0.646
		Have been a guest in professor's home	0.578
		Tutored another college student	0.490
Political activities	0.566	Voted in a state/national election	0.729
		Voted in a student election	0.541

Table 3.8 (continued)

Factor name	$\alpha$	Variables	Factor loadings
Party activities	0.763	Drank beer	0.858
		Drank wine or liquor	0.826
		Smoked cigarettes	0.653
Engaged activities	0.588	Act in past year: Discussed religion	0.739
		Act in past year: Discussed politics	0.722
		Performed volunteer work	0.559
		Participated in organized demonstrations	0.439
Distressed activities	0.602	Felt depressed	0.758
		Act in past year: Felt lonely or homesick	0.757
		Felt overwhelmed by all I had to do	0.665
Career and academic advising satisfaction	0.678	Career counseling and advising	0.734
		Job placement services for students	0.630
		Tutorial help or other academic assistance	0.614
		Academic advising	0.576
		Ability to find a faculty or staff mentor	0.534
Technology satisfaction	0.705	Computer facilities	0.833
		Availability of Internet access	0.791
		Library facilities	0.637
		Quality of computer training/assistance	0.469

Table 3.8 (continued)

Factor name	$\alpha$	Variables	Factor loadings
Student life satisfaction	0.630	Leadership opportunities	0.636
		Student housing	0.602
		Opportunities for community service	0.591
		Recreational facilities	0.583
		Campus health services	0.491
Non-math/science course satisfaction	0.588	Humanities courses	0.780
		Social science courses	0.689
		General education or core curriculum courses	0.603
Math/science course satisfaction	0.514	Laboratory facilities and equipment	0.762
		Science and mathematics courses	0.646
Coursework satisfaction	0.829	Relevance of coursework to future career plans	0.856
		Courses in your major field	0.757
		Relevance of coursework to everyday life	0.751
		Overall quality of instruction	0.677
Community satisfaction	0.719	Availability of campus social activities	0.786
		Respect for the expression of diverse beliefs	0.716
		Overall sense of community among students	0.694
		Overall college experience	0.576
Classroom experience satisfaction	0.792	Class size	0.846
		Interaction with other students	0.769
		Amount of contact with faculty	0.658

Table 3.8 (continued)

Factor name	$\alpha$	Variables	Factor loadings
Involved goals (senior)	0.848	Participating in a community action program	0.777
		Helping to promote racial understanding	0.736
		Keeping up to date with political affairs	0.736
		Influence the political structure	0.639
		Becoming involved in programs to clean up environment	0.629
		Developing a meaningful philosophy of life	0.601
		Influencing social values	0.594
		Becoming a community leader	0.584
Leadership goals (senior)	0.698	Obtain recognition from colleagues for contributing to my special field	0.788
		Become an authority in my field	0.734
		Being very well off financially	0.664
		Having administrative responsibility for the work of others	0.659
Artistic goals (senior)	0.641	Becoming accomplished in one of the performing arts	0.757
		Creating artistic work (painting, sculpture, decorating, etc.)	0.690
		Write original works (poems, novels, short stories, etc.)	0.678
Dutiful goals (senior)	0.537	Raising a family	0.759
		Integrating spirituality into my life	0.658
		Helping others in difficulty	0.592

used in the first vector. This information was derived from the answers from questions 26, 20, and 7 on the SIF. This vector corresponds with the pre-entry attributes phase in Tinto's model (1993).

A student was classified as a first generational student if both of their parents have not achieved a bachelor's degree or higher. The variable from question 26 in the SIF was recoded into a dichotomous variable where "1" = first generational student and "2" = not a first generational student. Table 3.9 represents the variables used in Block 1.

### **Block 2 – Student Pre-experience Goals**

The second category consisted of the participants' objectives before they enter their college. This second set of inputs was used to represent the students' goals. A student's goals and commitments play an important factor in student integration (Tinto, 1993). The second vector consisted of the variables from question 39 on the SIF: "Please indicate the importance to you personally of each of the following . . ." This vector corresponds with the (first) goals and commitments phase in Tinto's model (1993). Table 3.10 represents the variables used in Block 2.

### **Block 3 – Student Activities**

The third vector represented the treatment of the student. This consisted of the participants' experiences while at the institution. This category helped explore the environmental impacts on the students. It was consolidated from two CSS variables representing academic activities and general activities. Question 7 and question 13 from the CSS provided information regarding activities the student engaged in while at the institution. Question 7 explored student answers pertaining to academic related activities while question 13 explored student answers pertaining to general college activities. These two categories were blocked into one group to represent academic and general activities as a whole. This vector corresponds with the institutional experiences phase in Tinto's model (1993). Table 3.11 represents the variables used in Block 3.

Table 3.9

*Block 1 Background Characteristics Independent Variables*

Variables	Coding/scale
Sex	Dichotomous 1 = Male 2 = Female
Degree aspiration	Continuous variable
First generation student	Dichotomous 1 = Not a first generation student 2 = First generation student
High school grade point average	Dichotomous 1 = B+ or below 2 = A- or above
Estimated household income	5-point scale 1 = Less than \$20,000 2 = \$20,000 - \$39,999 3 = \$40,000 - \$59,999 4 = \$60,000 - \$99,999 5 = \$100,000 or more

Note. From 2005 College Student Survey (HERI, 2006a)

Table 3.10

*Block 2 Freshmen Student Goals Independent Variables*

Variables	Coding/scale
Involved goals (freshmen)	4-point scale
Leadership goals (freshmen)	4-point scale
Managerial goals (freshmen)	4-point scale
Dutiful goals (freshmen)	4-point scale
Artistic goals (freshmen)	4-point scale

Note. From 2005 College Student Survey (HERI, 2006a)

Table 3.11

*Block 3 Student Activities Independent Variables*

Variables	Coding/scale
Apathetic activities	4-point scale
Too busy activities	4-point scale
Internet user activities	4-point scale
Academic independent activities	4-point scale
Political activities	4-point scale
Party activities	4-point scale
Engaged activities	4-point scale
Distressed activities	4-point scale

*Note.* From 2005 College Student Survey (HERI, 2006a)

**Block 4 – Integration**

The fourth vector represented the integration of the student by indicating how positive the experiences were for the participant. This is represented by the level of satisfaction the student rated his/her experiences. Questions 8 and 17 from the CSS ask participants to rate the level of satisfaction of various college experiences and perspectives. When viewing Tinto's model, this vector represented the students' integration (Tinto, 1993). Table 3.12 represents the variables used in Block 4.

**Block 5 – Student Post-experience Goals**

The fifth vector represented an intermediate level of output. Similar to question 39 on the SIF, question 19 from the CSS provided information about the students' goals after they have been with the institution: "Please indicate the importance to you personally of each of the following . . ." When viewing Tinto's model, this vector represented the students' goal and commitments after the college experience (Tinto, 1993). Table 3.14 represents the variables used in Block 5.



Table 3.12

*Block 4 Student Satisfaction Independent Variables*

Variables	Coding/scale
Career and academic advising satisfaction	4-point scale
Technology satisfaction	4-point scale
Student life satisfaction	4-point scale
Non-math/science course satisfaction	4-point scale
Math/science course satisfaction	4-point scale
Coursework satisfaction	4-point scale
Community satisfaction	4-point scale
Classroom experience satisfaction	4-point scale

*Note.* From 2005 College Student Survey (HERI, 2006a)

Table 3.13

*Block 5 Senior Student Goals Independent Variables*

Variables	Coding/scale
Involved Goals (Senior)	4-point scale
Leadership Goals (Senior)	4-point scale
Artistic Goals (Senior)	4-point scale
Dutiful Goals (Senior)	4-point scale

*Note.* From 2005 College Student Survey (HERI, 2006a)

The dependent variable was taken from the variable CMPSAT10. Students were instructed, "Please rate your satisfaction with this institution on each of the aspects of

campus life listed below.” The possible choices were: “1” = dissatisfied, “2” = neutral, “3” = satisfied, and “4” = very satisfied. This variable was recoded into a dichotomous variable. Former choices 1 and 2 were recoded into a new variable called dissatisfied, while former choices 3 and 4 were recoded into a new variable called satisfied. When viewing Tinto’s model, the dependent variable represented the students’ outcome, that is, whether the student was satisfied with the overall experience (Tinto, 1993). Table 3.9 and Figure 3.1 represent the variables used in the multiple regression analysis.

### **Ethical Considerations**

Approval for the use of human subjects was obtained through the Institutional Review Board (IRB) at Iowa State University before any information was obtained (see Appendix D). The researcher is mindful of the nature of this data and conformed to all restrictions on the use of data containing sensitive information. No student identifiers were obtained for this study.

### **Limitations of the Study**

This study was based on information collected from a secondary dataset. Therefore, the study is limited to the aspects of that instrument and data set. The data set was obtained through participation of students who, in some cases, chose to participate. The data were also self-reported. Participants may have elected to not answer some of the questions. It is also assumed the participants answered the questions in an honest fashion as well as to the best of their knowledge. Student intent is also limited because it does not account for students changing their objectives through their college experience.

This survey instrument is limited to the students who elected to participate as well as the higher education institutions who elected to participate in the study. Thus, any like-institutions that did not participate in this survey were not included in the results.

Though a longitudinal study, this survey instrument only accounts for information collected at two points in time, the freshmen survey and the senior survey. There are no intermediary points in time in which further data were collected.

Table 3.14

*Variables that Represent Possible Predictive**Characteristics of Institutional Satisfaction*

Variables
Background characteristics
First-generation college student
Household income
High school GPA
Pre-college student goals
Involved goals (freshmen)
Leadership goals (freshmen)
Managerial goals (freshmen)
Dutiful goals (freshmen)
Artistic goals (freshmen)
College activities
Apathetic activities
Too busy activities
Internet user activities
Academic independent activities
Political activities
Party activities
Engaged activities
Distressed activities
Student Integration
Career and academic advising satisfaction
Technology satisfaction
Student life satisfaction
Non-math/science course satisfaction
Math/science course satisfaction
Coursework satisfaction
Community satisfaction
Classroom experience satisfaction
Post-college student objectives
Involved goals (senior)
Leadership goals (senior)
Artistic goals (senior)
Dutiful goals (senior)
Overall college experience
Very satisfied
Satisfied
Neutral
Dissatisfied

*Note.* From 2005 College Student Survey (HERI, 2006a)

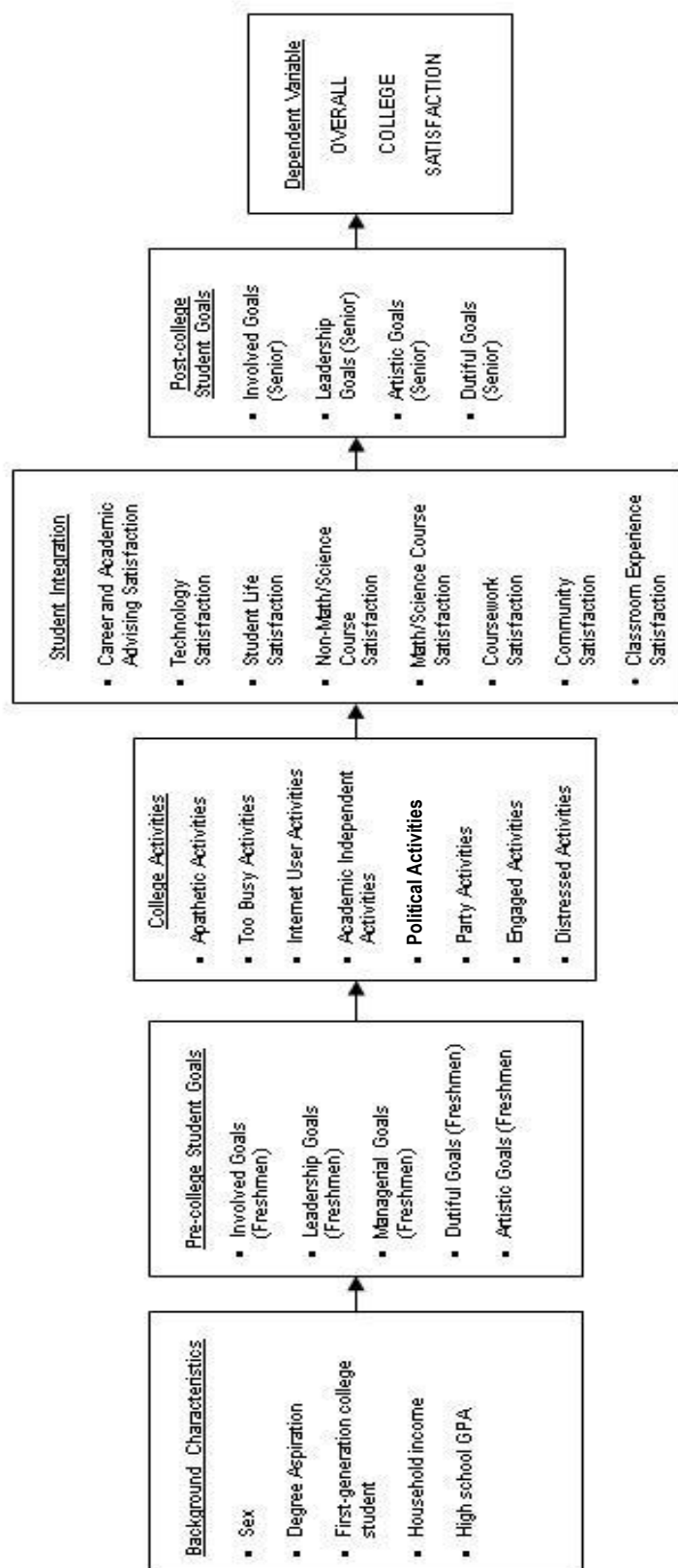


Figure 3.1. Predictive model regression analysis: overall college satisfaction (sequential hierarchical regression model)

### **Delimitations of the Study**

This study is delimited to the participants of the 2005 CSS survey within the CIRP defined stratification of “other religious four-year colleges” with a medium entrance exam requirement (HERI, 2006a). The freshmen survey data set was included with the CSS datasets for this longitudinal study. Only the results from the freshmen survey that matched the participants of the CSS were included. Any freshmen survey data not matched with corresponding senior survey data were not included.

Primarily, this study’s conclusions may only be generalized to students that shared similar background characteristics and attended similar institutions. Choosing to replicate this study from a CIRP dataset using the same design but collected from a different time or by choosing a different stratification cell would likely produce different results.

This study does not seek to account for all variables that may influence overall college satisfaction. The CIRP dataset allows for an enormous amount of information that may be analyzed. To keep the study focused, only selected variables were used. Factors not included in this study were (but not limited to) student major, student major changes, student possession of disabilities, college GPA, samples outside of the specific stratification cell, and samples outside of this time-frame.

### **Summary**

The purpose of this study was to determine why students indicated that they were satisfied with their current institution. By examining the results of the SIF and CSS, this study captured valuable information to that effect. The study began with a background of the students who participated in the SIF, revealing an understanding of the participants being examined. Next, variables were chosen to reveal the effect of institutional influences, both

from an academic standpoint and a general standpoint. Finally, this study attempted to construct a predictive indicator using regression analysis with variables from the SIF and the CSS. These results provided insight to formulate an improved strategy for student satisfaction.

## CHAPTER 4. RESULTS

### Introduction and Background

This chapter will focus on results that specifically address the five research questions. This chapter is organized according to the analysis plan and addresses the questions in the order they were presented.

Analyses: Part One focuses on the background characteristics of the students who participated in this study. Areas such as gender, estimated household income, and high school academic performance will be explored. Analyses: Part Two focuses on exploring statistically significant relationships between students' estimated household income, parental education, high school GPA, and their institutional satisfaction. Analyses: Part Three focuses on exploring statistically significant relationships between students' activities and their institutional satisfaction. Analyses: Part Four focuses on exploring changes over time with respect to students' goals. Analyses: Part Five focuses on exploring possible predictive factors as they relate to student institutional satisfaction.

The dependent variable for this study was to determine whether a student was satisfied with his/her respective institution. The total number of respondents indicating whether they were satisfied was 993. One hundred fourteen students (11.5%) indicated that they were not satisfied, and 879 students (88.5%) indicated they were satisfied with their institution. Table 4.1 reflects these results.

#### Analyses: Part One

The first research question asked what were the background characteristics of students who attended selected religious four-year colleges. Descriptive statistics and frequencies were run to determine these characteristics.



Table 4.1

*Satisfaction with the Overall College Experience (n = 993)*

Variable	N	%
Dissatisfied	22	2.2
Neutral	92	9.2
Satisfied	509	51.3
Very satisfied	370	37.3

The first variable to be explored was gender (sex). There were a total of 1,001 respondents. Of these, 380 students (38%) indicated that they were male, and 621 students (62%) indicated they were female.

The next variable to be explored was race. Eight categories were given as options. Of 995 respondents, 917 students (92.2%) indicated their race as White, 30 students (3%) indicated their race as Black, and 17 students (1.7%) indicated their race was Asian.

Students were asked whether their native language was English. Of 992 respondents, 968 students (97.6%) indicated that English was their native language. Students were also asked if they were citizens of the United States. Of 993 respondents, 971 students (97.0%) indicated that they were U.S. citizens.

When exploring students' parental life status, 998 participants reported. Seventeen students (1.7%) indicated that at least one of their parents was deceased. One hundred twenty-six students (12.6%) indicated that both of their parents were alive, but were living apart. The remaining 845 students (84.4%) indicated that both of their parents were alive and were living together.

Students were also asked to provide their best estimate of their annual household income. Of 917 respondents, 131 students (14.3%) indicated that their household income was less than \$30,000 per year. One hundred forty-two students (15.5%) indicated that their household income was at least \$100,000.

When asked about their parents' education, 995 students responded. Five hundred twenty-five students (52.7%) reported that their fathers had at least a bachelor's degree. At the same time, 511 students (51.4%) reported that their mothers had at least a bachelor's degree. Overall, 341 students (34.1%) reported that neither parent had a bachelor's degree or higher, making them first generation college students.

Students were asked to report their age effective on December 31 of the current year. Of 993 respondents, 957 students (96.4%) indicated that they were either 18 or 19 years old. Table 4.2 reflects these results.

