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# The Effects of First-Year Students' Self-Perceptions of Behaviors, Attitudes, and Aptitudes on Their First-to-Second-Year Persistence

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THE EFFECTS OF FIRST-YEAR STUDENTS' SELF-PERCEPTIONS OF BEHAVIORS,  
ATTITUDES, AND APTITUDES ON THEIR FIRST-TO-SECOND-YEAR PERSISTENCE

THE EFFECTS OF FIRST-YEAR STUDENTS' PERCEPTIONS OF BEHAVIORS,  
ATTITUDES, AND APTITUTDES ON THEIR FIRST-TO-SECOND YEAR PERSISTENCE

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Education in Higher Education

By

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## **ABSTRACT**

Student persistence continues to be a topic of much research and discussion in higher education. Based on Bean and Eaton's (2000) psychological theory of persistence for its theoretical framework, this study examined the effect of students' demographic and background characteristics and students' self-perceptions on their first-to-second-year persistence at a small, private, faith-based institution. Demographic and background characteristics examined were gender, race/ethnicity, first-generation college student status, high school GPA, and type of high school attended. Four constructs from the CIRP Freshman Survey were used to examine student self-perceptions: (a) Habits of the Mind, (b) Academic Self-concept, (c) Social Self-concept, and (d) Likelihood of College Involvement.

This study utilized data from the CIRP Freshman Surveys administered to first-time, full-time students entering the institution in the study during the Fall of 2007 and the Fall of 2009 as well as institutional data collected by the university's Institutional Research Office. The final sample included 436 first-time, full-time students. The data was analyzed using descriptive statistics and logistic regression. Three of the demographic/background characteristics were found to be statistically significant in the study. High school GPA and type of high school attended positively influenced persistence to the second year of college while first-generation student status negatively influenced persistence to the second year of college. From the four CIRP constructs, Academic Self-concept and Likelihood of College Involvement both were found to be statistically significant with both constructs positively influencing persistence. The findings of this study have implications for both practice and policy at the institution where the study was conducted and possibly at other similar institutions.

This dissertation is approved for recommendation  
to the Graduate Council.

Dissertation Director:

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(Dr. Ketevan Mamiseishvili)

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is that you will look at my example and realize that education is truly valuable and, more importantly, that you're never too old to do something that is important to you. Go after your dreams!

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Finally, to my Lord Jesus Christ, I give you all the glory and praise for this work!

## **DEDICATION**

I dedicate this dissertation to my mother and father. You always believed that education was important, and you spent years working so that your children could go to college and have opportunities that you never had. You encouraged your daughters to be strong, independent women and to be that through gaining a good education. Thank you. Words are not enough to express the gratitude and love I have in my heart for you.

Daddy, I wish you were here to celebrate this with me, but I know you're rejoicing in heaven! Mom, I love you!

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## **CHAPTER I**

### **INTRODUCTION**

#### **Context of the Problem**

Student persistence and institutional retention rates have been topics of much research in higher education (Berger & Lyon, 2005). They have also been topics of much discussion on college and university campuses as well as at national conferences of various higher education organizations (Berger & Lyon, 2005). Persistence is not a new topic, having first been studied as “student mortality” as early as the 1930s (Berger & Lyon, 2005; Braxton, 2000). The real interest in student persistence on most campuses began in the 1970s when many institutions started to see a stalling trend in the growth they had been experiencing in the decades after World War II (Berger & Lyon, 2005). Fear of decreasing enrollments placed persistence at the forefront of institutional interests.

While enrollment trends have been upward in the last decade of the 20th century and the first decade of the 21st century (National Center for Education Statistics, 2011), student persistence has still remained a focus of higher education due to difficulties in retaining a large number of students who initially enroll. As the economy of the United States has experienced growing competition from other nations, holding a college degree in order to be competitive in the global job market has become even more vital (Berger & Lyon, 2005) making the persistence of students to degree attainment an important factor for colleges and universities (Kezar, 2004). The economy has also played a role in the growing importance of retention because with the increasing costs of going to college, fewer students may actually enroll. In order to maintain their budgets, colleges have needed to be concerned about keeping as many students as possible enrolled from year to year. Noel Levitz, Inc. (1998-2012), a national company focused on

enrollment management services, has created a retention revenue calculator that shows the significant savings for institutions when they retain students instead of recruiting new students. This has been particularly vital for small institutions which are most often tuition-driven. According to Tinto (1993), “Some institutions, primarily the smaller tuition-driven colleges, have teetered on the brink of financial collapse. Indeed, many have closed their doors in recent years with many more predicted to follow suit” (p.12).