Students were also asked to report on various academic measures. Of 992 respondents, 570 students (57.5 %) indicated that they held an A- average or higher in high school. Two hundred thirty-seven students reported an average SAT verbal score of 585 on a scale of 400 to 800. Two hundred thirty-eight students reported an average SAT math score of 590 on a scale of 400 to 800. Seven hundred fifty-six students reported an average ACT composite score of 24 on a scale of 1 to 36. Table 4.3 reflects these results.

Table 4.2

*Student Background Characteristics*

Variable	N	%
Sex	1,001	
Male	380	38.0
Female	621	62.0
Race	995	
White	917	92.2
Black	30	3.0
American Indian	11	1.1
Asian	18	1.8
Latino	19	1.9
Is English your native language?	992	
No	24	2.4
Yes	968	97.6
U.S. citizen?	993	
No	11	1.1
Permanent resident	11	1.1
Yes	971	98.0
Parental status?	988	
One or both deceased	17	2.0
Divorced or living apart	126	13.0
Living together	845	86.0
Estimated parental income last year	917	
Less than \$20,000	60	6.5
\$20,000 to \$39,999	163	17.8
\$40,000 to \$59,999	267	29.1
\$60,000 to \$99,999	285	31.1
\$100,000 or more	142	15.5

Table 4.2 (continued)

Variable	N	%
Father's education	995	
Grammar school or less	11	1.1
Some high school	18	1.8
High school graduate	239	24.0
Postsecondary	39	3.9
Some college	163	16.4
College degree	289	29.0
Some graduate school	22	2.2
Graduate degree	214	21.5
Mother's education	995	
Grammar school or less	8	0.8
Some high school	16	1.6
High school graduate	257	25.8
Postsecondary	31	3.1
Some college	172	17.3
College degree	337	33.9
Some graduate school	31	3.1
Graduate degree	143	14.4
First generation college student	998	
Yes	341	34.2
No	657	65.8
Age	993	
16 or younger	1	0.1
17	9	0.9
18	584	58.8
19	373	37.6
20	17	1.7
21 to 24	7	0.7
25 to 29	2	0.2

Table 4.3

*Student Scores*

Variable	N	%
Average grade in high school	992	
D	1	0.1
C	11	1.1
C+	26	2.6
B-	43	4.3
B	167	16.8
B+	174	17.5
A-	260	26.2
A or A+	310	31.3

Variable	N	Mean
SAT Verbal	237	584.8
SAT Math	238	590.3
ACT Composite	756	24.0

**Analyses: Part Two**

The second research question asked whether there was a relationship between student background characteristics and their institutional satisfaction of religious four-year colleges. Three cross tabulations with Pearson correlations were conducted to attempt to answer this question. One focused on first generation college status, one focused on estimated household income, and one focused on high school grade point average. The frequencies of the variables for parental education displayed the distribution of the results as outlined in Tables 4.4, 4.5, 4.6, 4.7, and 4.8.

Table 4.4

*First Generation College Student Status Versus College Satisfaction (n = 990)*

		Satisfaction with overall college experience				
		Dissatisfied	Neutral	Satisfied	Very satisfied	Total
First generation student	Count	10	39	170	118	337
	% within first generation	3.0%	11.6%	50.4%	35.0%	100.0%
	% of Total	1.0%	3.9%	17.2%	11.9%	34.0%
Not first generation student	Count	12	53	336	252	653
	% within not first generation	1.8%	8.1%	51.5%	38.6%	100.0%
	% of Total	1.2%	5.4%	33.9%	25.5%	66.0%

Note.  $R = 0.062$ ,  $p = 0.050$

Examining the raw numbers, it appears a lower percentage (85.4%) of first generation college students were satisfied with their institution than the non-first generation college students (90.1%). A positive correlation was reported at 0.062 and was measured as statistically significant with a confidence of 95%.

Table 4.5

*First Generation College Student Status Versus Sex (n = 998)*

		Sex		
		Male	Female	Total
First generation student	Count	134	207	341
	% within first generation	39.30%	60.70%	100.00%
	% of Total	13.40%	20.70%	34.20%
Not first generation student	Count	245	412	657
	% within not first generation	37.30%	62.70%	100.00%
	% of Total	24.50%	41.30%	65.80%

Note.  $R = 0.020$ ,  $p = 0.536$

The distribution among first generation status versus sex appears to be balanced. The positive correlation was not deemed significant.

Table 4.6

*First Generation College Student Status Versus Degree Aspiration (n = 821)*

		Please indicate the highest degree you plan to complete					
		None	Associate	Bachelor's	Master's	Doctorate	Total
First generation student	Count	5	0	75	143	60	283
	% within first gen.	1.80%	0.00%	26.50%	50.50%	21.20%	100.00%
	% of Total	0.60%	0.00%	9.10%	17.40%	7.30%	34.50%
Not first generation student	Count	8	1	106	257	166	538
	% within not first gen.	1.50%	0.20%	19.70%	47.80%	30.80%	100.00%
	% of Total	1.00%	0.10%	12.90%	31.30%	20.20%	65.50%

Note.  $R = 0.110$ ,  $p = 0.002$

The distribution among first generation status versus degree aspiration appears to indicate higher aspirations for non-first generation college students than their counterparts.

The positive correlation was statistically significant to a 95% confidence.

Table 4.7

*First Generation College Student Status Versus High School GPA (n = 989)*

		What was your average grade in high school?				
		D, C, C+	B-, B, B+	A-	A or A+	Total
First generation student	Count	22	149	77	89	337
	% within first gen.	6.50%	44.30%	22.80%	26.40%	100.00%
	% of Total	2.20%	15.10%	7.80%	9.00%	34.10%
Not first generation student	Count	16	235	181	220	652
	% within not first gen.	2.50%	36.10%	27.80%	33.70%	100.00%
	% of Total	1.60%	23.70%	18.30%	22.20%	65.90%

Note.  $R = 0.134$ ,  $p = 0.000$

The distribution among first generation status versus high school GPA also appears to indicate higher grade averages for non-first generation college students than their counterparts. The positive correlation was statistically significant to a 99.9% confidence.

Table 4.8

*First Generation College Student Versus College Activities*

Variable	N	R	R-squared	p	
Apathetic activities	983	-0.023	0.001	0.467	
Too busy activities	991	-0.078	0.006	0.014	*
Internet user activities	994	0.026	0.001	0.415	
Academic independent activities	984	0.060	0.004	0.061	
Political activities	985	0.105	0.011	0.001	**
Party activities	986	0.004	0.000	0.909	
Engaged activities	988	0.151	0.023	0.000	***
Distressed activities	989	-0.040	0.002	0.206	

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$



The frequencies of the variables for estimated household income displayed the distribution of the results as outlined in Table 4.9. Examining the raw numbers, the distribution appears consistent among the various income levels. A positive correlation was reported at 0.029; this, however, was measured as being not statistically significant with a p-value well above 0.05.

Table 4.9

*Estimated Household Income Versus College Satisfaction (n = 990)*

		Satisfaction with overall college experience				
		Dissatisfied	Neutral	Satisfied	Very satisfied	Total
Less than \$20,000	Count	2	6	32	19	59
	% within household income	3.4%	10.0%	54.2%	32.2%	100.0%
	% of total	0.2%	0.7%	3.5%	2.1%	6.5%
\$20,000 to \$39,999	Count	4	15	81	63	163
	% within household income	2.5%	9.2%	49.7%	38.7%	100.0%
	% of total	0.4%	1.7%	8.9%	6.9%	17.9%
\$40,000 to \$59,999	Count	7	20	143	93	263
	% within household income	2.7%	7.6%	54.4%	35.4%	100.0%
	% of total	0.8%	2.2%	15.7%	10.2%	28.9%
\$60,000 to \$99,999	Count	7	24	142	111	284
	% within household income	2.5%	8.5%	50.0%	39.1%	100.0%
	% of total	0.8%	2.6%	15.6%	12.2%	31.2%
\$100,000 or more	Count	2	12	73	53	284
	% within household income	1.4%	8.6%	52.1%	37.9%	100.0%
	% of total	0.2%	1.3%	8.0%	5.8%	15.4%

Note.  $R = 0.029$ ,  $p = 0.378$

The frequencies of the variables for high school GPA displayed the distribution of the results as shown in Table 4.10. More than half of the students reported a high school GPA above a B+. In virtually all grade categories (with the exception of the D grade category), over 50% of the students indicated that they were satisfied with their current institution. Overall, these variables correlated positively at 0.101 and were reported as being significant with a confidence of 99%.

Table 4.10

*High School GPA versus College Satisfaction (n = 909)*

		Satisfaction with Overall College Experience				
		Dissatisfied	Neutral	Satisfied	Very Satisfied	Total
D	Count	0	0	1	0	1
	% within high school GPA	0.0%	0.0%	100.0%	0.0%	100.0%
	% of Total	0.0%	0.0%	0.1%	0.0%	0.1%
C	Count	0	2	5	3	10
	% within high school GPA	0.0%	20.0%	50.0%	30.0%	100.0%
	% of Total	0.0%	0.2%	0.5%	0.3%	1.0%
C+	Count	0	6	14	6	26
	% within high school GPA	0.0%	23.1%	53.8%	23.1%	100.0%
	% of Total	0.0%	0.6%	1.4%	0.6%	2.6%

Table 4.10 (continued)

		Satisfaction with Overall College Experience				
		Dissatisfied	Neutral	Satisfied	Very Satisfied	Total
B-	Count	0	5	22	15	42
	% within high school GPA	0.0%	11.9%	52.4%	35.7%	100.0%
	% of Total	0.0%	0.5%	2.2%	1.5%	4.3%
	<hr/>					
B	Count	2	21	87	54	164
	% within high school GPA	1.2%	12.8%	53.0%	32.9%	100.0%
	% of Total	0.2%	2.1%	8.8%	5.5%	16.7%
	<hr/>					
B+	Count	11	21	80	61	173
	% within high school GPA	6.4%	12.1%	46.2%	35.3%	100.0%
	% of Total	1.1%	2.1%	8.1%	6.2%	17.6%
	<hr/>					
A- or A+	Count	3	23	128	105	259
	% within high school GPA	1.2%	8.9%	49.4%	40.5%	100.0%
	% with satisfied with college experience	13.6%	25.3%	25.4%	28.6%	26.3%
	% of Total	0.3%	2.3%	13.0%	10.7%	26.3%
	<hr/>					
A or A+	Count	6	13	167	123	309
	% within high school GPA	1.9%	4.2%	54.0%	39.8%	100.0%
	% with satisfied with college experience	27.3%	14.3%	33.1%	33.5%	31.4%
	% of Total	0.6%	1.3%	17.0%	12.5%	31.4%
	<hr/>					

Note.  $R = 0.101$ ,  $p = 0.002$

### Analyses: Part Three

The third research question asked whether there was a relationship between student college activities and their institutional satisfaction of religious four-year colleges. Similar to

research question two, cross tabulations with Pearson correlations were conducted to attempt to answer this question. Table 4.11 summarizes the results of the correlations.

Four of the activity categories had positive correlations (Internet user, academic independent, voted, and engaged activities) while four activity categories had negative correlations (apathetic, too busy, party, and distressed activities). In every category except party activities, the correlations were reported as being significant at a confidence of at least 95%.

Table 4.11

*College Activities Versus College Satisfaction*

Variable	N	R	R-squared	p	
Apathetic activities	978	-0.108	0.012	0.001	***
Too busy activities	986	-0.069	0.005	0.030	*
Internet user activities	989	0.071	0.005	0.026	*
Academic independent activities	980	0.102	0.010	0.001	***
Political activities	980	0.168	0.028	0.000	***
Party activities	985	-0.057	0.003	0.074	
Engaged activities	987	0.166	0.028	0.000	***
Distressed activities	988	-0.096	0.009	0.003	**

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

#### Analyses: Part Four

The fourth research question asked whether there were any significant changes over time with regard to students' goals from their freshmen year to their senior year. Because this study explored change over time, the same group of variables was being compared against two snapshots. Students' inputs before entering college were being compared against the same students' inputs during their senior year. The same group of individuals was

experiencing two different conditions. This scenario requires a paired-samples *t*-test (Creswell, 2005).

Of the five selected variables, four reported *p*-values of less than 0.05, making them statistically significant. A negative difference of means indicates an increase over time of the importance of the goal. These four variables indicate a change in students' goals, suggesting that the college experience influenced the change. Table 4.12 reflects this analysis.

Table 4.12

*Paired Samples T-test for Student Goals*

Variable	N	Correlation (R)	2-tail sig. for R	Difference of means	<i>t</i> -value	DF	2-tail sig
Being very well off financially	987	0.490	0.000	0.235	8.327	986	<b>0.000</b>
Helping others who are in difficulty	985	0.329	0.000	-0.197	-6.748	984	<b>0.000</b>
Helping to promote racial understanding	982	0.402	0.000	-0.233	-7.572	981	<b>0.000</b>
Integrating spirituality into my life	378	0.575	0.000	-0.156	-3.254	377	<b>0.001</b>
Raising a family	985	0.431	0.000	-0.046	-1.568	984	0.117

*Note.* *p* values less than 0.05 are in bold

### Analyses: Part Five

The fifth question asked what specific background characteristics, pre-college experience goals, college activities, student integrations, and post-college experience goals may predict students' overall college institution satisfaction. A multiple regression analysis was conducted to explore this answer.

The dependent variable was Overall Institutional Satisfaction. Five levels of independent variables were used in the regression analysis: Background Characteristics,

Pre-college Student Goals, College Activities, Student Satisfaction, and Post-college Student Goals. The latter four groups of variables were derived from exploratory factor analysis.

The goal variables were measured on a scale of one to four, where 1 = not important and 4 = essential. The activity variables were measured on a scale of one to three, where 1 = not at all and 3 = frequently. The satisfaction variables were measured on a scale of one to four, where 1 = dissatisfied and 4 = very satisfied. The B values for each variable that were positive would indicate that the higher that variable was rated (i.e., the more important a goal was or the more frequently an activity was conducted), the more likely that the student would be satisfied with the institution. Conversely, the B values for each variable that were negative would indicate that the higher the variable was rated, the more likely the student would be dissatisfied with the institution. Also, the higher the absolute value of  $\beta$ , the higher the impact of student institutional satisfaction or dissatisfaction. Table 4.9 indicated which variables are listed at a minimum confidence of 95% with an asterisk.

*Background Characteristics (Model 1).* The multiple regression analysis results for block 1 (background characteristics) showed that a student's degree aspiration is a statistically significant predictor of overall college satisfaction at  $p < .05$  (Table 4.13). The positive beta indicates that the higher the degree aspiration, the more likely the student was satisfied with the college. The background characteristics accounted for 3.5% of the variance in the regression model.

*Freshmen Goals (Model 2).* Model 2 included the aforementioned background characteristics and the freshmen goals of the students. The results for block 2 showed that degree aspirations were still significant at  $p < .05$ . In addition, the Dutiful Goals variable

was significant at  $p < .05$ . The variables in Model 2 accounted for 4.5% of the variance in the regression model.

*College Activities (Model 3).* Model 3 added college activity variables to the analysis. Block 3 no longer indicated that degree aspirations were significant, although Dutiful Goals remained significant at  $p < .05$ . Too Busy Activities and Distressed Activities were significant at  $p < .05$ . These latter two variables had negative beta values, indicating that the more likely (higher the score) the student was too busy or distressed, the more likely the overall college satisfaction would be negative. The variables in block 3 accounted for 6.9% of the variance in the regression model.

*Integration (Model 4).* Model 4 added student satisfaction rating variables to the analysis. Block 4 reinstated the significance of degree aspirations at  $p < .05$ . Coursework Satisfaction and Community Satisfaction were very significant at  $p < .001$ . These beta values were positive, indicating that their satisfaction in these specific areas contributed to the overall college satisfaction. Classroom Experience Satisfaction was also significant at  $p < .05$ . The variables in block 4 accounted for 55.6% of the variance in the regression model.

*Senior Goals (Model 5).* Model 5 (full model) added the participants' senior goals to the analysis. Block 5 showed five variables that were significant at  $p < .05$ . They were Degree Aspiration, Engaged Activities, Classroom Experience Satisfaction, Math/Science Course Satisfaction, and Involved (Senior) Goals. Coursework Satisfaction and Community Satisfaction were still very significant at  $p < .001$ . Engaged Activities and Math/Science Course Satisfaction both had negative beta values, indicating a higher score would result in a lower satisfaction rating for the overall college experience.

Table 4.13

*Summary of Hierarchical Regression Analysis for Variables Predicting Student's Likelihood**That They Will Be Satisfied with Their College (n=398)*

Predictor	Block 1 $\beta$	Block 2 $\beta$	Block 3 $\beta$	Block 4 $\beta$	Block 5 $\beta$
<b>Block 1: Background Characteristics</b>					
Sex	0.093	0.070	0.078	0.014	0.021
Degree aspiration	0.120*	0.112*	0.086	0.080*	0.074*
First-generation college student	0.100	0.089	0.064	0.060	0.058
High School GPA	0.068	0.046	0.006	0.013	0.012
Estimated Household Income	0.029	0.031	-0.005	-0.024	-0.022
<b>Block 2: Freshmen Goals</b>					
Involved goals (freshmen)		-0.075	-0.076	-0.018	-0.059
Leadership goals (freshmen)		0.077	0.033	0.023	0.030
Managerial goals (freshmen)		-0.063	-0.039	-0.023	0.000
Dutiful goals (freshmen)		0.125*	0.123*	0.045	0.055
Artistic goals (freshmen)		0.018	0.026	-0.033	-0.034
<b>Block 3: College Activities</b>					
Apathetic activities			-0.003	0.066	0.072
Too busy activities			-0.127*	-0.047	-0.045
Internet user activities			0.023	-0.039	-0.034
Academic independent activities			0.072	0.039	0.036
Political activities			0.092	0.039	0.029
Party activities			0.009	0.022	0.009
Engaged activities			0.035	-0.065	-0.089*
Distressed activities			-0.128*	-0.026	-0.023
<b>Block 4: Integration</b>					
Coursework satisfaction				0.155***	0.151***
Community satisfaction				0.557***	0.571***
Classroom experience satisfaction				0.103*	0.104*
Career and academic advising satis.				0.064	0.068
Technology satisfaction				0.011	0.015
Student life satisfaction				0.021	0.017
Non-math and science course satis.				0.030	0.016
Math and science course satis.				-0.074	-0.082*



Table 4.13 (continued)

Predictor	Block 1 $\beta$	Block 2 $\beta$	Block 3 $\beta$	Block 4 $\beta$	Block 5 $\beta$
<b>Block 5: Senior Goals</b>					
Involved goals (senior)					0.105*
Leadership goals (senior)					-0.047
Artistic goals (senior)					-0.015
Dutiful goals (senior)					-0.044
<i>R</i>	0.218	0.263	0.333	0.765	0.769
<i>R</i> <sup>2</sup>	0.047	0.069	0.111	0.585	0.591
Adjusted <i>R</i> <sup>2</sup>	0.035	0.045	0.069	0.556	0.558
$\Delta R^2$		0.022	0.042	0.475	0.006

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Based on the results of the exploratory factor analyses displayed in Table 3.8, the multiple regression analysis was performed with those new groupings. Based on the model summary, the correlation calculation becomes stronger as the models are added to the equation. With only the Background Characteristics variables, the correlation is just 0.218. Only 3.5% of the variance in overall college satisfaction was accounted for by background characteristics. After considering all five models (i.e., variable groups), the correlation becomes 0.769. Squaring this correlation yields a product of 0.558. Over half (55.8%) of the variance in overall college satisfaction was accounted for by all factors. That is, 55.8% of the variability in college satisfaction can be predicted from the relationship with these factors (Gravetter & Wallnau, 2007).

### Summary

The analyses presented have produced significant results. A descriptive analysis demonstrated the likelihood of a homogeneous group, with few exceptions. Cross tabulation and correlation analyses demonstrated that there are a number of significant relationships

among certain variables and satisfaction with the overall college experience. A paired-sample t-test demonstrated that there are significant changes over time with respect to student goals. Finally, this study demonstrated through regression analysis that there are significant factors that can predict students' overall satisfaction with their college experience.

## **CHAPTER 5. DISCUSSION, IMPLICATIONS, RECOMMENDATIONS FOR FUTURE RESEARCH, AND CONCLUSION**

### **Introduction**

As discussed in Chapter 1, the purpose of this study was to determine the various influences of overall student satisfaction with their respective institutions by conducting a quantitative analysis study using a secondary dataset. In depth, this study explored the descriptions of students who attended selected religious four-year colleges. The study explored relationships between background characteristics and the students' satisfaction of their respective institutions. The study explored relationships between college experiences and their satisfaction of their respective institutions. The study explored changes over time with respect to the goals of these students. Finally, the study explored possible predictive elements, such as background characteristics, goals, and college experiences, which may influence institutional satisfaction.

The research questions in this study helped to discover the makeup of the students who attended religious four-year colleges and factors that influenced their satisfaction with their respective institutions. The study attempted to answer the following questions:

1. What are the background characteristics of students who attend selected religious four-year colleges?
2. Is there a relationship between student institutional satisfaction and background characteristics?
3. Is there a relationship between student institutional satisfaction and college experiences?

4. Are there any significant changes over time with regard to students' goals from their freshmen year to their senior year?
5. What background characteristics, pre-college experience goals, college academic activities, college general activities, student integrations, and post-college experience goals predict students' overall college satisfaction?

This chapter will discuss the results reported in Chapter 4 as well as any significance they may reveal. This chapter will also discuss recommendations based on these results.

### **Discussion of Results**

*Theoretical Frameworks Applied.* This study considered the applications of a number of frameworks, but borrowed heavily from Tinto's Theory of Student Integration (1993). The frameworks considered based their foundations in Astin I-E-O (1975) model. Applied to a student college experience, the student arrives with existing attributes (background characteristics), goes through an experience (college), and departs hopefully with knowledge and experience. This departure may be premature (drop out) or it may be graduation.

Tinto's (1993) theory, Pascarella's (1985) theory, and Clemen's et al (2007) theory each suggest a number of inputs, various experiences, and a number of possible outcomes. The regression model was based on all three models and the results substantiated these models at different levels. With this population group, the final model produced significant results in most of the areas. The only phase that did not produce significant results was the freshmen goals category. However, before applying the integration phase, freshmen goals of raising a family or helping others was a significant factor.

Considering the model summary, however, the  $\Delta R$  showed the most change when the integration phase variables were applied to the model. Tinto defined the integration phase as

the level of participation as well as how positive the experiences were (1993). He also stated that an institution with a balance between academic and social activities leads to a positive experience (Tinto, 1993). The regression model supports this claim; the integration phase of the students' college experience seemed to have the highest impact on overall satisfaction. There were four categories that not only reflected satisfaction and engagement, but also reflected academic and social variables.

It could be argued that satisfaction on smaller levels would most certainly lead to satisfaction on an ultimate scale. Note, however, that there was a significant result that dissatisfied students in regard to math and science courses did predict satisfaction with the overall college experience. Therefore, it may not be simply that satisfaction at smaller, specific levels necessarily leads to overall satisfaction, but rather participation (and reflection on that participation) is a significant predictor of overall satisfaction.

Though other factors contributed to predicting the likelihood of satisfaction with the overall college experience, the largest contributor was the integration factor. This could be, perhaps, the focus of the study warranting further investigation.

*Background Characteristics.* The first research question explored the background characteristics of the participants. As assumed, the group was presented as homogeneous. Though almost two to one participants were female, the group was made up of predominantly white, English-speaking U.S. citizens who were 18 or 19 years old when they participated in the SIF. A large majority of the participants came from homes where their parents were still alive and living with each other. Most participants came from households with an estimated annual income between \$30,000 and \$150,000. Very few participants' parents held a degree less than a high school diploma. Some parents had postsecondary

education, such as non-credit learning, while others had some college, earning credit toward a degree. In fact, more than half of all parents had at least a bachelor's degree. Based on this, few participants would come from a low-income background, and a minority of the participants would be considered first-generation college students. Overall, many of these participants would not be considered at-risk for leaving college (Tinto, 1993). This would affirm the second assumption that students who attend religious four-year colleges are a homogeneous group (Reynders, 2007).

From an academic background standpoint, more than half reported possessing a high school grade point average of an A- or higher. College entrance exam results were above average, too. SAT scores averaged close to 590 for each battery. ACT composite scores averaged above 24. This would indicate a seemingly academically prepared group of students. Astin (2006) suggested that students are likely to be retained if their academic preparedness is well maintained.

At first impression, this group of participants seems to be well prepared for college success. However, these students are not without their challenges. This study substantiates that background characteristics (input) as a whole does not significantly nor exclusively contribute to ultimate satisfaction (output). Other factors (environment) need to be considered.

*Relationships with Background Characteristics.* The second research question explored relationships between selected background characteristics and college satisfaction. The background characteristics that were tested were first generation college student status, estimated household income, and high school grade point average (HSGPA). Cross-tabulation analyses and Pearson correlations were conducted.

Students whose parents did not have a minimum of a bachelor's degree (i.e., first generation college students) correlated negatively to college satisfaction. That is, if at least one parent of a student had a bachelor's degree, it would likely result in a favorable satisfaction score for the college while first generation college students would likely result in an unfavorable satisfaction score for the college. With a confidence of 95%, the null hypothesis was rejected, and the results substantiate that there is indeed a statistically significant relationship between first generation college students and their level of institutional satisfaction.

Though the distribution of sex (gender) was virtually the same among first-generation students, there was no statistically significant indication that there was a relationship. This distribution happened merely by chance. In fact, sex does not appear to play a factor when measuring for outcomes in any of the analyses. Though one of the characteristics of a successful student according to Nippert (2001) was that a student was female, this study does not necessarily reflect that suggestion.

When analyzing the results of the cross tabulation between first generation status and degree aspirations, there was a clear difference in the distribution, particularly in the aspiration of a doctoral degree. To a confidence of 95%, there is indeed a positive relationship between non first generation college students and degree aspirations. Non first-generation students were reported as more likely to aspire to a higher degree than their counterparts. This would suggest the influence of their parents who hold a minimum of a bachelor's degree, as suggested by Tinto (1993).

When examining the results of the cross tabulation between first generation college student status and high school GPA, there was a significant, positive relationship to a

confidence of 99.9%. The distribution was better than two to one for students who earned a GPA of an A- or higher and had at least one parent with a bachelor's degree. This supports Nippert's (2001) claim of a relationship between high academic success and students with well-educated parents.

A cross tabulation analysis of first generation college student status against college activities seemed to corroborate Carini's (2006) suggestion that students who are engaged are likely to be satisfied students and complete their degree. Because a student who votes may be considered engaging in a civic activity, this seemed to fall in the same category and also had a significant relationship with first generation college student status.

Students who reported higher estimated household incomes correlated positively with satisfaction. That is, the higher the estimated income, the higher the satisfaction rating. The null hypothesis, however, was not rejected in this instance. The correlation happened by chance, and there is no relationship.

Students who reported a higher HSGPA also correlated positively with institutional satisfaction. This supports what Kreysa suggested (2007): students who perform well academically in high school are likely to be satisfied with their college experience. Additionally, the null hypothesis was rejected with a confidence of 99%. There is a significant relationship between HSGPA and overall college satisfaction. Astin (2006) suggested that academic preparedness was key to student retention.

*Relationships with College Activities.* The third research question explored relationships between college activities and college satisfaction. Of the eight factored categories, only one did not possess a statistically significant relationship with institutional satisfaction: Party Activities. Though it correlated negatively, institutional satisfaction



ratings evidently happened by chance when considering whether students drank alcohol or smoked cigarettes. This may be a general reflection of religious institutions, suggesting that perhaps these types of activities are not as prevalent as other institutions. However, though these institutions are defined as religious, there is likely to be variability of religious intensity at each institution. In other words, some of these institutions may be more secular than their stratification cell counterparts.

Apathetic Activities, Too Busy Activities, and Distressed Activities did correlate negatively as well. These variables, however, did have statistically significant relationships with institutional satisfaction. Students who were likely to come late to class, miss class due to employment, or perhaps felt depressed were also likely to not be satisfied with their overall college experience. This would support what Nippert (2001) suggested in that one attribute for a successful college student was working few hours.

On the other hand, Internet User Activities, Academic Independent Activities, Political Activities, and Engaged Activities all correlated positively with institutional satisfaction and had statistically significant relationships with institutional satisfaction. Students who used the internet for courses, worked on independent study projects, voted, or perhaps performed volunteer work were likely to be satisfied with their overall college experience.

*Student Goals.* The fourth research question explored changes over time with respect to selected student goals or opinions. Though the causes of the changes in goals and opinions were not explored here, this test did reveal statistically which goal categories were changed at all. Later, these pre-college experience goals and post-college experience goals

were analyzed as they related to possible predictive elements with regard to institutional satisfaction.

In four of the five categories, there were statistically significant changes in students' goals. A positive correlation means that if a student rated a goal high when he/she was a freshman, he/she was likely to also rate it high when he/she was a senior. Because the senior goals were considered before the freshmen goals, it is important to understand that a positive difference in the mean scores represents the goal was considered less important over the course of the college experience. Conversely, a negative difference in the mean scores represents the goal was considered more important over the course of the college experience.

Consider the first variable: Being Very Well Off Financially. The positive correlation (0.490) means that students who wanted to be well off financially when they were seniors were likely to also want to be well off financially when they were freshmen. The positive difference in the mean scores denotes that sometime during the college experience, being well off financially was not as important as it once was. Because this tested statistically significant at 99.9% confidence, this did not happen by chance.

Helping Others Who Are in Difficulty, Helping to Promote Racial Understanding, and Integrating Spirituality into My Life were all goals that became more important to students after their college experiences. Raising a Family became more important, as well, but this is only by chance, because the null hypothesis (the college experience does not influence a student's goal of raising a family) was not rejected.

*Predictive Elements of Overall Student Satisfaction.* The fifth research question explored possible predictive elements that may contribute to a students' overall satisfaction of an institution. When examining the full model, 55.8% of the variability in college

satisfaction can be predicted from the relationship with the variables. A low mean (0.132) in the standard error of predicted value meant the assumption of multicollinearity was met.

The most statistically significant measures of overall college experience satisfaction were with Coursework Satisfaction and Community Satisfaction with a confidence interval of 99.9%. Adding to this, Classroom Satisfaction also contributed to overall college experience satisfaction at a confidence interval of 95%. Mentioned earlier, this would indicate that the integration phase of the student experience had the most impact on overall college satisfaction. One seeming anomaly is that Math and Science Course Satisfaction had a negative impact on overall satisfaction, not a positive impact. That is, if a student reported a low satisfaction score with laboratory facilities or science/math courses, a high overall college experience satisfaction rating was likely. Perhaps those who considered the overall college experience as satisfying were likely to not be impressed with mathematics or science courses. Reasons for this would be worth exploring.

Degree Aspirations factored significantly among the background characteristics of the participants. The higher the degree aspiration, the more likely the overall college experience satisfaction rating would be high. Considering the participants in this study completed the CSS, they were likely to be degree completers and, therefore, achieve a bachelor's degree. Perhaps it may be assumed that students who aspire to further their education would likely be satisfied with their overall college experience thus far because their ultimate degree goal is still underway. Students who were not satisfied may decide to halt the pursuit of their education.

Students who reported high activity in engagement undertakings were also likely to be satisfied with their overall college experience. This would support what Carini (2006) and

Nippert (2001) suggested—involved students were likely to stay in college, complete a degree, and be satisfied with their experience.

A final likely predictor of a positive overall college experience lies in the senior goals of being involved. This should come as no surprise because this goal variable was reasonably related to the Engaged Activities. Common themes with these two variables included involvement in political events, community events, volunteering, and racial understanding.

A number of conclusions may be inferred from these results:

1. This predominantly homogeneous group of students would not be considered a group of at-risk students.
2. The vast majority of this group of students was satisfied with their overall college experience.
3. First Generation College Students are more likely to not be satisfied with their overall college experience.
4. Students who have a high HSGPA are more likely to be satisfied with their overall college experience.
5. Estimated Household Income does not appear to have an effect on satisfaction with the overall college experience.
6. Activities involving alcohol consumption or smoking do not appear to affect satisfaction with the overall college experience in this group.
7. Virtually all other activities do appear to have an effect on satisfaction with the overall college experience.

8. The college experience appears to have an effect on student goals and opinions.
9. Degree aspirations appear to be likely predictors of satisfaction with the overall college experience.
10. Student engagement appears to be a likely predictor of satisfaction with the overall college experience.
11. The most likely predictive elements leading to satisfaction with the overall college experience lie in how the students integrate within the college setting.

### **Implications for Policy**

Understanding the makeup of the students who attend four-year religious affiliated colleges, elements that describe satisfied students, that goals may be influenced by the college experience, and factors that predict student satisfaction is essential to ensuring the overall college experience is a satisfying one for college students, leading to results such as student persistence. The outcomes of this study offer various implications for policy and practice. This study contributes to the existing literature on college student satisfaction, college student retention, and college persistence.

This study was based on data collected from students who completed the CSS. That is, these participants were likely to finish college. Unlike many studies that explored why students were not satisfied or left their institutions, this study essentially sought to find reasons why students stayed, as suggested by Buller (2008). This study would suggest the implementations of the following policies.

*Policy: Mentoring Program.* Although the makeup of the student population is homogeneous, this study does not suggest that these factors influence student overall satisfaction. In fact, the only significant background characteristic was degree aspiration,

which had a significant relationship with students who had at least one parent with a bachelor's degree. The institutions who want to strive to increase student satisfaction should focus on servicing the needs of the first generation student.

Because the one defining characteristic of a first generation college student is that neither parent had at least a bachelor's degree, it would suggest that the student lacked a proper mentor with helpful academic (or simply college) experience. Institutions should consider implementing or enhancing a mentoring program to fill the void of college experienced parents. Not only could the college directly assist the student, but perhaps the college could integrate the parent in the process, particularly at the beginning stages of the experience, such as at the freshmen orientation. A mentoring program is considered important contributor to the success of a college student (Nippert, 2001).

Though the majority of the make-up of the students who attend religious, four-year colleges is alike in many ways, the largest group of students who may be at-risk are the first generation college students. Theoretically, these students did not have the benefit of a parent in their household to share their wisdom of the college experience with the child. In addition to household income and possession of a disability, a first generation college student was a factor in defining an at-risk student (Tinto, 1993).

*Policy: Student Monitoring.* There is a relationship between certain background characteristics and overall college satisfaction. High school GPA, degree aspiration, and first generational college student status all pose significant relationships with overall college satisfaction. Colleges should consider monitoring students who entered with a lower high school GPA. Because students who entered college with lower HSGPAs were more likely to be dissatisfied with their overall college experience, colleges should identify these students

and provide a support structure to ensure positive academic experiences. Though these students undoubtedly met the academic entrance requirements, they may still need help in areas such as study habits, assertiveness, or academic collaboration (Marques, 2007).

Colleges should also consider monitoring students who do not aspire to a higher degree, particularly students who do not aspire to achieve a bachelor's degree. Examples of monitoring would be early alerts for surpassing a low grade threshold or notifications of non-attendance in the classroom.

*Policy: Student Engagement.* There is a very significant relationship between students who were satisfied with their overall college experience and participated in engaged activities such as politics, volunteer work, and cross cultural activities. There is also a very significant relationship between students who were not satisfied with their overall college experience and apathetic activities such as failing to complete homework on time, missing class, or simply feeling bored. Also, engaged activities were one of the categories that was indicated as a likely predictor of student satisfaction with the overall college experience.

Colleges should consider a program to encourage student engagement and involvement in campus life holistically. As Tinto (1993) suggested, student retention should be a focused program, not an appendage to many other programs. By creating a program to specially address student retention, this would include pro-active programs such as orientation, college-sponsored study groups (or learning communities), or support groups. All of these should include some aspect of the complete college life (e.g., social, academic, on campus, off campus). Instead of designing learning groups by academic need, learning communities may be designed by academic subject. This may ensure a diverse group of

academic performers with a common interest and perhaps improve the academic performance of the whole group.