Student persistence, while important from an economic standpoint, has also come to have public relations importance to higher education institutions. National ranking systems that use retention rates as one of the primary factors in determining rank, such as the one published in *U.S. News & World Report*, have brought national attention to retention rates of individual colleges (Morse & Flanigan, 2011). These rankings often bring at least a perception, if not the reality, of prestige to universities and colleges who are highly ranked in their category of institutions (Berger & Lyon, 2005). Also because of more public awareness of student persistence due to published rankings and the 1992 passage of the *Student Right to Know Act*, which requires institutions to publish their rates of degree completion, more parents and students have begun looking at student persistence rates as a way to judge colleges during the college choice process (Berger & Lyon, 2005; Hagedorn, 2005; Kezar, 2004; Miller, 2005). Another reason why student persistence has continued to grow in importance to higher education institutions is the increased call for accountability that colleges and universities have been facing (Berger & Lyon, 2005). States have not only called for accountability in governance and funds, but also for accountability concerning student outcomes (McLendon, Hearn, & Deaton, 2006). Persistence has become a measurable variable that accreditors and the public alike have begun to

examine to determine if an institution of higher education has been meeting its stated outcomes (Berger & Lyon, 2005; Braxton, Hirschy, & McClendon, 2004).

Despite 40 years of research focused on student persistence, institutions have not seen great improvements in their retention rates (Berkner, He, & Cataldi, 2002; Braxton, Brier, & Steele, 2007; Terenzini, Cabrera, & Bernal, 2001). According to Tinto (2006), "Unfortunately, most institutions have not yet been able to translate what we know about student retention into forms of action that have led to substantial gains in student persistence and graduation" (p. 5). Therefore, student persistence has remained an important focus for study in order for institutions to continue improving their ability to retain students and help students succeed in attaining a degree.

As the emphasis on student persistence has continued and grown over the last 40 years, most institutions have put their primary focus on first-to-second-year persistence rates (Herzog, 2005; Reason & Terenzini, 2006). This focus on first-to-second-year persistence has been supported by two primary factors. First, most students have left college during or immediately after their first year (Crissman Ishler & Upcraft, 2004; Reason & Terenzini, 2006). According to the ACT in 2010, the national freshman-to-sophomore-year persistence rates ranged from an average of 91.5% at highly selective, public four-year institutions offering bachelor's degrees down to an average of 55.7% at open admission, public two-year institutions. Second, first-to-second-year persistence has had continuing effects on institutions. Students who did not persist through to the second year at an institution most likely did not complete their degree there, lowering not only the institution's first-to-second-year retention rates but graduation rates as well.

### Statement of the problem

Trends in first-to-second-year persistence rates over the last 25 years have supported the continuing need for research in this area. According to the ACT (2010), the 2010 overall first-to-second-year retention rate across all types of colleges and universities, including two- and four-year institutions both public and private, was 67%. BA/BS private institutions of all types of selectivity levels had a 68.7% first-to-second-year retention rate in 2010 while BA/BS public institutions of all types of selectivity levels had a 67.6% first-to-second-year retention rate. For BA/BS private institutions, the highest retention rate reported since 1985 was 74% in 1989. For BA/BS public institutions, the highest retention rate reported since 1985 was 70% in 2004. The 2010 rate of 68.7% was the lowest reported rate for BA/BS private institutions since 1985, while BA/BS public institutions' lowest rate was 66.4% in 2005 (ACT, 2010). Evident from these statistics was that in over 25 years not much improvement had occurred in institutional retention rates across the United States even though student persistence, according to Berger and Lyon (2005), was of "paramount interest to institutions of higher education" (p. 9). Kezar (2004), in the Forward to *Understanding and Reducing College Student Departure*, stated that "Retention of college students remains one of the key challenges and problems for higher education" (p. xi). Individual institutions are still often floundering with how to improve their student persistence rates even though many of them have spent thousands of dollars every year on surveys, consulting firms, and other tools designed to help them (Tinto, 2006).

Even though private colleges and universities retained their first-year students at a higher rate than similar public institutions (ACT, 2010), many of these private institutions, especially smaller ones, are tuition-driven, making any loss of students and the revenue they bring a financial concern. Furthermore, for faith-based institutions, retention and student success have

been a large part of the institution's mission. Students have been viewed as more than just consumers of educational services; they have been important as whole persons, and these institutions have viewed helping students succeed and persist (particularly to graduation) as a part of their ministry focus and mission. Kezar (2004) stated that "the moral commitment to students" (p. xi) ranked as important in retention as its effect on budgets and accountability did.

While many studies of retention have focused on how pre-college characteristics of incoming students may affect their persistence (Ishitani, 2003; Terenzini & Pascarella, 1978; Thompson, 1999) or what institutions could do to retain students (Nelson Laird, Chen, & Kuh, 2008; Schreiner, Noel, & Anderson, 2011), some factors that might influence student persistence have not been as heavily studied. To date, limited research has focused on examining the relationship between students' self-perceptions of their abilities, skills, and dispositions and their likelihood of persistence in college. How students perceive themselves might influence how they behave in academic and social situations at college, how they interact with both faculty and other students, how they engage in academic and extra-curricular activities, and consequently, whether they persist or not toward their goals. This study addressed this gap in the existing research and examined how incoming first-year students' self-perceptions of their behaviors, attitudes, and aptitudes influenced their likelihood of first-to-second-year persistence.

### **Purpose of the Study**

The purpose of this study was to examine the effects of first-year students' perceptions of their behaviors, attitudes, and aptitudes on their first-to-second-year persistence at a small, private, faith-based institution. More specifically, the study investigated how incoming first-year students' demographic and background characteristics as well as four constructs measured by the CIRP Freshman Survey, (a) Habits of the Mind, (b) Academic Self-concept, (c) Social Self-

concept, and (d) Likelihood of College Involvement affected their likelihood of persistence to their second year of college.

### **Research Questions**

The following research questions were investigated:

1. What was the demographic and background profile of first-year students along with their perceptions of their Habits of the Mind, Academic Self-concept, Social Self-concept, and Likelihood of College Involvement at a small, private, faith-based institution?
2. How did demographic and background characteristics of first-year students affect their persistence to the second year of college at a small, private, faith-based institution?
3. Did first-year students' perceptions of their Habits of the Mind affect their persistence to the second year of college at a small, private, faith-based institution?
4. Did first-year students' perceptions of their Academic Self-concept affect their persistence to the second year of college at a small, private, faith-based institution?
5. Did first-year students' perceptions of their Social Self-concept affect their persistence to the second year of college at a small, private, faith-based institution?
6. Did first-year students' perceptions of their Likelihood of College Involvement affect their persistence to the second year of college at a small, private, faith-based institution?

### **Definitions**

Specialized vocabulary has often been used in higher education that is not always familiar to those outside the field and that sometimes is not even completely clear to those within higher education. A few terms found in this study follow with the definitions as they are used in the study.

*Persistence* was defined as students' continuing enrollment at their institution from one semester or year to the next. Students persisted by staying in college until they have reached their individual goals. Those goals may or may not have included graduation (Reason, 2009).

*First-to-Second-Year Persistence* was defined as institutional persistence or system persistence. Institutional first-to-second-year persistence was when students returned to their first institution for a second year while system first-to-second-year persistence was when students returned to any institution of higher education for a second year (Hagedorn, 2005). This study used institutional persistence to measure students' first-to-second-year persistence at a small, private, faith-based institution.

*First-to-Second-Year Retention Rate* was the rate at which an institution of higher education was able to retain first-time, full-time students in full-time enrollment from their first year to their second year (Berger & Lyon, 2005).

*Attrition* "refers to students who fail to reenroll at an institution in a consecutive semester" (Berger & Lyon, 2005, p. 7).

*CIRP Freshman Survey* was a survey administered either before matriculation or soon after matriculation to first-time freshmen as part of the Cooperative Institutional Research Program. The CIRP Freshman Survey was an instrument developed and administered through the Higher Education Research Institute (HERI) at the University of California – Los Angeles (UCLA). This survey measured seven constructs: (a) Habits of the Mind, (b) Academic Self-concept, (c) Social Self-concept, (d) Pluralistic Orientation, (e) Social Agency, (f) College Reputation Orientation, and (g) Likelihood of College Involvement (Sharkness, DeAngelo, & Pryor, 2010).

*Habits of the Mind* was “a unified measure of the behaviors and traits associated with academic success. These behaviors are seen as the foundation for lifelong learning” (HERI, 2009, p. 23). This CIRP construct included academic behaviors like writing multiple drafts of papers and asking questions in class along with attitudes like viewing mistakes as a path to learning and taking risks in learning (HERI, 2009).

*Academic Self-concept* was defined as “a unified measure of students’ beliefs about their abilities and confidence in academic environments” (HERI, 2009, p. 37). This construct was the result of four self-ratings: “academic ability, drive to achieve, mathematical ability, and self-confidence (intellectual)” (HERI, 2009, p. 37).