*Other Factors.* Satisfaction with the overall college experience correlated heavily with student activities in general, too. It may be intuitive to learn that students who are too busy for college, do not care about college, or are homesick are likely to leave the institution. These “negative” activities, however, may be remedied if they are identified early. Not all student issues may be resolved, but none would be resolved if the issue is unknown. Busy students can learn to balance schedules. Apathetic students can find something in which they are interested. Homesick students may learn to develop a “home away from home.” Colleges may develop curriculum in a general education course or during a mandatory freshmen orientation that may address these concerns.

### **Implications for Practice**

The results of these analyses may be applied to help colleges increase the satisfaction their students have with their overall experience. This study would suggest the implementations of the following practices.

*Practice: Goal Nurturing.* Few colleges would expect that their graduates were the same as when they first entered their institution. The obvious change a student experiences at a college is an infusion of knowledge. This, of course, is reflected in the achievement of a degree. The broader picture of the college experience is inclusive of, but also beyond, academics. In many cases, this study demonstrated that student goals, objectives, and opinions do indeed change over the course of the college experience. The nature of the change is neutral. But colleges need to understand that, intentional or not, they do have an influence on their students.



Colleges should create environments that encourage academic development, social development, and spiritual development. These environments most certainly can influence the direction of the student and may serve as tools to help keep students satisfied and retained.

This study demonstrates that many of the students' goals and objectives do change over time likely because of the college experience. Obviously, the college should not dictate what the goals should be or what opinions students should hold, but rather should emphasize the importance of having goals in general. If students have something to work toward (e.g., knowledge, a career), they are likely to succeed in college (Pascarella & Terenzini, 1977).

*Practice: The Academic Experience.* Student satisfaction in both coursework and the classroom experience were indicated as likely indicators that predict satisfaction with the overall college experience. Colleges that aspire to keep their students satisfied with the overall college experience should consider fostering the academic experience.

Tinto (2002) suggested that students who understand the relevance of what they are learning to career plans or everyday life are likely to be satisfied with the overall college experience. Also, students seem attracted to smaller instructor to student ratios as well as interaction not only with their classmates, but also the faculty. Students who were specifically engaged in the classroom were likely to be satisfied. This was another element that Tinto (2002) suggested was crucial to student retention. This study echoes these claims.

Colleges should include a focus of coursework relevance in the curriculum. Colleges should implement an academic experience workshop to promote interaction within and beyond the classroom experience while emphasizing the relevance of what they are learning to why they are learning. Give students an opportunity to apply their knowledge. This would

lead to the relevance of their program which would then lead to the relevance of the overall college experience.

*Practice: The Social Experience.* Student satisfaction in the community was also indicated as a likely indicator that predicted satisfaction with the overall college experience. Colleges should consider promoting the availability of social activities while fostering a sense of community. Also, colleges should promote respect for diverse beliefs. Students who were satisfied in these areas were also likely to be satisfied with the overall college experience. Colleges should invest in resources that promote community. This is, of course, a broad area. Suggested ideas would be to conduct regular activities that promote general diversity and to conduct regular events that promote social activities, such as dances.

One consideration to note is that the data analyzed in this study essentially pre-dates the social media boom. Many social media tools (such as Facebook and Twitter) coupled with new technological advances (such as smart phones and iPads) exist now and may have their own powerful influences on student satisfaction.

*Other Considerations.* This study identified a number of factors that likely predict whether a student would be satisfied with their overall college experience. One factor is a measure that is collected before the college experience, namely degree aspiration. The college may consider using this measure to identify students who may potentially be dissatisfied with their experience and to monitor the student for areas of need. Other factors are collected virtually after the college experience. Colleges need to understand that background characteristics, though important, are not the lone key to student satisfaction. The academic and social environment is just as important.

### **Recommendations for Future Research**

Student college satisfaction and retention will continue to be an evolving topic. Challenges will be met, and new ones will arrive to take their place. Though this study may help to meet a challenge, there will always be opportunity to conquer new ones.

This study provides new information regarding overall satisfaction among students who attended four-year religious colleges. Of particular note, this study exposes the need to focus on the first generation college student in this specific venue.

This study focused on a sample population that was exclusive to students who attended four-year, religious liberal arts colleges. The parameters of this study could be expanded and applied to various groups. It may also serve to compare and contrast different groups of students to explore effects on college satisfaction or retention. Adding diversity to this study would better represent the face of the college student in this country as well as in the world. For example, because this study focused on a group that consisted of predominantly white students, the same model may be applied to HERI's stratification cell of historically black colleges.

Other factors the CIRP offers may be considered under further analysis. The same study could focus on social issues (politics, religion) exclusive to college or perhaps focus on academic issues (majors, credit hour loads) exclusive to college. One of the possible criteria for at-risk students is the possession of a disability (Tinto, 1993). This study could incorporate that information for impact on satisfaction or retention.

This longitudinal study captured information from students when they were college freshmen and again when they were college seniors. As part of the college journey, further studies may benefit from capturing the same information at intermediate points in the college

student life cycle. In Astin's I-E-O (1975) model, the environment does not necessarily have to be a single point in time.

Finally, because the CIRP surveys are being evolved to reflect the needs of respective environments, new social and environmental impacts may be included for further analysis. Some issues stand the test of time (drinking alcohol in college), while others may be single significant events (9-11). Future research should take these possibilities into account because the college paradigm is sure to continue to shift.

### **Conclusion**

Chapter five discussed the results of the study and concluded a number of results that may be helpful for religious four year colleges to enhance their students' satisfaction with their overall college experience. A number of implications these colleges may use for policy and practice were also discussed. Finally, recommendations for further research that may build on this study were presented. Though this study's aim was to help colleges with student satisfaction, the ultimate purpose was to benefit these students who endeavor for a higher education.

A student's journey through the experience of college is not always a sure thing. The path begins with more questions than answers, and the student is filled with much uncertainty, similar to the first level of the previously mentioned obelisk. Hopefully, this study will help institutions of higher learning, particularly four-year, religious based liberal arts colleges, guide their freshman to their goals of obtaining a degree and reaching the top of that obelisk.

APPENDIX A

CIRP 2001 Student Information Form (SIF) Instrument

PLEASE PRINT NAME AND PERMANENT/HOME ADDRESS (one letter or number per box)

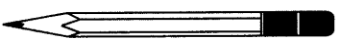
NAME: FIRST M LAST  
 ADDRESS: STATE: ZIP: PHONE: - -  
 When were you born? Month (01-12) Day (01-31) Year

2001 STUDENT INFORMATION FORM

**DIRECTIONS**  
 Your responses will be read by an optical mark reader. Your careful observance of these few simple rules will be most appreciated.  
 • Use only black lead pencil (No. 2 is ideal).  
 • Make heavy black marks that fill the oval.  
 • Erase cleanly any answer you wish to change.  
 • Make no stray markings of any kind.  
**EXAMPLE:**  
 Will marks made with ballpoint or felt-tip marker be properly read? Yes...  No...

Dear Student:  
 This information is being collected as part of a continuing study of higher education conducted by the American Council on Education and the University of California at Los Angeles. Your participation in this research will help us to achieve a better understanding of how students are affected by their college experiences. Detailed information on this research program is available from the Higher Education Research Institute at UCLA. Identifying information has been requested in order to make subsequent mail follow-up studies possible. Your responses are held in the strictest professional confidence.

Sincerely, *Alexander W. Astin*  
 Alexander W. Astin, Director  
 Higher Education Research Institute



PLEASE USE #2 PENCIL

FORM NO: 008908

PLEASE PROVIDE YOUR SOCIAL SECURITY NO.										Mark here if directed		
										GROUP CODE A	GROUP CODE B	
0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9

8. What were your scores on the SAT I and/or ACT?  
 SAT VERBAL .....  
 SAT MATH .....  
 ACT Composite .....

14. Is this college your: (Mark one)  
 First choice? .....  Less than third  
 Second choice? ...  choice? .....   
 Third choice? .....

9. Citizenship status:  
 U.S. citizen  
 Permanent resident (green card)  
 Neither

15. To how many colleges other than this one did you apply for admission this year?  
 None  1  4  7-10   
 2  5  11 or more   
 3  6

1. Your sex:  Male  Female  
 2. How old will you be on December 31 of this year? (Mark one)  
 16 or younger...  21-24 .....   
 17 .....  25-29 .....   
 18 .....  30-39 .....   
 19 .....  40-54 .....   
 20 .....  55 or older...

10. Have you had, or do you feel you will need, any special tutoring or remedial work in any of the following subjects? (Mark all that apply)  

	Have Had	Will Need
English .....	<input type="radio"/>	<input type="radio"/>
Reading .....	<input type="radio"/>	<input type="radio"/>
Mathematics .....	<input type="radio"/>	<input type="radio"/>
Social Studies .....	<input type="radio"/>	<input type="radio"/>
Science .....	<input type="radio"/>	<input type="radio"/>
Foreign Language .....	<input type="radio"/>	<input type="radio"/>
Writing .....	<input type="radio"/>	<input type="radio"/>

16. During high school (grades 9-12) how many years did you study each of the following subjects? (Mark one for each item)

	None	1/2	1	2	3	4	5 or more
English .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mathematics .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Foreign Language .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical Science .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biological Science .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
History/Am. Govt. .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer Science .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arts and/or Music .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Is English your native language?  
 Yes  No  
 4. In what year did you graduate from high school? (Mark one)  
 2001 .....  Did not graduate but  
 2000 .....  passed G.E.D. test.   
 1999 .....  Never completed  
 1998 or earlier.  high school .....

11. Prior to this term, have you ever taken courses for credit at this institution?  
 Yes  No

17. What is the highest academic degree that you intend to obtain? (Mark one in each column)

	Highest Planned	Highest Planned at this college
None .....	<input type="radio"/>	<input type="radio"/>
Vocational certificate .....	<input type="radio"/>	<input type="radio"/>
Associate (A.A. or equivalent) .....	<input type="radio"/>	<input type="radio"/>
Bachelor's degree (B.A., B.S., etc.) .....	<input type="radio"/>	<input type="radio"/>
Master's degree (M.A., M.S., etc.) .....	<input type="radio"/>	<input type="radio"/>
Ph.D. or Ed.D. ....	<input type="radio"/>	<input type="radio"/>
M.D., D.O., D.D.S., or D.V.M. ....	<input type="radio"/>	<input type="radio"/>
LL.B. or J.D. (Law) .....	<input type="radio"/>	<input type="radio"/>
B.D. or M.Div. (Divinity) .....	<input type="radio"/>	<input type="radio"/>
Other .....	<input type="radio"/>	<input type="radio"/>

5. Are you enrolled (or enrolling) as a: (Mark one)  
 Full-time student? ...   
 Part-time student? ...   
 6. How many miles is this college from your permanent home? (Mark one)  
 5 or less  11-50  101-500   
 6-10  51-100  Over 500

12. Since leaving high school, have you ever taken courses at any other institution? (Mark all that apply in each column)

	For Credit	Not for Credit
Yes, at a community/junior college. ....	<input type="radio"/>	<input type="radio"/>
Yes, at a 4-yr. college or university. ....	<input type="radio"/>	<input type="radio"/>
Yes, at some other postsecondary school (For example, technical, vocational, business) .....	<input type="radio"/>	<input type="radio"/>

What was your average grade in high school? (Mark one)  
 A or A+  B  C   
 A-  B-  D   
 B+  C+

13. Where do you plan to live during the fall term? (Mark one)  
 With my family or other relatives. ....   
 Other private home, apartment or room. ....   
 College dormitory. ....   
 Fraternity or sorority house. ....   
 Other campus student housing. ....   
 Other. ....

18. Are your parents: (Mark one)  
 Both alive and living with each other? ...   
 Both alive, divorced or living apart? ...   
 One or both deceased? .....



19. How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from each of the sources listed below? (Mark one answer for each possible source)

Family resources (parents, relatives, spouse, etc.)
My own resources (savings from work, work-study, other income)
Aid which need not be repaid (grants, scholarships, military funding, etc.)
Aid which must be repaid (loans, etc.)
Other than above

20. What is your best estimate of your parents' total income last year? Consider income from all sources before taxes. (Mark one)

Less than \$6,000
\$6,000-9,999
\$10,000-14,999
\$15,000-19,999
\$20,000-24,999
\$25,000-29,999
\$30,000-39,999
\$40,000-49,999
\$50,000-59,999
\$60,000-74,999
\$75,000-99,999
\$100,000-149,999
\$150,000-199,999
\$200,000 or more

21. Current religious preference: (Mark one in each column)

Baptist
Buddhist
Eastern Orthodox
Episcopal
Islamic
Jewish
LDS (Mormon)
Lutheran
Methodist
Presbyterian
Quaker
Roman Catholic
Seventh Day Adventist
United Church of Christ
Other Christian
Other Religion
None

22. Please indicate the ethnic background of yourself, your father, and your mother. (Mark all that apply in each column)

White/Caucasian
African American/Black
American Indian/Alaska Native
Asian American/Asian
Native Hawaiian/Pacific Islander
Mexican American/Chicano
Puerto Rican
Other Latino
Other

23. Do you consider yourself a born-again Christian?
Yes No

24. For the activities below, indicate which ones you did during the past year. If you engaged in an activity frequently, mark F. If you engaged in an activity one or more times, but not frequently, mark O (occasionally), Mark N (Not at all) if you have not performed the activity during the past year. (Mark one for each item)

Attended a religious service
Was bored in class
Participated in organized demonstrations
Tutored another student
Studied with other students
Was a guest in a teacher's home
Smoked cigarettes
Drank beer
Drank wine or liquor
Felt overwhelmed by all I had to do
Felt depressed
Performed volunteer work
Played a musical instrument
Asked a teacher for advice after class
Overslept and missed class or appointment
Discussed politics
Voted in a student election
Socialized with someone of another racial/ethnic group
Came late to class
Attended a public recital or concert
Visited an art gallery or museum
Discussed religion
Communicated via e-mail
Used the Internet for research or homework
Participated in Internet chat rooms
Other Internet use
Performed community service as part of a class
Used a personal computer

25. How many Advanced Placement courses or exams did you take in high school? (Mark one in each row)

AP Courses
AP Exams

26. What is the highest level of formal education obtained by your parents? (Mark one in each column)

Grammar school or less
Some high school
High school graduate
Postsecondary school other than college
Some college
College degree
Some graduate school
Graduate degree

27. From what kind of secondary school did you graduate? (Mark one)

Public
Private (denominational)
Private (non-religious)
Other

28. In deciding to go to college, how important to you was each of the following reasons? (Mark one answer for each possible reason)

My parents wanted me to go
I could not find a job
Wanted to get away from home
To be able to get a better job
To gain a general education and appreciation of ideas
To improve my reading and study skills
There was nothing better to do
To make me a more cultured person
To be able to make more money
To learn more about things that interest me
To prepare myself for graduate or professional school
A mentor/role model encouraged me to go
To get training for a specific career

29. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one in each row)

Academic ability
Artistic ability
Computer skills
Competitiveness
Cooperativeness
Creativity
Drive to achieve
Emotional health
Leadership ability
Mathematical ability
Physical health
Persistence
Popularity
Public speaking ability
Religiousness
Self-confidence (intellectual)
Self-confidence (social)
Self-understanding
Spirituality
Understanding of others
Writing ability

30. Mark only three responses, one in each column.

- M Your mother's occupation  
 F Your father's occupation  
 Y Your probable career occupation
- NOTE: If your father or mother is deceased, please indicate his or her last occupation.
- Accountant or actuary . . . . . Y F M
  - Actor or entertainer . . . . . Y F M
  - Architect or urban planner . . . . . Y F M
  - Artist . . . . . Y F M
  - Business (clerical) . . . . . Y F M
  - Business executive (management, administrator) . . . . . Y F M
  - Business owner or proprietor . . . . . Y F M
  - Business salesperson or buyer . . . . . Y F M
  - Clergy (minister, priest) . . . . . Y F M
  - Clergy (other religious) . . . . . Y F M
  - Clinical psychologist . . . . . Y F M
  - College administrator/staff . . . . . Y F M
  - College teacher . . . . . Y F M
  - Computer programmer or analyst . . . . . Y F M
  - Conservationist or forester . . . . . Y F M
  - Dentist (including orthodontist) . . . . . Y F M
  - Dietitian or home economist . . . . . Y F M
  - Engineer . . . . . Y F M
  - Farmer or rancher . . . . . Y F M
  - Foreign service worker (including diplomat) . . . . . Y F M
  - Homemaker (full-time) . . . . . Y F M
  - Interior decorator (including designer) . . . . . Y F M
  - Lab technician or hygienist . . . . . Y F M
  - Law enforcement officer . . . . . Y F M
  - Lawyer (attorney) or judge . . . . . Y F M
  - Military service (career) . . . . . Y F M
  - Musician (performer, composer) . . . . . Y F M
  - Nurse . . . . . Y F M
  - Optometrist . . . . . Y F M
  - Pharmacist . . . . . Y F M
  - Physician . . . . . Y F M
  - Policymaker/Government . . . . . Y F M
  - School counselor . . . . . Y F M
  - School principal or superintendent . . . . . Y F M
  - Scientific researcher . . . . . Y F M
  - Social, welfare or recreation worker . . . . . Y F M
  - Therapist (physical, occupational speech) . . . . . Y F M
  - Teacher or administrator (elementary) . . . . . Y F M
  - Teacher or administrator (secondary) . . . . . Y F M
  - Veterinarian . . . . . Y F M
  - Writer or journalist . . . . . Y F M
  - Skilled trades . . . . . Y F M
  - Laborer (unskilled) . . . . . Y F M
  - Semi-skilled worker . . . . . Y F M
  - Unemployed . . . . . Y F M
  - Other . . . . . Y F M
  - Undecided . . . . . Y

31. Mark one in each row:

- 1 Disagree Strongly  
 2 Disagree Somewhat  
 3 Agree Somewhat  
 4 Agree Strongly
- There is too much concern in the courts for the rights of criminals . . . . . 4 3 2 1
  - Abortion should be legal . . . . . 4 3 2 1
  - The death penalty should be abolished . . . . . 4 3 2 1
  - If two people really like each other, it's all right for them to have sex even if they've known each other for only a very short time . . . . . 4 3 2 1
  - Marijuana should be legalized . . . . . 4 3 2 1
  - It is important to have laws prohibiting homosexual relationships . . . . . 4 3 2 1
  - Employers should be allowed to require drug testing of employees or job applicants . . . . . 4 3 2 1
  - The federal government should do more to control the sale of handguns . . . . . 4 3 2 1
  - Racial discrimination is no longer a major problem in America . . . . . 4 3 2 1
  - Realistically, an individual can do little to bring about changes in our society . . . . . 4 3 2 1
  - Wealthy people should pay a larger share of taxes than they do now . . . . . 4 3 2 1
  - Colleges should prohibit racist/sexist speech on campus . . . . . 4 3 2 1
  - Same-sex couples should have the right to legal marital status . . . . . 4 3 2 1
  - Affirmative action in college admissions should be abolished . . . . . 4 3 2 1
  - The activities of married women are best confined to the home and family . . . . . 4 3 2 1

32. During your last year in high school, how much time did you spend during a typical week doing the following activities?