*Social Self-concept* was “a unified measure of students’ beliefs about their abilities and confidence in social situations” (HERI, 2009, p. 38). This construct from CIRP was built on leadership and public speaking ability along with self-confidence in social situations (HERI, 2009).

*Likelihood of College Involvement* was “a unified measure of students’ expectations about their involvement in college life generally” (HERI, 2009, p. 36). This CIRP construct included measurements of students’ expectations of being involved in campus activities and organizations, community activities, and socializing with others from differing backgrounds (HERI, 2009).

### **Delimitations and Limitations of the Study**

Several delimitations existed for this study. The study examined first-to-second-year persistence of first-time, full-time students at a small, private, faith-based institution. Understanding what factors contributed to students' persistence beyond the second year or to degree completion was, therefore, beyond the scope of this study. A second delimitation of this

study was that it examined those students who were attending the institution full-time and who had never attended another institution of higher education as a full-time student. A final delimitation was that the study did not examine all of the constructs measured on the CIRP Freshman Survey but focused on the four which were perceived to be most closely related to student persistence.

Several limitations to this study also existed. First, the study examined contributing factors of persistence at one institution, so the findings might not be generalizable to other institutions. Second, the study utilized existing data from CIRP Freshman Survey, so the choice of variables was limited to the measures which appeared in the survey. Furthermore, since the CIRP Freshman Survey used self-reported measures of students' Habits of the Mind, Academic Self-concept, Social Self-concept, and the Likelihood of College Involvement, these measures might not accurately reflect the actual attitudes and behaviors of these students. In other words, the study examined incoming, first-year students' perceptions to predict whether they would persist to their second year of college, not their actual behaviors displayed during the first year in college. Much of the research on persistence has shown the importance of students' behaviors during the first year of college in determining students' persistence decisions (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008; Kuh, 2009; Wolf-Wendel, Ward, & Kinzie, 2009), so this study was limited by examining only students' pre-college perceptions.

Finally, the institution examined in this study required its incoming freshmen to participate in the CIRP Freshman Survey during New Student Orientation which might have affected their attitudes and responses to the survey questions. During orientation, students are very focused on meeting new people, getting acquainted with campus, and getting settled into

their residence hall room. Spending time answering survey questions might not have been a high priority, so some may have answered quickly, without much self-reflection, just to finish.

### **Significance of the Study**

This study made several important contributions to research and practice. To date, studies that used the CIRP Freshman Survey as a predictor of persistence had primarily focused on specific populations of students such as athletes (Garrett, 2000; Harrison, Comeaux, & Plecha, 2006), minorities (Hurtado, Newman, Tran, & Chang, 2010) and STEM students (Hurtado et al., 2010; Sax, 2000). This study broadened that focus by examining one institution's entire population of first-time, full-time students rather than smaller, more specific segments of student populations. This may have provided a better picture of how the CIRP Freshman Survey could be used to predict first-to-second-year persistence at colleges and universities that use this instrument with their incoming freshmen classes. Furthermore, most studies conducted using the CIRP Freshman Survey utilized national CIRP data sets (Rhee, 2008; Sax, 2000; Smith, Morrison, & Wolf, 1994) or were completed at larger public institutions (Hawley & Harris, 2005; Koch & Nelson, 1999). By focusing on a small, private, faith-based institution, the study addressed this gap in the existing research and also encouraged other small, private, faith-based institutions to more closely examine how CIRP Freshman Survey data could better inform their retention efforts.

Another contribution of this study to the existing research was its examination of psychological factors that might influence persistence. Some studies had examined the psychological factor of Academic Self-concept (Boulter, 2002; Chemers, Hu, & Garcia, 2001; House, 1992), but limited research was found that focused students' perceptions of their Habits of the Mind, Social Self-concept, and Likelihood of College Involvement and how these factors

affected persistence (Berger & Milem, 1999; Brown & Salisch, 1996; Cole & Korkmaz, 2010; Kuh, Cruce, Shoup, Kinzie, and Gonyea, 2008; Terenzini et al., 1994; Torres & Solberg, 2001). This study might encourage other institutions to investigate how these psychological concepts influence persistence with their particular student populations.