- Hours per week: None, Less than 1 hour, 1-2, 3-5, 6-10, 11-15, 16-20, Over 20
- Studying/homework . . . . .
  - Socializing with friends . . . . .
  - Talking with teachers outside of class . . . . .
  - Exercise or sports . . . . .
  - Partying . . . . .
  - Working (for pay) . . . . .
  - Volunteer work . . . . .
  - Student clubs/groups . . . . .
  - Watching TV . . . . .
  - Household/childcare duties . . . . .
  - Reading for pleasure . . . . .
  - Playing video/computer games . . . . .
  - Prayer/meditation . . . . .

33. Do you have any concern about your ability to finance your college education? (Mark one)

- None (I am confident that I will have sufficient funds) . . . . .
  - Some (but I probably will have enough funds) . . . . .
  - Major (not sure I will have enough funds to complete college) . . . . .
34. How would you characterize your political views? (Mark one)
- Far left
  - Liberal
  - Middle-of-the-road
  - Conservative
  - Far right

35. Are you presently married?  Yes  No

36. Did your high school require community service for graduation?  Yes  No

37. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here? (Mark one answer for each possible reason)

- Very Important, Somewhat Important, Not Important
- My relatives wanted me to come here . . . . .
  - My teacher advised me . . . . .
  - This college has a very good academic reputation . . . . .
  - This college has a good reputation for its social activities . . . . .
  - I was offered financial assistance . . . . .
  - This college offers special educational programs . . . . .
  - This college has low tuition . . . . .
  - High school counselor advised me . . . . .
  - Private college counselor advised me . . . . .
  - I wanted to live near home . . . . .
  - Not offered aid by first choice . . . . .
  - This college's graduates gain admission to top graduate/professional schools . . . . .
  - This college's graduates get good jobs . . . . .
  - I was attracted by the religious affiliation/orientation of the college . . . . .
  - I wanted to go to a school about the size of this college . . . . .
  - Not accepted anywhere else . . . . .
  - Rankings in national magazines . . . . .
  - Information from a website . . . . .
  - I was admitted through an Early Action or Early Decision program . . . . .
  - My friends are attending . . . . .
  - I was offered:
    - an athletic scholarship . . . . .
    - a merit-based scholarship . . . . .
    - a need-based scholarship . . . . .

38. Below is a list of different undergraduate major fields grouped into general categories. Mark only one oval to indicate your probable field of study.

- ARTS AND HUMANITIES**
- Art, fine and applied ..... 1
- English (language and literature) ..... 2
- History ..... 3
- Journalism ..... 4
- Language and Literature (except English) ..... 5
- Music ..... 6
- Philosophy ..... 7
- Speech ..... 8
- Theater or Drama ..... 9
- Theology or Religion ..... 10
- Other Arts and Humanities ..... 11
- BIOLOGICAL SCIENCE**
- Biology (general) ..... 12
- Biochemistry or Biophysics ..... 13
- Botany ..... 14
- Environmental Science ..... 15
- Marine (Life) Science ..... 16
- Microbiology or Bacteriology ..... 17
- Zoology ..... 18
- Other Biological Science ..... 19
- BUSINESS**
- Accounting ..... 20
- Business Admin. (general) ..... 21
- Finance ..... 22
- International Business ..... 23
- Marketing ..... 24
- Management ..... 25
- Secretarial Studies ..... 26
- Other Business ..... 27
- EDUCATION**
- Business Education ..... 28
- Elementary Education ..... 29
- Music or Art Education ..... 30
- Physical Education or Recreation ..... 31
- Secondary Education ..... 32
- Special Education ..... 33
- Other Education ..... 34
- ENGINEERING**
- Aeronautical or Astronautical Eng ..... 35
- Civil Engineering ..... 36
- Chemical Engineering ..... 37
- Electrical or Electronic Engineering ..... 38
- Industrial Engineering ..... 39
- Mechanical Engineering ..... 40
- Other Engineering ..... 41
- PHYSICAL SCIENCE**
- Astronomy ..... 42
- Atmospheric Science (incl. Meteorology) ..... 43
- Chemistry ..... 44
- Earth Science ..... 45
- Marine Science (incl. Oceanography) ..... 46
- Mathematics ..... 47
- Physics ..... 48
- Statistics ..... 49
- Other Physical Science ..... 50
- PROFESSIONAL**
- Architecture or Urban Planning ..... 51
- Home Economics ..... 52
- Health Technology (medical, dental, laboratory) ..... 53
- Library or Archival Science ..... 54
- Medicine, Dentistry, Veterinary ..... 55
- Nursing ..... 56
- Pharmacy ..... 57
- Therapy (occupational, physical, speech) ..... 58
- Other Professional ..... 59
- SOCIAL SCIENCE**
- Anthropology ..... 60
- Economics ..... 61
- Ethnic Studies ..... 62
- Geography ..... 63
- Political Science (gov't., international relations) ..... 64
- Psychology ..... 65
- Social Work ..... 66
- Sociology ..... 67
- Women's Studies ..... 68
- Other Social Science ..... 69
- TECHNICAL**
- Building Trades ..... 70
- Data Processing or Computer Programming ..... 71
- Electronics ..... 72
- Mechanics ..... 73
- Other Technical ..... 74
- OTHER FIELDS**
- Agriculture ..... 75
- Communications ..... 76
- Computer Science ..... 77
- Forestry ..... 78
- Kinesiology ..... 79
- Law Enforcement ..... 80
- Military Science ..... 81
- Other Field ..... 82
- Undecided ..... 84

DO NOT WRITE IN THIS AREA

39. Please indicate the importance to you personally of each of the following: (Mark one for each item)

- Legend: **N** Not Important, **S** Somewhat Important, **V** Very Important, **E** Essential
- Becoming accomplished in one of the performing arts (acting, dancing, etc.) ..... E V S N
  - Becoming an authority in my field ..... E V S N
  - Obtaining recognition from my colleagues for contributions to my special field ..... E V S N
  - Influencing the political structure ..... E V S N
  - Influencing social values ..... E V S N
  - Raising a family ..... E V S N
  - Having administrative responsibility for the work of others ..... E V S N
  - Being very well off financially ..... E V S N
  - Helping others who are in difficulty ..... E V S N
  - Making a theoretical contribution to science ..... E V S N
  - Writing original works (poems, novels, short stories, etc.) ..... E V S N
  - Creating artistic work (painting, sculpture, decorating, etc.) ..... E V S N
  - Becoming successful in a business of my own ..... E V S N
  - Becoming involved in programs to clean up the environment ..... E V S N
  - Developing a meaningful philosophy of life ..... E V S N
  - Participating in a community action program ..... E V S N
  - Helping to promote racial understanding ..... E V S N
  - Keeping up to date with political affairs ..... E V S N
  - Becoming a community leader ..... E V S N
  - Integrating spirituality into my life ..... E V S N

40. What is your best guess as to the chances that you will: (Mark one for each item)

- Legend: **N** No Chance, **L** Very Little Chance, **S** Some Chance, **V** Very Good Chance
- Change major field? ..... V S L N
  - Change career choice? ..... V S L N
  - Graduate with honors? ..... V S L N
  - Participate in student government? ..... V S L N
  - Get a job to help pay for college expenses? ..... V S L N
  - Work full-time while attending college? ..... V S L N
  - Join a social fraternity or sorority? ..... V S L N
  - Play varsity/intercollegiate athletics? ..... V S L N
  - Make at least a "B" average? ..... V S L N
  - Need extra time to complete your degree requirements? ..... V S L N
  - Get a bachelor's degree (B.A., B.S., etc.)? ..... V S L N
  - Participate in student protests or demonstrations? ..... V S L N
  - Drop out of this college temporarily (exclude transferring)? ..... V S L N
  - Drop out permanently (exclude transferring)? ..... V S L N
  - Transfer to another college before graduating? ..... V S L N
  - Be satisfied with your college? ..... V S L N
  - Participate in volunteer or community service work? ..... V S L N
  - Seek personal counseling? ..... V S L N
  - Develop close friendships with other students? ..... V S L N
  - Communicate regularly with your professors? ..... V S L N
  - Socialize with someone of another racial/ethnic group? ..... V S L N
  - Participate in student clubs/groups? ..... V S L N

41. Do you give the Higher Education Research Institute (HERI) permission to include your ID number should your college request the data for additional research analyses? HERI maintains strict standards of confidentiality and would require your college to sign a pledge of confidentiality.  Yes  No

The remaining ovals are provided for questions specifically designed by your college rather than the Higher Education Research Institute. If your college has chosen to use the ovals, please observe carefully the supplemental directions given to you.

- 42. A B C D E
- 43. A B C D E
- 44. A B C D E
- 45. A B C D E
- 46. A B C D E
- 47. A B C D E
- 48. A B C D E
- 49. A B C D E
- 50. A B C D E
- 51. A B C D E
- 52. A B C D E
- 53. A B C D E
- 54. A B C D E
- 55. A B C D E
- 56. A B C D E
- 57. A B C D E
- 58. A B C D E
- 59. A B C D E
- 60. A B C D E
- 61. A B C D E
- 62. A B C D E







**8. Please rate your satisfaction with your current (or most recent) college in each area:** (Mark one in each row)

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Can't Rate/No Experience
General education or core curriculum courses	V	S	N	D	?
Science and mathematics courses	V	S	N	D	?
Humanities courses	V	S	N	D	?
Social science courses	V	S	N	D	?
Laboratory facilities and equipment	V	S	N	D	?
Library facilities	V	S	N	D	?
Computer facilities	V	S	N	D	?
Quality of computer training/assistance	V	S	N	D	?
Availability of Internet access	V	S	N	D	?
Tutoring or other academic assistance	V	S	N	D	?
Academic advising	V	S	N	D	?
Career counseling and advising	V	S	N	D	?
Student housing	V	S	N	D	?
Financial aid services	V	S	N	D	?
Opportunities for community service	V	S	N	D	?
Job placement services for students	V	S	N	D	?
Campus health services	V	S	N	D	?
Ability to find a faculty or staff mentor	V	S	N	D	?
Leadership opportunities	V	S	N	D	?
Recreational facilities	V	S	N	D	?

**9. Please indicate your enrollment status below:** (Mark one)

Full-time undergraduate       Graduate student

Part-time undergraduate       Not enrolled

**10. Mark the one oval that best describes your undergraduate grade average.**

A (3.75 - 4.0)       B-, C+ (2.25 - 2.74)

A-, B+ (3.25 - 3.74)       C (1.75 - 2.24)

B (2.75 - 3.24)       C- or less (below 1.75)

**11. During the past year, how much time did you spend during a typical week doing the following activities?** (Mark one in each row)

	Hours Per Week							
	None	Less than 1 hour	1-2	3-5	6-10	11-15	16-20	Over 20
Studying/homework								
Attending classes/labs								
Socializing with friends								
Talking with faculty during office hours								
Talking with faculty outside of class or office hours								
Exercising/sports								
Partying								
Working (for pay) <u>on</u> campus								
Working (for pay) <u>off</u> campus								
Student clubs/groups								
Watching TV								
Housework/childcare								
Reading for pleasure								
Using a personal computer								
Commuting								
Prayer/meditation								

**12. Please mark your probable career/occupation below:** (Mark one)

Accountant or actuary

Actor or entertainer

Architect or urban planner

Artist

Business (clerical)

Business executive (management, administrator)

Business owner or proprietor

Business salesperson or buyer

Clergy (minister, priest)

Clergy (other religious)

Clinical psychologist

College administrator/staff

College teacher

Computer programmer or analyst

Conservationist or forester

Dentist (including orthodontist)

Dietitian or home economist

Engineer

Farmer or rancher

Foreign service worker (including diplomat)

Homemaker (full-time)

Interior decorator (including designer)

Lab technician or hygienist

Law enforcement officer

Lawyer (attorney) or judge

Military service (career)

Musician (performer, composer)

Nurse

Optometrist

Pharmacist

Physician

Policymaker/government

School counselor

School principal or superintendent

Scientific researcher

Social, welfare or recreation worker

Therapist (physical, occupational, speech)

Teacher or administrator (elementary)

Teacher or administrator (secondary)

Veterinarian

Writer or journalist

Skilled trades

Other

Undecided

**13. For the activities listed below, please indicate how often you engaged in each during the past year.** (Mark one in each row)

	Frequently	Occasionally	Not at all
Smoked cigarettes	F	O	N
Felt lonely or homesick	F	O	N
Socialized with someone of another racial/ethnic group	F	O	N
Felt depressed	F	O	N
Felt overwhelmed by all I had to do	F	O	N
Attended a religious service	F	O	N
Drank beer	F	O	N
Drank wine or liquor	F	O	N
Performed volunteer work	F	O	N
Participated in organized demonstrations	F	O	N
Discussed politics	F	O	N
Sought personal counseling	F	O	N
Discussed religion	F	O	N

**14. How would you characterize your political views?** (Mark one)

Far left

Liberal

Middle-of-the-road

Conservative

Far right

**15. Please indicate your ethnic background.** (Mark all that apply)

White/Caucasian

African American/Black

American Indian/Alaska Native

Asian American/Asian

Native Hawaiian/Pacific Islander

Mexican American/Chicano

Puerto Rican

Other Latino

Other

**16. Is English your native language?**

Yes     No

**17. Please rate your satisfaction with this institution on each of the aspects of campus life listed below.** (Mark one for each item)

	Very Satisfied	Satisfied	Neutral	Dissatisfied
Courses in your major field	V	S	N	D
Amount of contact with faculty	V	S	N	D
Class size	V	S	N	D
Interaction with other students	V	S	N	D
Relevance of coursework to everyday life	V	S	N	D
Relevance of coursework to future career plans	V	S	N	D
Overall quality of instruction	V	S	N	D
Overall sense of community among students	V	S	N	D
Availability of campus social activities	V	S	N	D
Overall college experience	V	S	N	D

**18. Compared with when you first started college, how would you now describe your:**  
(Mark one for each item)

	Much Stronger	Stronger	No Change	Weaker	Much Weaker
General knowledge.....	5	4	3	2	1
Analytical and problem-solving skills.....	5	4	3	2	1
Knowledge of a particular field or discipline.....	5	4	3	2	1
Ability to think critically.....	5	4	3	2	1
Foreign language ability.....	5	4	3	2	1
Knowledge of people from different races/cultures.....	5	4	3	2	1
Leadership abilities.....	5	4	3	2	1
Interpersonal skills.....	5	4	3	2	1
Ability to get along with people of different races/cultures.....	5	4	3	2	1
Understanding of the problems facing your community.....	5	4	3	2	1
Understanding of social problems facing our nation.....	5	4	3	2	1
Understanding of global issues.....	5	4	3	2	1
Writing skills.....	5	4	3	2	1
Public speaking ability.....	5	4	3	2	1
Mathematical skills.....	5	4	3	2	1
Computer skills.....	5	4	3	2	1

**19. Indicate the importance to you personally of each of the following:**  
(Mark one for each item)

	Essential	Very Important	Somewhat Important	Not Important
Becoming accomplished in one of the performing arts (acting, dancing, etc.).....	E	V	S	N
Becoming an authority in my field.....	E	V	S	N
Obtaining recognition from my colleagues for contributions to my special field.....	E	V	S	N
Influencing the political structure.....	E	V	S	N
Influencing social values.....	E	V	S	N
Raising a family.....	E	V	S	N
Having administrative responsibility for the work of others.....	E	V	S	N
Being very well off financially.....	E	V	S	N
Helping others who are in difficulty.....	E	V	S	N
Making a theoretical contribution to science.....	E	V	S	N
Writing original works (poems, novels, short stories, etc.).....	E	V	S	N
Creating artistic work (painting, sculpture, decorating, etc.).....	E	V	S	N
Becoming successful in a business of my own.....	E	V	S	N
Becoming involved in programs to clean up the environment.....	E	V	S	N
Developing a meaningful philosophy of life.....	E	V	S	N
Participating in a community action program.....	E	V	S	N
Helping to promote racial understanding.....	E	V	S	N
Keeping up to date with political affairs.....	E	V	S	N
Becoming a community leader.....	E	V	S	N
Integrating spirituality into my life.....	E	V	S	N

**20. Your current religious preference: (Mark one)**

Baptist.....	<input type="radio"/>	Methodist.....	<input type="radio"/>
Buddhist.....	<input type="radio"/>	Presbyterian.....	<input type="radio"/>
Eastern Orthodox.....	<input type="radio"/>	Quaker.....	<input type="radio"/>
Episcopal.....	<input type="radio"/>	Roman Catholic.....	<input type="radio"/>
Hindu.....	<input type="radio"/>	Seventh Day Adventist.....	<input type="radio"/>
Islamic.....	<input type="radio"/>	United Church of Christ.....	<input type="radio"/>
Jewish.....	<input type="radio"/>	Other Christian.....	<input type="radio"/>
LDS (Mormon).....	<input type="radio"/>	Other Religion.....	<input type="radio"/>
Lutheran.....	<input type="radio"/>	None.....	<input type="radio"/>

**21. Since entering college, how successful have you been in:**  
(Mark one for each item)

	Very Successful	Somewhat Successful	Not Successful
Understanding what your professors expect of you academically.....	3	2	1
Developing effective study skills.....	3	2	1
Adjusting to the academic demands of college.....	3	2	1
Managing your time effectively.....	3	2	1
Getting to know faculty.....	3	2	1
Developing close friendships with other students.....	3	2	1
Utilizing campus services available to students.....	3	2	1

**22. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself.**  
(Mark one in each row)

	Highest 10%	Above Average	Average	Below Average	Lowest 10%
Academic ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Artistic ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer skills.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competitiveness.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperativeness.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creativity.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drive to achieve.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emotional health.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mathematical ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical health.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Popularity.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public speaking ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Religiousness.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-confidence (intellectual).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-confidence (social).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-understanding.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spirituality.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding of others.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**23. How often have professors at your current (or most recent) college provided you with:**  
(Mark one for each item)

	Frequently	Occasionally	Not at all
Encouragement to pursue graduate/professional study.....	F	O	N
An opportunity to work on a research project.....	F	O	N
Advice and guidance about your educational program.....	F	O	N
Respect (treated you like a colleague/peer).....	F	O	N
An opportunity to publish.....	F	O	N
Emotional support and encouragement.....	F	O	N
A letter of recommendation.....	F	O	N
Assistance to improve your study skills.....	F	O	N
Negative feedback about your academic work.....	F	O	N
Intellectual challenge and stimulation.....	F	O	N
An opportunity to discuss coursework outside of class.....	F	O	N
Help in achieving your professional goals.....	F	O	N
An opportunity to apply classroom learning to "real-life" issues.....	F	O	N

24. Below is a list of different major fields.  
 (Mark only one in each column)
- U Undergraduate major (final or most recent)  
 G Graduate major (omit if you do not plan to go to graduate school)
- |  |  |
|--|--|
| <b>ARTS AND HUMANITIES</b>                             | <b>PHYSICAL SCIENCE</b>  |
| Art, fine and applied . . . . . U G                    | Astronomy . . . . . U G  |
| English (language and literature) . . . . . U G        | Atmospheric Science (incl. Meteorology) . . . . . U G            |
| History . . . . . U G                                  | Chemistry . . . . . U G  |
| Journalism . . . . . U G                               | Earth Science . . . . . U G                                      |
| Language and Literature (except English) . . . . . U G | Marine Science (incl. Oceanography) . . . . . U G                |
| Music . . . . . U G                                    | Mathematics . . . . . U G  |
| Philosophy . . . . . U G                               | Physics . . . . . U G  |
| Speech . . . . . U G                                   | Statistics . . . . . U G   |
| Theater or Drama . . . . . U G                         | Other Physical Science . . . . . U G                             |
| Theology or Religion . . . . . U G                     | <b>PROFESSIONAL</b>  |
| Other Arts and Humanities . . . . . U G                | Architecture or Urban Planning . . . . . U G                     |
| <b>BIOLOGICAL SCIENCE</b>                              | Home Economics . . . . . U G                                     |
| Biology (general) . . . . . U G                        | Health Technology (medical, dental, laboratory) . . . . . U G    |
| Biochemistry or Biophysics . . . . . U G               | Law . . . . . G  |
| Botany . . . . . U G                                   | Library/Archival Science . . . . . U G                           |
| Environmental Science . . . . . U G                    | Medicine, Dentistry, Veterinarian . . . . . U G                  |
| Marine (Life) Science . . . . . U G                    | Nursing . . . . . U G  |
| Microbiology or Bacteriology . . . . . U G             | Pharmacy . . . . . U G   |
| Zoology . . . . . U G                                  | Therapy (occupational, physical, speech) . . . . . U G           |
| Other Biological Science . . . . . U G                 | Other Professional . . . . . U G                                 |
| <b>BUSINESS</b>  | <b>SOCIAL SCIENCE</b>  |
| Accounting . . . . . U G                               | Anthropology . . . . . U G                                       |
| Business Admin. (general) . . . . . U G                | Economics . . . . . U G  |
| Finance . . . . . U G                                  | Ethnic Studies . . . . . U G                                     |
| International Business . . . . . U G                   | Geography . . . . . U G  |
| Marketing . . . . . U G                                | Political Science (gov't, international relations) . . . . . U G |
| Management . . . . . U G                               | Psychology . . . . . U G   |
| Secretarial Studies . . . . . U G                      | Social Work . . . . . U G  |
| Other Business . . . . . U G                           | Sociology . . . . . U G  |
| <b>EDUCATION</b>                                       | Women's Studies . . . . . U G                                    |
| Business Education . . . . . U G                       | Other Social Science . . . . . U G                               |
| Elementary Education . . . . . U G                     | <b>TECHNICAL</b>   |
| Music or Art Education . . . . . U G                   | Building Trades . . . . . U G                                    |
| Physical Education or Recreation . . . . . U G         | Data Processing or Computer Programming . . . . . U G            |
| Secondary Education . . . . . U G                      | Drafting or Design . . . . . U G                                 |
| Special Education . . . . . U G                        | Electronics . . . . . U G  |
| Other Education . . . . . U G                          | Mechanics . . . . . U G  |
| <b>ENGINEERING</b>                                     | Other Technical . . . . . U G                                    |
| Aero-/Astronautical Engineering . . . . . U G          | <b>OTHER FIELDS</b>  |
| Civil Engineering . . . . . U G                        | Agriculture . . . . . U G  |
| Chemical Engineering . . . . . U G                     | Communications . . . . . U G                                     |
| Electrical or Electronic Engineering . . . . . U G     | Computer Science . . . . . U G                                   |
| Industrial Engineering . . . . . U G                   | Forestry . . . . . U G   |
| Mechanical Engineering . . . . . U G                   | Kinesiology . . . . . U G  |
| Other Engineering . . . . . U G                        | Law Enforcement . . . . . U G                                    |
|  | Military Science . . . . . U G                                   |
|  | Other Field . . . . . U G  |
|  | Undecided . . . . . U G  |

25. Please indicate your agreement with each of the following statements.  
 (Mark one for each item)
- |   |                |                |                   |                   |
|---|----------------|----------------|-------------------|-------------------|
|   | Agree Strongly | Agree Somewhat | Disagree Somewhat | Disagree Strongly |
| There is too much concern in the courts for the rights of criminals . . . . .   | 4              | 3              | 2                 | 1                 |
| Abortion should be legal . . . . .  | 4              | 3              | 2                 | 1                 |
| The death penalty should be abolished . . . . .   | 4              | 3              | 2                 | 1                 |
| If two people really like each other, it's all right for them to have sex even if they've known each other for only a very short time . . . . . | 4              | 3              | 2                 | 1                 |
| Marijuana should be legalized . . . . .   | 4              | 3              | 2                 | 1                 |
| It is important to have laws prohibiting homosexual relationships . . . . .   | 4              | 3              | 2                 | 1                 |
| The federal government should do more to control the sale of handguns . . . . .   | 4              | 3              | 2                 | 1                 |
| Racial discrimination is no longer a major problem in America . . . . .   | 4              | 3              | 2                 | 1                 |
| Realistically, an individual can do little to bring about changes in our society . . . . .  | 4              | 3              | 2                 | 1                 |
| Wealthy people should pay a larger share of taxes than they do now . . . . .  | 4              | 3              | 2                 | 1                 |
| Colleges should prohibit racist/sexist speech on campus . . . . .   | 4              | 3              | 2                 | 1                 |
| Same-sex couples should have the right to legal marital status . . . . .  | 4              | 3              | 2                 | 1                 |
| Affirmative action in college admissions should be abolished . . . . .  | 4              | 3              | 2                 | 1                 |
| The activities of married women are best confined to the home and family . . . . .  | 4              | 3              | 2                 | 1                 |
| Federal military spending should be increased . . . . .   | 4              | 3              | 2                 | 1                 |
| The federal government should raise taxes to help reduce the deficit . . . . .  | 4              | 3              | 2                 | 1                 |
26. What do you plan to be doing six months from now?  
 (Mark all that apply)
- Attending undergraduate college full-time
  - Attending undergraduate college part-time
  - Attending graduate/professional school
  - Working full-time
  - Working part-time
  - Participating in a community service organization
  - Serving in the Armed Forces
  - Attending a vocational training program
  - Traveling, hostelling, or backpacking
  - Doing volunteer work
  - Staying at home to be with or start a family
  - No current plans
27. Do you give the Higher Education Research Institute at UCLA permission to include your ID number should your college request the data for additional research analyses?  Yes  No
- ADDITIONAL QUESTIONS: If you received an additional page of questions, please mark your answers below:**
- |               |               |               |
|---------------|---------------|---------------|
| 28. A B C D E | 38. A B C D E | 48. A B C D E |
| 29. A B C D E | 39. A B C D E | 49. A B C D E |
| 30. A B C D E | 40. A B C D E | 50. A B C D E |
| 31. A B C D E | 41. A B C D E | 51. A B C D E |
| 32. A B C D E | 42. A B C D E | 52. A B C D E |
| 33. A B C D E | 43. A B C D E | 53. A B C D E |
| 34. A B C D E | 44. A B C D E | 54. A B C D E |
| 35. A B C D E | 45. A B C D E | 55. A B C D E |
| 36. A B C D E | 46. A B C D E | 56. A B C D E |
| 37. A B C D E | 47. A B C D E | 57. A B C D E |

THANK YOU!

© 2005. Prepared by the Higher Education Research Institute, University of California, Los Angeles, California 90095-1521



## APPENDIX C

## Overall College Satisfaction Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11
1. Campus Satisfaction: Overall college experience	1	0.103	0.13	0.141	0.097	0.057	0.035	0.071	-0.08	0.163	0.029
2. Sex	0.103	1	-	0.083	0.142	-	-	-	-	0.131	-0.03
3. Please indicate the highest degree you plan to complete	0.13	-	1	0.134	0.019	0.009	0.153	0.098	-	0.076	0.037
4. firstgen	0.141	0.083	0.134	1	0.126	0.299	0.125	0.002	-	0.133	0.006
5. New High School GPA	0.097	0.142	0.019	0.126	1	0.027	0.025	0.003	-	0.162	-
6. New Income	0.057	-	0.009	0.299	0.027	1	0.045	0.06	0.059	0.03	-
7. Involved Goals (Freshmen)	0.035	-	0.153	0.125	0.025	0.045	1	0.569	0.174	0.351	0.295
8. Leadership Goals (Freshmen)	0.071	-	0.098	0.002	0.003	0.06	0.569	1	0.352	0.35	0.277
9. Managerial Goals (Freshmen)	-0.08	-	-	-	-	0.059	0.174	0.352	1	0.032	-
10. Dutiful Goals (Freshmen)	0.163	0.131	0.076	0.133	0.162	0.03	0.351	0.35	0.032	1	0.079
11. Artistic Goals (Freshmen)	0.029	-0.03	0.037	0.006	-	-	0.295	0.277	-	0.079	1
12. Apathetic Activities	-0.06	-	0.052	-0.12	-	-	0.07	0.125	0.102	-	-
13. Too Busy Activities	-	-	0.028	-	-	-	0.044	0.079	0.137	0.006	0.04
14. Internet User Activities	0.049	0.049	-	0.056	0.008	0.079	0.028	0.063	0.123	0.047	0.027
15. Academic Independent Activities	0.118	-	0.244	0.062	0.173	-	0.256	0.205	-	0.119	0.196
16. Voted Activities	0.156	0.049	0.031	0.195	0.159	0.165	0.161	0.196	-	0.121	0.104
17. Party Activities	-0.05	-	-	-	-	0.113	0.109	0.116	0.08	-	0.063
18. Engaged Activities	0.097	0.054	0.232	0.138	0.045	0.041	0.317	0.201	-	0.247	0.259
19. Distressed Activities	-	0.206	-	-	-	-	0.075	-	-	-	0.182
20. Coursework Satisfaction	0.486	0.033	0.101	0.092	0.053	0.093	0.08	0.072	0.023	0.107	0.047
21. Community Satisfaction	0.705	0.116	0.023	0.088	0.07	0.054	-	0.033	-	0.134	0.055
22. Classroom Experience Satisfaction	0.505	0.138	0.066	0.067	0.116	0.077	0.054	0.067	-	0.131	0.096
23. Career and Academic Advising Satisfaction	0.365	0.078	0.033	-	-	0.039	0.032	0.042	0.025	0.147	0.017
24. Technology Satisfaction	0.23	0.074	-	0.017	0.027	-	-	-	-	0.012	-
25. Student Life Satisfaction	0.403	0.114	0.061	0.04	0.191	0.047	0.181	0.104	-	0.254	0.059
26. Non-Math and Science Course Satisfaction	0.237	-	0.127	0.142	0.115	0.078	0.084	0.037	-	0.132	0.077
27. Math and Science Course Satisfaction	0.153	-0.02	0.028	0.025	0.012	0.013	-	-0.04	0.117	0.048	-
28. Involved Goals (Senior)	0.165	-	0.203	0.081	-	0.045	0.54	0.375	0.012	0.239	0.321
29. Leadership Goals (Senior)	0.038	-	0	-	-	0.047	0.088	0.32	0.381	0.002	0.102
30. Artistic Goals (Senior)	0.066	0.073	-	0.013	0.063	-	0.152	0.204	-	0.1	0.547
31. Dutiful Goals (Senior)	0.195	0.04	0.022	-	0.007	-	0.142	0.165	0.045	0.403	0.054

Pearson Correlation

	12	13	14	15	16	17	18	19	20	21	22	
Pearson Correlation	1. Campus Satisfaction: Overall college experience	-0.06	-0.135	0.049	0.118	0.156	-0.05	0.097	-0.113	0.486	0.705	0.505
	2. Sex	-0.205	0.151	0.049	0.004	0.049	0.129	0.054	0.206	0.033	0.116	0.138
	3. Please indicate the highest degree you plan to complete	0.052	0.028	-0.014	0.244	0.031	-0.034	0.232	-0.093	0.101	0.023	0.066
	4. firstgen	-0.12	-0.099	0.056	0.062	0.195	0.044	0.138	-0.045	0.092	0.088	0.067
	5. New High School GPA	-0.221	-0.105	0.008	0.173	0.159	-0.143	0.045	-0.044	0.053	0.07	0.116
	6. New Income	-0.073	0.085	0.079	-0.011	0.165	0.113	0.041	-0.129	0.093	0.054	0.077
	7. Involved Goals (Freshmen)	0.07	0.044	0.028	0.256	0.161	0.109	0.317	0.075	0.08	-0.009	0.054
	8. Leadership Goals (Freshmen)	0.125	0.079	0.063	0.205	0.196	0.116	0.201	-0.062	0.072	0.033	0.067
	9. Managerial Goals (Freshmen)	0.102	0.137	0.123	-0.041	0.031	0.08	-0.054	0.057	0.023	-0.056	-0.081
	10. Dutiful Goals (Freshmen)	-0.036	0.006	0.047	0.119	0.121	-0.313	0.247	-0.019	0.107	0.134	0.131
	11. Artistic Goals (Freshmen)	0.129	0.04	0.027	0.196	0.104	0.063	0.259	0.182	0.047	0.055	0.096
	12. Apathetic Activities	1	0.201	0.093	-0.012	0.101	0.203	0.059	0.156	-0.191	-0.099	-0.095
	13. Too Busy Activities	0.201	1	0.062	0.093	0.011	0.073	0.067	-0.012	0.095	0.108	0.147
	14. Internet User Activities	0.093	0.062	1	0.09	0.19	0.027	0.144	0.017	0.105	0.11	0.083
	15. Academic Independent Activities	-0.012	0.093	0.09	1	0.223	0.086	0.273	0.069	0.09	0.04	0.168
	16. Voted Activities	0.101	0.011	0.19	0.223	1	0.022	0.264	-0.024	0.122	0.102	0.146
	17. Party Activities	0.203	0.073	0.027	0.086	0.022	1	0.005	0.026	0.022	0.108	0.028
	18. Engaged Activities	0.059	0.067	0.144	0.273	0.264	0.005	1	0.244	0.1	0.134	0.173
	19. Distressed Activities	0.156	-0.012	0.017	0.069	-0.024	-0.026	0.244	1	-0.082	-0.107	-0.033
	20. Coursework Satisfaction	-0.191	0.095	0.105	0.09	0.122	0.022	0.1	0.082	1	0.438	0.545
	21. Community Satisfaction	-0.099	-0.108	0.11	0.04	0.102	-0.108	0.134	-0.107	0.438	1	0.496
	22. Classroom Experience Satisfaction	-0.095	0.147	0.083	0.168	0.146	0.028	0.173	0.033	0.545	0.496	1
	23. Career and Academic Advising Satisfaction	-0.066	-0.01	0.046	0.17	0.115	0.01	0.083	-0.066	0.392	0.357	0.324
	24. Technology Satisfaction	-0.127	0.027	0.106	0.018	0.124	-0.058	0.053	0.091	0.247	0.274	0.266
	25. Student Life Satisfaction	-0.075	-0.071	0.032	0.154	0.199	-0.083	0.255	-0.016	0.342	0.474	0.318
	26. Non-Math and Science Course Satisfaction	-0.14	0.055	0.001	0.112	0.14	0.001	0.126	0.002	0.283	0.216	0.226
	27. Math and Science Course Satisfaction	-0.075	-0.032	0.104	-0.012	-0.013	-0.078	0	-0.15	0.243	0.256	0.149
	28. Involved Goals (Senior)	-0.01	0.038	0.041	0.299	0.233	0.139	0.516	0.06	0.234	0.098	0.172
	29. Leadership Goals (Senior)	0.089	0.159	0.058	0.051	-0.033	0.08	0.057	-0.06	0.111	0.093	0.037
	30. Artistic Goals (Senior)	0.066	0.041	0.014	0.142	0.131	0.007	0.229	0.181	-0.012	0.14	0.046
	31. Dutiful Goals (Senior)	-0.098	-0.06	0.124	0.063	0.07	-0.171	0.227	0.004	0.271	0.246	0.224