On a more local level, this study was significant to the university where the study was conducted. Part of the institution's strategic plan is to increase both freshmen-to-sophomore retention rates and graduation rates over the next four years, so this study was beneficial to the university's strategic plan. The findings of this study informed the institution how to better utilize CIRP Freshman Survey data to influence potentially at-risk students to persist to their second year. The findings also informed the institution of the need to develop interventions or programming to help these students persist. This study also encouraged the university's continuing efforts to improve the first-year experience for students. If particular factors were discovered that could assist new students in making a successful transition and adjustment to college, and therefore persist at a higher rate, the university could find ways to build these factors into aspects of the first-year experience program. Finally, this study helped both faculty and others who work with first-time students to better understand the characteristics of new students that were affecting persistence at this institution. This in turn provided the opportunity to redesign curriculum, programming, and other services to better meet the needs of new students which hopefully led to improved first-to-second-year persistence.

### **Theoretical Framework**

Over the last 40 years, higher education research has developed several different conceptual views of student persistence. Braxton and Hirschy (2005) suggested four specific views: (a) economic, (b) organizational, (c) sociological, and (d) psychological. The economic

view explained that students weigh the cost of attending a particular institution of higher education against the benefits they receive from attendance such as the quality of the education they receive, the relationships they build at the institution, or the prestige they gain from attendance at that particular institution. Students' perceptions of the costs and benefits and their ability to pay were all a part of this economic view of student persistence.

The organizational view explained persistence as a result of the organizational structure and behavior of the institution of higher education. If policies, programming, and procedures were supportive of students, then the organization was more likely to promote student persistence. One of the primary theories of student retention from the last 40 years that was based on this orientation was Bean's (1990) explanatory model of student retention. Bean (1990) modeled his theory of student attrition on a theory of workplace attrition. He believed that workplace attrition more closely resembled the circumstances of attrition from higher education than the theories on which other persistence models were based. Bean (1990) postulated that three variables affected student attrition: (a) characteristics of the institution, (b) student satisfaction with the institution, and (c) pre-college characteristics of the student. From these three variables, he theorized that student satisfaction with the institution most influenced commitment to the institution which, in turn, influenced attrition. His study testing this model found that the factor most influential on attrition decisions was institutional commitment.

The third view cited in Braxton and Hirschy's (2005) work was the sociological view. This view emphasized the influence of the social structure of the institution and social forces on the departure decisions of college students. The primary theoretical model of student persistence which reflected this view was Tinto's interactionist theory. Tinto's theory explained that students must integrate with both the academic and social realms of the university in order for

them to be comfortable and to be willing to persist beyond the first year (Tinto, 1993).

Academic and social integration, according to Tinto (1993), involved pre-college characteristics of the students, students' commitment to both the institution and to graduating, institutional climate and actions that are intended to help students integrate and succeed, and the ability and willingness of students to disconnect from home and connect to the people and concepts of the institution. If students did not have the right pre-college characteristics both academically and socially or if they were unwilling or unable to disconnect from home and become connected to the institution, then they likely would not persist. Similarly, if the climate and actions of the institution did not promote student success, both academically and socially, students were unlikely to persist there (Tinto, 1993).

While Tinto's theory had been central to much of the study of persistence over the past 40 years, in the last 15 years some researchers questioned the empirical validity of the theory. Braxton et al. (2004) found that only five of the 13 propositions on which Tinto's theory was built were empirically supported. The surprising finding in their study was that the concept of academic integration in Tinto's theory did not have the empirical backing that social integration did (Braxton et al., 2004). These authors also found that Tinto's theory explained student departure from four-year residential institutions more accurately than it did from two-year institutions or commuter institutions. The theory's sociological orientation might have been a factor in this.

A psychological view was the final one proposed by Braxton and Hirschy (2005). This view explained student persistence as the result of individual psychological tendencies at both the student and institutional levels that separated those students who persisted from those who departed. Astin's (1999) theory of student involvement followed this psychological view. Astin

theorized that student involvement was really the energy a student put forth, both physically and psychologically, to be engaged in the life of campus both academically and socially.

Involvement, in Astin's terms, was a behavioral concept. He saw the resemblance to the psychological concept of motivation but found the behavioral aspect much easier to operationalize and measure. But the institution was also involved in his theory. Astin (1999) pointed out that every policy, in fact nearly every decision made by the institution, had an effect on the way students spent their time and energy. This meant that institutional characteristics and climate had a direct effect on student involvement (Astin, 1999). Most central to Astin's theory was the idea that the greater the involvement of students, the greater students' learning and development would be. In terms of persistence, as students were more involved and learned and developed more, their persistence at the institution where this involvement occurred naturally followed (Astin, 1999).