	23	24	25	26	27	28	29	30	31	
Pearson Correlation	1. Campus Satisfaction: Overall college experience	0.365	0.23	0.403	0.237	0.153	0.165	0.038	0.066	0.195
	2. Sex	0.078	0.074	0.114	-0.013	-0.02	0.063	0.069	0.073	0.04
	3. Please indicate the highest degree you plan to complete	0.033	-0.037	0.061	0.127	0.028	0.203	0	-0.017	0.022
	4. firstgen	-0.013	0.017	0.04	0.142	0.025	0.081	0.101	0.013	0.044
	5. New High School GPA	-0.014	0.027	0.191	0.115	0.012	-0.006	-0.198	0.063	0.007
	6. New Income	0.039	-0.051	0.047	0.078	0.013	0.045	0.047	-0.039	0.029
	7. Involved Goals (Freshmen)	0.032	-0.016	0.181	0.084	-0.017	0.54	0.088	0.152	0.142
	8. Leadership Goals (Freshmen)	0.042	-0.059	0.104	0.037	-0.04	0.375	0.32	0.204	0.165
	9. Managerial Goals (Freshmen)	0.025	-0.093	-0.055	-0.014	0.117	0.012	0.381	-0.007	0.045
	10. Dutiful Goals (Freshmen)	0.147	0.012	0.254	0.132	0.048	0.239	0.002	0.1	0.403
	11. Artistic Goals (Freshmen)	0.017	-0.004	0.059	0.077	-0.058	0.321	0.102	0.547	0.054
	12. Apathetic Activities	-0.066	-0.127	-0.075	-0.14	-0.075	-0.01	0.089	0.066	-0.098
	13. Too Busy Activities	-0.01	0.027	0.071	0.055	0.032	0.038	0.159	0.041	-0.06
	14. Internet User Activities	0.046	0.106	0.032	0.001	0.104	0.041	0.058	0.014	0.124
	15. Academic Independent Activities	0.17	-0.018	0.154	0.112	-0.012	0.299	0.051	0.142	0.063
	16. Voted Activities	0.115	0.124	0.199	0.14	-0.013	0.233	-0.033	0.131	0.07
	17. Party Activities	0.01	-0.058	-0.083	-0.001	-0.078	0.139	0.08	0.007	-0.171
	18. Engaged Activities	0.083	0.053	0.255	0.126	0	0.516	0.057	0.229	0.227
	19. Distressed Activities	-0.066	-0.091	-0.016	0.002	-0.15	0.06	-0.06	0.181	0.004
	20. Coursework Satisfaction	0.392	0.247	0.342	0.283	0.243	0.234	0.111	-0.012	0.271
	21. Community Satisfaction	0.357	0.274	0.474	0.216	0.256	0.098	0.093	0.14	0.246
	22. Classroom Experience Satisfaction	0.324	0.266	0.318	0.226	0.149	0.172	0.037	0.046	0.224
	23. Career and Academic Advising Satisfaction	1	0.334	0.481	0.193	0.277	0.161	0.137	0.022	0.233
	24. Technology Satisfaction	0.334	1	0.239	0.13	0.299	0.037	-0.023	0.002	0.133
	25. Student Life Satisfaction	0.481	0.239	1	0.288	0.294	0.249	-0.05	0.073	0.298
	26. Non-Math and Science Course Satisfaction	0.193	0.13	0.288	1	0.224	0.234	-0.042	0.052	0.065
	27. Math and Science Course Satisfaction	0.277	0.299	0.294	0.224	1	0.045	-0.018	-0.077	0.085
	28. Involved Goals (Senior)	0.161	0.037	0.249	0.234	0.045	1	0.267	0.276	0.334
	29. Leadership Goals (Senior)	0.137	-0.023	-0.05	-0.042	-0.018	0.267	1	0.215	0.185
	30. Artistic Goals (Senior)	0.022	0.002	0.073	0.052	-0.077	0.276	0.215	1	0.065
	31. Dutiful Goals (Senior)	0.233	0.133	0.298	0.065	0.085	0.334	0.185	0.065	1

	1	2	3	4	5	6	7	8	9	10	11
1. Campus Satisfaction: Overall college experience	.	0.02	0.005	0.002	0.027	0.127	0.241	0.08	0.056	0.001	0.282
2. Sex	0.02	.	0.154	0.049	0.002	0.146	0.225	0.138	0	0.005	0.276
3. Please indicate the highest degree you plan to complete	0.005	0.154	.	0.004	0.351	0.426	0.001	0.025	0.237	0.064	0.229
4. firstgen	0.002	0.049	0.004	.	0.006	0	0.006	0.485	0.002	0.004	0.449
5. New High School GPA	0.027	0.002	0.351	0.006	.	0.298	0.313	0.48	0.003	0.001	0.401
6. New Income	0.127	0.146	0.426	0	0.298	.	0.185	0.118	0.121	0.276	0.338
7. Involved Goals (Freshmen)	0.241	0.225	0.001	0.006	0.313	0.185	.	0	0	0	0
8. Leadership Goals (Freshmen)	0.08	0.138	0.025	0.485	0.48	0.118	0	.	0	0	0
9. Managerial Goals (Freshmen)	0.056	0	0.237	0.002	0.003	0.121	0	0	.	0.262	0.389
10. Dutiful Goals (Freshmen)	0.001	0.005	0.064	0.004	0.001	0.276	0	0	0.262	.	0.057
11. Artistic Goals (Freshmen)	0.282	0.276	0.229	0.449	0.401	0.338	0	0	0.389	0.057	.
12. Apathetic Activities	0.115	0	0.152	0.008	0	0.073	0.083	0.006	0.021	0.238	0.005
13. Too Busy Activities	0.004	0.001	0.286	0.025	0.018	0.044	0.19	0.058	0.003	0.455	0.214
14. Internet User Activities	0.164	0.163	0.389	0.132	0.434	0.058	0.285	0.103	0.007	0.177	0.298
15. Academic Independent Activities	0.009	0.467	0	0.11	0	0.415	0	0	0.208	0.009	0
16. Voted Activities	0.001	0.163	0.27	0	0.001	0	0.001	0	0.268	0.008	0.019
17. Party Activities	0.161	0.005	0.249	0.191	0.002	0.012	0.015	0.01	0.057	0	0.104
18. Engaged Activities	0.026	0.141	0	0.003	0.187	0.205	0	0	0.141	0	0
19. Distressed Activities	0.012	0	0.031	0.183	0.193	0.005	0.068	0.107	0.129	0.356	0
20. Coursework Satisfaction	0	0.253	0.022	0.034	0.148	0.032	0.055	0.075	0.323	0.016	0.175
21. Community Satisfaction	0	0.011	0.321	0.04	0.081	0.143	0.429	0.254	0.133	0.004	0.135
22. Classroom Experience Satisfaction	0	0.003	0.095	0.092	0.01	0.062	0.142	0.09	0.052	0.004	0.028
23. Career and Academic Advising Satisfaction	0	0.061	0.258	0.398	0.394	0.218	0.265	0.202	0.311	0.002	0.37
24. Technology Satisfaction	0	0.071	0.232	0.368	0.292	0.157	0.379	0.122	0.032	0.409	0.471
25. Student Life Satisfaction	0	0.011	0.114	0.211	0	0.173	0	0.019	0.135	0	0.118
26. Non-Math and Science Course Satisfaction	0	0.397	0.005	0.002	0.011	0.061	0.048	0.231	0.393	0.004	0.062
27. Math and Science Course Satisfaction	0.001	0.342	0.292	0.307	0.403	0.399	0.37	0.211	0.01	0.172	0.123
28. Involved Goals (Senior)	0	0.103	0	0.054	0.455	0.187	0	0	0.408	0	0
29. Leadership Goals (Senior)	0.225	0.084	0.498	0.022	0	0.176	0.039	0	0	0.483	0.021
30. Artistic Goals (Senior)	0.095	0.073	0.367	0.401	0.107	0.221	0.001	0	0.441	0.023	0
31. Dutiful Goals (Senior)	0	0.211	0.328	0.192	0.445	0.283	0.002	0	0.188	0	0.141

Sig. (1-tailed)



	12	13	14	15	16	17	18	19	20	21	22
1. Campus Satisfaction: Overall college experience	0.115	0.004	0.164	0.009	0.001	0.161	0.026	0.012	0	0	0
2. Sex	0	0.001	0.163	0.467	0.163	0.005	0.141	0	0.253	0.011	0.003
3. Please indicate the highest degree you plan to complete	0.152	0.286	0.389	0	0.27	0.249	0	0.031	0.022	0.321	0.095
4. firstgen	0.008	0.025	0.132	0.11	0	0.191	0.003	0.183	0.034	0.04	0.092
5. New High School GPA	0	0.018	0.434	0	0.001	0.002	0.187	0.193	0.148	0.081	0.01
6. New Income	0.073	0.044	0.058	0.415	0	0.012	0.205	0.005	0.032	0.143	0.062
7. Involved Goals (Freshmen)	0.083	0.19	0.285	0	0.001	0.015	0	0.068	0.055	0.429	0.142
8. Leadership Goals (Freshmen)	0.006	0.058	0.103	0	0	0.01	0	0.107	0.075	0.254	0.09
9. Managerial Goals (Freshmen)	0.021	0.003	0.007	0.208	0.268	0.057	0.141	0.129	0.323	0.133	0.052
10. Dutiful Goals (Freshmen)	0.238	0.455	0.177	0.009	0.008	0	0	0.356	0.016	0.004	0.004
11. Artistic Goals (Freshmen)	0.005	0.214	0.298	0	0.019	0.104	0	0	0.175	0.135	0.028
12. Apathetic Activities	.	0	0.032	0.406	0.022	0	0.122	0.001	0	0.025	0.029
13. Too Busy Activities	0	.	0.108	0.033	0.413	0.072	0.09	0.406	0.029	0.015	0.002
14. Internet User Activities	0.032	0.108	.	0.036	0	0.299	0.002	0.364	0.018	0.014	0.05
15. Academic Independent Activities	0.406	0.033	0.036	.	0	0.043	0	0.084	0.036	0.216	0
16. Voted Activities	0.022	0.413	0	0	.	0.329	0	0.319	0.008	0.021	0.002
17. Party Activities	0	0.072	0.299	0.043	0.329	.	0.46	0.299	0.33	0.016	0.286
18. Engaged Activities	0.122	0.09	0.002	0	0	0.46	.	0	0.023	0.004	0
19. Distressed Activities	0.001	0.406	0.364	0.084	0.319	0.299	0	.	0.05	0.016	0.259
20. Coursework Satisfaction	0	0.029	0.018	0.036	0.008	0.33	0.023	0.05	.	0	0
21. Community Satisfaction	0.025	0.015	0.014	0.216	0.021	0.016	0.004	0.016	0	.	0
22. Classroom Experience Satisfaction	0.029	0.002	0.05	0	0.002	0.286	0	0.259	0	0	.
23. Career and Academic Advising Satisfaction	0.096	0.424	0.181	0	0.011	0.421	0.049	0.094	0	0	0
24. Technology Satisfaction	0.005	0.296	0.017	0.359	0.007	0.125	0.145	0.035	0	0	0
25. Student Life Satisfaction	0.068	0.078	0.261	0.001	0	0.049	0	0.376	0	0	0
26. Non-Math and Science Course Satisfaction	0.003	0.137	0.492	0.013	0.002	0.493	0.006	0.482	0	0	0
27. Math and Science Course Satisfaction	0.069	0.261	0.019	0.404	0.396	0.061	0.499	0.001	0	0	0.001
28. Involved Goals (Senior)	0.421	0.228	0.21	0	0	0.003	0	0.117	0	0.025	0
29. Leadership Goals (Senior)	0.037	0.001	0.125	0.154	0.256	0.055	0.128	0.115	0.014	0.033	0.231
30. Artistic Goals (Senior)	0.096	0.208	0.389	0.002	0.004	0.448	0	0	0.408	0.003	0.178
31. Dutiful Goals (Senior)	0.026	0.116	0.007	0.104	0.083	0	0	0.467	0	0	0

Sig. (1-tailed)

	23	24	25	26	27	28	29	30	31
1. Campus Satisfaction: Overall college experience	0	0	0	0	0.001	0	0.225	0.095	0
2. Sex	0.061	0.071	0.011	0.397	0.342	0.103	0.084	0.073	0.211
3. Please indicate the highest degree you plan to complete	0.258	0.232	0.114	0.005	0.292	0	0.498	0.367	0.328
4. firstgen	0.398	0.368	0.211	0.002	0.307	0.054	0.022	0.401	0.192
5. New High School GPA	0.394	0.292	0	0.011	0.403	0.455	0	0.107	0.445
6. New Income	0.218	0.157	0.173	0.061	0.399	0.187	0.176	0.221	0.283
7. Involved Goals (Freshmen)	0.265	0.379	0	0.048	0.37	0	0.039	0.001	0.002
8. Leadership Goals (Freshmen)	0.202	0.122	0.019	0.231	0.211	0	0	0	0
9. Managerial Goals (Freshmen)	0.311	0.032	0.135	0.393	0.01	0.408	0	0.441	0.188
10. Dutiful Goals (Freshmen)	0.002	0.409	0	0.004	0.172	0	0.483	0.023	0
11. Artistic Goals (Freshmen)	0.37	0.471	0.118	0.062	0.123	0	0.021	0	0.141
12. Apathetic Activities	0.096	0.005	0.068	0.003	0.069	0.421	0.037	0.096	0.026
13. Too Busy Activities	0.424	0.296	0.078	0.137	0.261	0.228	0.001	0.208	0.116
14. Internet User Activities	0.181	0.017	0.261	0.492	0.019	0.21	0.125	0.389	0.007
15. Academic Independent Activities	0	0.359	0.001	0.013	0.404	0	0.154	0.002	0.104
16. Voted Activities	0.011	0.007	0	0.002	0.396	0	0.256	0.004	0.083
17. Party Activities	0.421	0.125	0.049	0.493	0.061	0.003	0.055	0.448	0
18. Engaged Activities	0.049	0.145	0	0.006	0.499	0	0.128	0	0
19. Distressed Activities	0.094	0.035	0.376	0.482	0.001	0.117	0.115	0	0.467
20. Coursework Satisfaction	0	0	0	0	0	0	0.014	0.408	0
21. Community Satisfaction	0	0	0	0	0	0.025	0.033	0.003	0
22. Classroom Experience Satisfaction	0	0	0	0	0.001	0	0.231	0.178	0
23. Career and Academic Advising Satisfaction	.	0	0	0	0	0.001	0.003	0.333	0
24. Technology Satisfaction	0	.	0	0.005	0	0.229	0.324	0.481	0.004
25. Student Life Satisfaction	0	0	.	0	0	0	0.161	0.074	0
26. Non-Math and Science Course Satisfaction	0	0.005	0	.	0	0	0.204	0.151	0.097
27. Math and Science Course Satisfaction	0	0	0	0	.	0.187	0.362	0.063	0.045
28. Involved Goals (Senior)	0.001	0.229	0	0	0.187	.	0	0	0
29. Leadership Goals (Senior)	0.003	0.324	0.161	0.204	0.362	0	.	0	0
30. Artistic Goals (Senior)	0.333	0.481	0.074	0.151	0.063	0	0	.	0.097
31. Dutiful Goals (Senior)	0	0.004	0	0.097	0.045	0	0	0.097	.

Sig. (1-tailed)

	1	2	3	4	5	6	7	8	9	10	11
1. Campus Satisfaction: Overall college experience	398	398	398	398	398	398	398	398	398	398	398
2. Sex	398	398	398	398	398	398	398	398	398	398	398
3. Please indicate the highest degree you plan to complete	398	398	398	398	398	398	398	398	398	398	398
4. firstgen	398	398	398	398	398	398	398	398	398	398	398
5. New High School GPA	398	398	398	398	398	398	398	398	398	398	398
6. New Income	398	398	398	398	398	398	398	398	398	398	398
7. Involved Goals (Freshmen)	398	398	398	398	398	398	398	398	398	398	398
8. Leadership Goals (Freshmen)	398	398	398	398	398	398	398	398	398	398	398
9. Managerial Goals (Freshmen)	398	398	398	398	398	398	398	398	398	398	398
10. Dutiful Goals (Freshmen)	398	398	398	398	398	398	398	398	398	398	398
11. Artistic Goals (Freshmen)	398	398	398	398	398	398	398	398	398	398	398
12. Apathetic Activities	398	398	398	398	398	398	398	398	398	398	398
13. Too Busy Activities	398	398	398	398	398	398	398	398	398	398	398
14. Internet User Activities	398	398	398	398	398	398	398	398	398	398	398
15. Academic Independent Activities	398	398	398	398	398	398	398	398	398	398	398
16. Voted Activities	398	398	398	398	398	398	398	398	398	398	398
17. Party Activities	398	398	398	398	398	398	398	398	398	398	398
18. Engaged Activities	398	398	398	398	398	398	398	398	398	398	398
19. Distressed Activities	398	398	398	398	398	398	398	398	398	398	398
20. Coursework Satisfaction	398	398	398	398	398	398	398	398	398	398	398
21. Community Satisfaction	398	398	398	398	398	398	398	398	398	398	398
22. Classroom Experience Satisfaction	398	398	398	398	398	398	398	398	398	398	398
23. Career and Academic Advising Satisfaction	398	398	398	398	398	398	398	398	398	398	398
24. Technology Satisfaction	398	398	398	398	398	398	398	398	398	398	398
25. Student Life Satisfaction	398	398	398	398	398	398	398	398	398	398	398
26. Non-Math and Science Course Satisfaction	398	398	398	398	398	398	398	398	398	398	398
27. Math and Science Course Satisfaction	398	398	398	398	398	398	398	398	398	398	398
28. Involved Goals (Senior)	398	398	398	398	398	398	398	398	398	398	398
29. Leadership Goals (Senior)	398	398	398	398	398	398	398	398	398	398	398
30. Artistic Goals (Senior)	398	398	398	398	398	398	398	398	398	398	398
31. Dutiful Goals (Senior)	398	398	398	398	398	398	398	398	398	398	398