The theoretical framework of this study was primarily based on a model of persistence that was developed by Bean and Eaton (2000) that also fit in this psychological view. This model drew on four theories from the discipline of psychology: (a) Attitude-Behavior Theory, (b) Coping Behavioral Theory, (c) Self-Efficacy Theory, and (d) Attribution Theory (Bean & Eaton, 2000).

Attitude-Behavior Theory, also called a Theory of Reasoned Action, was introduced by Fishbein and Ajzen (1975) as a means of behavioral prediction. This theory espoused that people act based on an intention to behave in a particular way. This intention to behave was influenced by two factors, attitude and subjective norm. Attitude was the person's own perception of the intention, and subjective norm was how others who are important to the person would perceive the intention (Fishbein & Ajzen, 1975). Coping Behavioral Theory (Lazarus,

1966) dealt with how people coped with situations they were in and how they adapted to those situations. Lazarus (1966) discussed four major coping patterns: (a) “actions aimed at strengthening the individual’s resources against harm,” (b) “attack,” (c) “avoidance,” (d) “defense” (p. 297) and then discussed how each of these coping patterns was used in response to a person’s appraisal of the situation.

Bandura (1977) introduced the Self-Efficacy Theory, a motivational theory, which explained that people perceived their ability to do certain things or to handle certain situations based on “performance accomplishments, vicarious experience, verbal persuasion, or emotional arousal” (p. 80). Those who experienced success, who observed others like them experiencing success, who were told by people important to them that they could succeed, or who were emotionally-charged about a situation, gained confidence in their own ability to succeed. The final of the four theories, Attribution Theory, as explained by Weiner (1986), built on Rotter’s (1966) idea of locus of control. Locus of control was either internal, meaning the person believed that certain outcomes were due to internal attributes, or locus of control was external, meaning the person believed that external causes were responsible for outcomes.

Bean and Eaton (2000) combined these four theories to form their psychological model of student persistence. This model applied to “both voluntary and involuntary leaving” from the institution (Bean & Eaton, 2000, p. 55) which made it attractive for use in a study that involved a population of first-time, full-time students among which not all leaving was voluntary. Additionally, the model seemed to operate regardless of gender, age, or ethnicity also adding to its attractiveness (Bean & Eaton, 2001). The model connected students’ self-perceptions and attitudes to their persistence. Bean and Eaton (2001) stated, “We believe that the factors

affecting retention are ultimately individual and that individual psychological processes form the foundation for retention decisions” (p. 73).

In their model Bean and Eaton (2000) explained that, “Past behavior, beliefs, and normative beliefs affect the way a student interacts with the institutional environment” (p. 56). The self-beliefs students held when coming to college affected how they performed and how they perceived themselves in that first year of college. Bean and Eaton (2001) described self-efficacy as playing a very important role in their model and defined it “as an individual’s perception of his or her ability to act in a certain way to assure certain outcomes” (p. 75). According to Bean and Eaton (2000), “If all goes well, students will gain in perceptions of their self-efficacy in academic and social situations... students will begin to perceive that they are in control of their academic and social destiny and be motivated to take action consistent with that perception” (p. 56). With these actions, the students were more likely to find both academic and social success, which led them to the desire to stay at the institution. That desire to stay at the institution then led, according to Bean and Eaton’s (2000) psychological model, “to the behavior in question, persistence itself” (p. 56).

### **Chapter Summary**

This chapter introduced the research problem of this study as well as the research questions guiding the study and the context of the problem in the realm of higher education. The chapter explored the limitations and delimitations of the study and the implications of the findings for research, policy, and practice. This study’s findings added to the current body of literature on college student persistence and perhaps influenced other small, private, faith-based institutions to examine their student persistence through research. The findings also may have

impacted the policies and practices for student persistence for the particular university at which the study was done.

## CHAPTER II

### REVIEW OF THE RELATED LITERATURE

Student persistence has been an area of scholarly research for nearly 70 years (Braxton, 2000). The focus on persistence has stayed strong because of a continuing need for colleges to find ways to help students stay enrolled. One important focus for colleges has been the persistence of students from the first to the second year since students who do not persist negatively affect both budgets and graduation rates. Colleges have consistently been searching for factors that might predict which students are at-risk of not persisting so that timely interventions can be made to promote persistence. This study examined four factors that are explored on the CIRP Freshman Survey to determine if any of these factors were related to students' persistence from the first to the second year.

In order to review the literature on first-to-second-year persistence, several academic databases were used, including Education Resources Information Center (ERIC), EBSCOhost, GoogleScholar, ProQuest, PyscInfo, and PsycArticles. In searching these academic databases, the following key words were used in varying combinations: retention, persistence, first-to-second-year persistence, freshmen-to-sophomore-year persistence, attrition, higher education, habits of the mind, academic self-concept, social self-concept, likelihood of college involvement, self-efficacy, and Cooperative Institutional Research Program (CIRP). A search of the publications available on the Higher Education Research Institute website was completed as well as a search of the contents of all the volumes of the *Journal of College Student Retention*. Along with this, a search of the retention references on the website of the Center for the Study of College Student Retention was completed. These searches focused on the same keywords as the search of the academic databases.

The literature review was divided into three basic sections. The first section provided the general overview of the studies of first-to-second-year persistence of college students. The second section examined existing research that used the CIRP Freshman Survey to study different student populations. The final section described the studies that explored concepts similar to the four constructs from the CIRP Freshman Survey being utilized in this study as possible predictors of first-to-second-year persistence for college students: (a) habits of the mind, (b) academic self-concept, (c) social self-concept, and (d) likelihood of college involvement.

### **First-to-Second-Year Persistence**

Researchers have examined persistence from a variety of angles in the literature. Some studies have explored course-to-course persistence, some within-year persistence, and some persistence to degree. Of particular interest to this study, first-to-second-year persistence has been examined by researching various factors that have been thought to influence whether or not students enroll in either their same institution or another institution of higher education after their first year of college.

### **Demographic and Background Characteristics**

Student demographic and background characteristics and how they influence persistence have been the focus of studies in higher education since colleges and universities began to recognize the importance of keeping students enrolled through graduation (Belchier & Michener, 1997; Glynn, Sauer, & Miller, 2003; Han & Ganges, 1995; House, 1994; Kiser & Price, 2007; Laskey & Hetzel, 2011; Lotkowski, Robbins, & Noeth, 2004; Nelson, Scott, & Bryan, 1984; Peltier, Laden, & Matranga, 1999; Reason, 2009; Robertson & Taylor, 2009; Terenzini & Pascarella, 1978; Tross, Harper, Osher, & Kneidinger, 2000; Waugh, Micceri, & Takalkar,

1994). These studies have examined demographic characteristics such as gender, race/ethnicity, socioeconomic status, and parental education among many others. Background characteristics such as high school GPA, high school class rank, and college entrance exam scores have also been widely studied.

Peltier et al.'s (1999) review of the literature on student persistence and demographic and background characteristics found demographic and background characteristics such as high school GPA, SAT/ACT scores, gender, and race/ethnicity to be predictive of persistence. Peltier et al. also reviewed studies that examined age as a predictor of persistence and reported mixed findings in these studies that compared non-traditional students with more traditional 18-23 year old students. In a later review of the literature by Reason (2009), the author reported that these same demographic and background characteristics have been the focus of persistence studies and found to be predictors of persistence for college students.

In contrast, some studies have found little to no relationship between background characteristics and persistence to the second year of college. In their often-cited study, Terenzini and Pascarella (1978) examined pre-college characteristics and freshman year experiences and their relationship to student persistence at Syracuse University in New York. A random sample of 1,008 incoming freshmen was chosen by a computer, and those chosen were asked to fill out a questionnaire in July prior to their matriculation. A second questionnaire was mailed in the middle of the spring semester to the participants who had responded to the first questionnaire. A final population of 536 freshmen was used in the study. The following pre-college characteristics were examined in this quantitative study: (a) sex, (b) racial/ethnic origin, (c) combined SAT scores, (d) high school rank, (e) personality, (f) mother's education, (g) father's education, (h) expectations of the academic program, (i) expectations of the nonacademic life, (j)

expected number of informal contacts with faculty, and (k) expected number of extracurricular activities. The researchers found that these precollege characteristics “explained less than 4 percent of the total variation in attrition status – a statistically nonsignificant amount” (p. 362). The researchers concluded that for this population “there would appear to be little future in trying to predict attrition *solely* on the basis of students’ prematriculation characteristics” (pp. 362-363).

A study by Tross et al. (2000) examined high school GPA and SAT scores along with personality characteristics as variables to predict retention to the second year of college. The researchers examined 844 freshmen at a large, public, urban university. While one of the personality characteristics, conscientiousness, did show predictive value for retention, neither high school GPA nor SAT scores were predictive of retention. In a later study with similar findings, Kiser and Price (2007) used the CIRP Freshman Survey to examine the role of three pre-college factors and three first-year factors in predicting the persistence of college students from their first to second year. The researchers used high school GPA, education level of parents, and gender as their pre-college factors in this quantitative study that involved 1,014 full-time freshmen from Texas State University-San Marcos. Using logistic regression, the researchers examined all students in the sample first and then ran separate logistic regressions for White, Hispanic, and African-American students. The researchers found that none of the pre-college variables were statistically significant predictors of persistence for any of the populations studied.