21

	12	13	14	15	16	17	18	19	20	21	22
1. Campus Satisfaction: Overall college experience	398	398	398	398	398	398	398	398	398	398	398
2. Sex	398	398	398	398	398	398	398	398	398	398	398
3. Please indicate the highest degree you plan to complete	398	398	398	398	398	398	398	398	398	398	398
4. firstgen	398	398	398	398	398	398	398	398	398	398	398
5. New High School GPA	398	398	398	398	398	398	398	398	398	398	398
6. New Income	398	398	398	398	398	398	398	398	398	398	398
7. Involved Goals (Freshmen)	398	398	398	398	398	398	398	398	398	398	398
8. Leadership Goals (Freshmen)	398	398	398	398	398	398	398	398	398	398	398
9. Managerial Goals (Freshmen)	398	398	398	398	398	398	398	398	398	398	398
10. Dutiful Goals (Freshmen)	398	398	398	398	398	398	398	398	398	398	398
11. Artistic Goals (Freshmen)	398	398	398	398	398	398	398	398	398	398	398
12. Apathetic Activities	398	398	398	398	398	398	398	398	398	398	398
13. Too Busy Activities	398	398	398	398	398	398	398	398	398	398	398
14. Internet User Activities	398	398	398	398	398	398	398	398	398	398	398
15. Academic Independent Activities	398	398	398	398	398	398	398	398	398	398	398
21 16. Voted Activities	398	398	398	398	398	398	398	398	398	398	398
17. Party Activities	398	398	398	398	398	398	398	398	398	398	398
18. Engaged Activities	398	398	398	398	398	398	398	398	398	398	398
19. Distressed Activities	398	398	398	398	398	398	398	398	398	398	398
20. Coursework Satisfaction	398	398	398	398	398	398	398	398	398	398	398
21. Community Satisfaction	398	398	398	398	398	398	398	398	398	398	398
22. Classroom Experience Satisfaction	398	398	398	398	398	398	398	398	398	398	398
23. Career and Academic Advising Satisfaction	398	398	398	398	398	398	398	398	398	398	398
24. Technology Satisfaction	398	398	398	398	398	398	398	398	398	398	398
25. Student Life Satisfaction	398	398	398	398	398	398	398	398	398	398	398
26. Non-Math and Science Course Satisfaction	398	398	398	398	398	398	398	398	398	398	398
27. Math and Science Course Satisfaction	398	398	398	398	398	398	398	398	398	398	398
28. Involved Goals (Senior)	398	398	398	398	398	398	398	398	398	398	398
29. Leadership Goals (Senior)	398	398	398	398	398	398	398	398	398	398	398
30. Artistic Goals (Senior)	398	398	398	398	398	398	398	398	398	398	398
31. Dutiful Goals (Senior)	398	398	398	398	398	398	398	398	398	398	398

	23	24	25	26	27	28	29	30	31
1. Campus Satisfaction: Overall college experience	398	398	398	398	398	398	398	398	398
2. Sex	398	398	398	398	398	398	398	398	398
3. Please indicate the highest degree you plan to complete	398	398	398	398	398	398	398	398	398
4. firstgen	398	398	398	398	398	398	398	398	398
5. New High School GPA	398	398	398	398	398	398	398	398	398
6. New Income	398	398	398	398	398	398	398	398	398
7. Involved Goals (Freshmen)	398	398	398	398	398	398	398	398	398
8. Leadership Goals (Freshmen)	398	398	398	398	398	398	398	398	398
9. Managerial Goals (Freshmen)	398	398	398	398	398	398	398	398	398
10. Dutiful Goals (Freshmen)	398	398	398	398	398	398	398	398	398
11. Artistic Goals (Freshmen)	398	398	398	398	398	398	398	398	398
12. Apathetic Activities	398	398	398	398	398	398	398	398	398
13. Too Busy Activities	398	398	398	398	398	398	398	398	398
14. Internet User Activities	398	398	398	398	398	398	398	398	398
15. Academic Independent Activities	398	398	398	398	398	398	398	398	398
21 16. Voted Activities	398	398	398	398	398	398	398	398	398
17. Party Activities	398	398	398	398	398	398	398	398	398
18. Engaged Activities	398	398	398	398	398	398	398	398	398
19. Distressed Activities	398	398	398	398	398	398	398	398	398
20. Coursework Satisfaction	398	398	398	398	398	398	398	398	398
21. Community Satisfaction	398	398	398	398	398	398	398	398	398
22. Classroom Experience Satisfaction	398	398	398	398	398	398	398	398	398
23. Career and Academic Advising Satisfaction	398	398	398	398	398	398	398	398	398
24. Technology Satisfaction	398	398	398	398	398	398	398	398	398
25. Student Life Satisfaction	398	398	398	398	398	398	398	398	398
26. Non-Math and Science Course Satisfaction	398	398	398	398	398	398	398	398	398
27. Math and Science Course Satisfaction	398	398	398	398	398	398	398	398	398
28. Involved Goals (Senior)	398	398	398	398	398	398	398	398	398
29. Leadership Goals (Senior)	398	398	398	398	398	398	398	398	398
30. Artistic Goals (Senior)	398	398	398	398	398	398	398	398	398
31. Dutiful Goals (Senior)	398	398	398	398	398	398	398	398	398

## REFERENCES

- Adams, C. (2011). Colleges Try to Unlock Secrets to Student Retention. *Education Digest*, 77(4), 19-23.
- Aitken, N. (1982). College student performance, satisfaction and retention: Specification and estimation of a structural model. *Journal of Higher Education*, 53(1), 32–50.
- Astin, A. W. (1975). *Preventing students from dropping out*. San Francisco: Jossey-Bass Publishers.
- Astin, A. W. (2006). Making sense out of degree completion rates. *Journal of College Student Retention: Research, Theory & Practice*, 7, 5.
- Astin, A., Korn, W., Mahoney, K., & Sax, L. (1997). *The American freshman national norms for fall 1997*. Los Angeles: Higher Education Research Institute.
- Bers, T. H., & Nyden, G. (2001). The disappearing student: Students who leave before the census date. *Journal of College Student Retention: Research, Theory & Practice*, 2(3), 205–218.
- Boivin, M., Fountain, G. A., & Baylis, B. (2000). Meeting the challenges of sophomore year. In L. A. Schreiner & J. Pattengale (Eds.), *Visible solutions for invisible students: Helping sophomores succeed (Monograph No. 31)* (pp. 1–18). Columbia, SC: University of South Carolina, National Resource Center for the First-Year Experience & Students in Transition.
- Braunstein, A., McGrath, M., & Pescatrice, D. (2001). Measuring the impact of financial factors on college persistence. *Journal of College Student Retention: Research, Theory & Practice*, 2(3), 191–204.

- Brown, D. (2003). *A comparison of teaching goals and objectives identified by faculty and peer learning facilitators within a transition seminar for new college students*. (ERIC No. ED479654).
- Buller, J. (2008). Improving retention through a partnership among academic affairs, student life, and residence life. *Recruitment & Retention in Higher Education*, 22(4), 6–7.
- Bylaska, P. (2008). Increasing retention by helping students manage financial issues at Clarion University. *Recruitment & Retention in Higher Education*, 22(7), 1–3.
- Carini, R., Kuh, G., & Klein, S. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education*, 47(1), 1–32.
- Clemes, M. D., Gan, C. E. C., & Kao, T. (2007). University student satisfaction: An empirical analysis. *Journal of Marketing for Higher Education*, 17(2), 292–325.
- College affordability trends by parental income levels and institutional type 1990 to 2004. (2005). *Postsecondary Education Opportunity*, (159), 1–16
- College senior survey (CSS). (2009). Retrieved March 15, 2009, from <http://www.gseis.ucla.edu/heri/cssoverview.php>
- Creswell, J. W. (1994). *Research design: Qualitative & quantitative approaches*. Thousand Oaks, CA: Sage Publications, Inc.
- Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Columbus, OH: Pearson Merrill Prentice Hall.
- Engstrom, C., & Tinto, V. (2008). Access without support is not opportunity. *Change: The Magazine of Higher Learning*, 40(1), 46.

- Gaskell, A. (2009). Student satisfaction and retention: are they connected?. *Open Learning*, 24(3), 193-196.
- Gonzalez, K. P. (2001). Towards a theory of minority student participation in predominantly white colleges and universities. *Journal of College Student Retention: Research, Theory & Practice*, 2(1), 69–91.
- Gravetter, F. J., & Wallnau, L. B. (2007). *Statistics for the behavioral sciences* (7th ed.). Belmont, CA: Thomson Wadsworth.
- Halinski, R. S., & Feldt, L. S. (1970). The selection of variables in multiple regression analysis. *Journal of Educational Measurement*, 7(3), 151–158.
- Hanewicz, C., Hammond, R., & Ness, S. K. (2008). Retention efforts at Utah Valley State College. *Recruitment & Retention in Higher Education*, 22(6), 1–3.
- Harrison, N. (2006). The impact of negative experiences, dissatisfaction and attachment on first year undergraduate withdrawal. *Journal of Further and Higher Education*, 30(4), 377–391.
- Heldman, C. (2008). Looking at the costs of student acquisition and attrition. *Recruitment & Retention in Higher Education*, 22(5), 6–7.
- Higher Education Research Institute (HERI). (2006a). *2006 college student survey*. Retrieved from <http://www.heri.ucla.edu/cssoverview.php>
- Higher Education Research Institute (HERI). (2006b). *About CIRP*. Retrieved from <http://www.heri.ucla.edu/abtcirp.php>
- Higher Education Research Institute (HERI). (2006c). *CIRP freshman survey*. Retrieved from <http://www.heri.ucla.edu/cirpoverview.php>



- Hlyva, O., & Schuh, J. (2004). How a cross-cultural learning community facilitates student retention and contributes to student learning. *Journal of College Student Retention: Research, Theory & Practice*, 5(3), 325–344.
- Johnson, J. L. (2001). Learning communities and special efforts in the retention of university students: What works, what doesn't, and is the return worth the investment? *Journal of College Student Retention: Research, Theory & Practice*, 2(3), 219–238.
- Kreysa, P. G. (2007). The impact of remediation on persistence of under-prepared college students. *Journal of College Student Retention: Research, Theory & Practice*, 8(2), 251–270.
- Kuh, G., & Gonyea, R. (2006). Spirituality, liberal learning, and college student engagement. *Liberal Education*, 92(1), 40.
- Lenning, O. T., & Ebbers, L. H. (1999). *The powerful potential of learning communities: Improving education for the future*. ASHE-ERIC Higher Education Report, Vol. 26, No. 6 (ERIC Document Reproduction Service No. ED 428606).
- Lorenzetti, J. P. (2007a). Better marketing, better retention: Working across the student life cycle. *Recruitment & Retention in Higher Education*, 21(2), 6–7.
- Lorenzetti, J. P. (2007b). Focusing energies: Findings from the 2006 community college survey of student engagement. *Recruitment & Retention in Higher Education*, 21(2), 1–2.
- Lundquist, C., Spalding, R. J., & Landrum, R. E. (2003). College student's thoughts about leaving the university: The impact of faculty attitudes and behaviors. *Journal of College Student Retention: Research, Theory & Practice*, 4(2), 123–134.

- Marques, J. (2007). Faculty advising as a crucial element in student retention at Woodbury University. *Recruitment & Retention in Higher Education*, 21(4), 8.
- McCormick, A. C., & McClenney, K. (2011). Will These Trees Ever Bear Fruit? A Response to the Special Issue on Student Engagement. *Review Of Higher Education*, 35(2), 307-333.
- Merriam-Webster's collegiate dictionary* (10th ed.). (1993). Springfield, MA: Merriam-Webster.
- Miller, D. E., & Kunce, J. T. (1973). Prediction and statistical overkill revisited. *Measurement and Evaluation in Guidance*, 6(3), 157–163.
- Miller, M. A. (2005). Disciplining the minds of students. *Change*, 37(2).
- Mitchell, T. (2007). New resources can help campuses address invisible retention problem. *Recruitment & Retention in Higher Education*, 21(9), 8.
- Moman, F. (2002). *The effects of a mentoring intervention on student retention in a community college* (Doctoral dissertation). Indiana State University, Terre Haute, IN. ERIC (ED480766).
- Morningside college catalog 2008–2009*. (2008). Sioux City, IA: Morningside College..
- Morrison, J. L., & Oblinger, D. G. (2002). Information technology and the future of education: An interview with Diana Oblinger. *Technology Source*, 2.
- Nippert, K. (2001). Influences on the educational degree attainment of two-year college students. *Journal of College Student Retention: Research, Theory & Practice*, 2(1), 29–40.
- Normyle, M. (2007). Seven ideas to guide your retention plan process. *Recruitment & Retention in Higher Education*, 21(3), 5.

- Pascarella, E. T. (1980). Student-faculty informal contact and college outcomes. *Review of Educational Research*, 50(4), 545–595.
- Pascarella, E. T. (1985). College environmental influences on learning and cognitive development: A critical review and synthesis. *Higher Education Handbook of theory and research*, (1), 1–64.
- Pascarella, E. T., & Terenzini, P. (1977). Patterns of student-faculty informal interaction beyond the classroom and voluntary freshman attrition. *The Journal of Higher Education*, 48(5), 540–552.
- Potts, G., Schultz, B., & Foust, J. (2004). The effect of freshmen cohort groups on academic performance and retention. *Journal of College Student Retention: Research, Theory & Practice*, 5(4), 385–396.
- Rajapaksa, S., & Dundes, L. (2002). It's a long way home: International student adjustment to living in the United States. *Journal of College Student Retention: Research, Theory & Practice*, 4(1), 15–28.
- Reynders, J. (2007). *Enhancing the Morningside journey: Moving forward to 2020*. Unpublished report.
- Robles, S. (2002). *The influence of a freshman orientation course on the academic performance and retention of new community college students* (Doctoral dissertation). University of the Pacific, Stockton, CA. ERIC (ED479876).
- Rocconi, L. (2011). The Impact of Learning Communities on First Year Students' Growth and Development in College. *Research In Higher Education*, 52(2), 178-193.

- Sanchez-Leguelinel, C. (2008). Supporting "slumping" sophomores: Programmatic peer initiatives designed to enhance retention in the crucial second year of college. *College Student Journal*, 42(2), 637–646.
- Santa Rita, E., & Scranton, B. (2001). *Retention strategies, 2001–2003*. ERIC (ED453866).
- Sax, L., Astin, A. W., Korn, W., & Mahoney, K. (1997). *The American freshman: National norms for fall 1997*. Los Angeles: Higher Education Research Institute.
- Scannell, J. (2011). The Role of Financial Aid and Retention. *University Business*, 14(5), 21-22.
- Schofield, C., & Dismore, H. (2010). Predictors of retention and achievement of higher education students within a further education context. *Journal Of Further & Higher Education*, 34(2), 207-221.
- Schreiner, L., & Pattengale, J. (Eds.). (2000). *Visible solutions for invisible students: Helping sophomores succeed. Monograph Series No. 31*. Columbia, SC: University of South Carolina, National Resource Center for the First-Year Experience & Students in Transition. ERIC (ED446710).
- Schwartzman, R. (1995). *Students as customers: A mangled managerial metaphor*. Paper presented at the Carolinas Speech Communication Association Convention (Charlotte, NC, October 13–14, 1995). ERIC (ED383022).
- Skaruppa, C. (2007). Avoiding excessive activity syndrome in retention planning. *Recruitment & Retention in Higher Education*, 21(6), 4.
- Stover, C. (2007a). Collaboration is key to successful retention efforts at DSU. *Recruitment & Retention in Higher Education*, 21(4), 4.

- Stover, C. (2007b). College freshmen arrive with determination and motivation so why do only half graduate? *Recruitment & Retention in Higher Education*, 21(3), 1, 3.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Pearson Education, Inc.
- Texas State Higher Education Coordinating Board. (2004). *The art of student retention: A handbook for practitioners and administrators*. Austin TX: Texas Higher Education Coordinating Board. ERIC (ED485498).
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: The University of Chicago Press.
- Tinto, V. (2002). *Taking student retention seriously: Rethinking the first year of college*. Speech presented at the annual meeting of the American Association of Collegiate Registrars and Admission Officers, Minneapolis, MN, April 15, 2002.
- Tinto, V. (2007). Research and practice of student retention: What next? *Journal of College Student Retention: Research, Theory & Practice*, 8(1), 1–20.
- Van Brunt, B. (2008). Retention and college counseling centers. *Recruitment & Retention in Higher Education*, 22(5), 1–3.
- Wild, L., & Ebbers, L. (2002). RETHINKING STUDENT RETENTION IN COMMUNITY COLLEGES. *Community College Journal Of Research & Practice*, 26(6), 503-519.
- Young, D. J. W. (2008). *A preliminary study on retaining students at a private four year college*. Unpublished study.
- Zhang, Y., Chan, T., Hale, M., & Kirshstein, R. (2005). *A profile of the student support services program: 1998-1999 through 2001-2002* (American Institutes for Research,

Contract No. ED-01-CO-0026/0010). Washington, DC: U.S. Department of Education.

## ACKNOWLEDGMENTS

I would like to acknowledge God for all the blessings He has bestowed upon me. He has given me the strength to persevere and succeed with this project. He is the foundation of all I do.

I would like to thank Dr. Frankie Laanan. I can still remember that rainy morning in 2005 when I began my Master's Degree. We've come a long way! Thank you Dr. Larry Ebbers. Without you, I would not have ever considered returning to ISU ten years after I earned my Bachelor's Degree. Thank you Dr. Gloria Betcher. You are the only faculty member to be involved in all phases of my academic journey. You were my guide in many ways. Thank you Dr. Starobin and Dr. Robinson for being such wonderful instructors and for being on my Doctoral Committee.

Of course, I want to thank my parents, Dick and Julie. Words cannot describe how fortunate I have been to have such great supporters as you. You are great examples of how parents should encourage potential in their children by letting them develop into what they aspire to be.

Too young to understand now, I want to thank my wonderful children Joey and Felicity. You are the primary reason I do what I do. I see so much in you and hope you are always happy in life. Do not ever let anyone tell you want you cannot accomplish. Investing in yourself and enjoying life will get you far.

Finally, I would like to thank my beautiful wife, Angela. Only because of your support and gentle urging did I end up in an industry I love by helping others with a degree I could be proud of and put to practical use. I love you!