Other studies of the same academic background characteristics found moderate or mixed results. In a paper presented at the Florida Association for Institutional Research conference, Waugh et al. (1994) reported examining the relationship between pre-college measures of

ACT/SAT scores and high school GPA and persistence and graduation. They conducted their study at the University of South Florida using institutional data on 8,573 first-time freshmen who enrolled from 1984-1988. Using quantitative methods, the researchers found a moderate correlation between high school GPA and persistence and graduation but no relationship between ACT/SAT scores and persistence or graduation. Belcheir and Michener (1997) examined the role of background characteristics in predicting persistence to the second year of college finding mixed results. This study was a mixed methods study of both quantitative and qualitative components completed with 235 freshmen who were enrolled in either a freshman orientation course or a general psychology course during the Fall 1995 semester at Boise State University. The quantitative component of the study found that students' admission index scores (a combination of high school GPA and college entrance examination scores) were a predictor of students who would persist to the second year. Other background characteristics were not found to be predictive of persistence. The qualitative component of the study examined 25 students who agreed to participate in the study. The researchers started with a group of 166 chosen randomly from the fall registration list of first-time freshmen. From that group a list of students was developed that were determined to be a representative sample of the institution's first-time, full-time students. The students on that list were contacted to ask to participate in the study. The group of 25 students agreed to participate in the study. While this was a small group of students, the researchers did attempt to make the group a representative sample of the institution's first-time, full-time students. In this part of the study, the researchers found that high school GPA did not predict persistence in college.

Yet other studies have found correlations between college students' precollege characteristics and demographics and persistence. From a quantitative study conducted at a

Midwestern university using data collected from the CIRP Freshman Survey on 7,377 incoming freshmen from three consecutive fall semesters, House (1994) found that ACT composite scores and high school class percentile rank were predictive of persistence for the overall sample of the study. The researcher also conducted analysis on male and female students in the study and on students by ethnicity. He found that both of these predictor variables were also significantly correlated to persistence for both genders and for all three ethnic groups (Hispanic, African-American, and White) studied. Similar findings came from a study conducted by Glynn et al. (2003) in which the researchers examined pre-college characteristics, opinions, attitudes, and values of the freshmen at a medium-sized private college in the Northeast. Data were collected through a survey given to incoming freshmen during orientation on campus from 1988 through 1995. This study was interested in attrition of students at any point during their college career. The researchers examined predictor variables in four categories: (a) background variables, (b) external factors, (c) financial factors, and (d) influences of significant others. High school GPA was found to be more predictive of persistence than any of the other variables in the study. As the students' high school GPA increased, the likelihood of persistence increased as well. Similar findings were reported by Lotkowski et al. (2004) in an ACT Policy Report. Their meta-analysis of 109 studies of college and university retention concentrated on both non-academic and academic factors that are related to student persistence. The two academic factors they considered were high school GPA and ACT scores. The researchers also examined socioeconomic status as a demographic factor. They found that high school GPA had the strongest positive relationship to persistence of any of these three factors, but ACT scores and socioeconomic status were also positively related to persistence.

A fairly early study by Nelson et al. (1984) was conducted at the University of North Dakota-Grand Forks and involved a random sample of 400 students from the Fall 1980 class of first-time, full-time students. This study examined 51 variables: (a) 26 variables from the ACT assessment program, (b) 22 variables about the students' college experiences after eight weeks gathered from a survey mailed to the students, and (c) three demographic variables (gender, marital status, and ethnicity). After surveys were returned, the researchers had 223 usable responses from students for the study. Of those 223 students, 215 students persisted to their second semester and 8 did not. The researchers found that using only precollege characteristics correctly classified 87% of the students as persisters or non-persisters and correctly predicted 6 of 8 non-persisters. When the early college experiences variables were added to the analysis, the researchers found that 94% of the students were correctly classified as persisters or non-persisters and all eight non-persisters were correctly classified.

While many of these studies on persistence have been done across an entire freshman population, some focused on more homogenous groups of freshmen and found similar results. In a study conducted by Robertson and Taylor (2009) with a group of 618 first-time freshmen enrolled in the College of Human Environmental Sciences at a Midwestern land grant university, the researchers explored the connection between demographic and academic background characteristics and persistence to the second year of college. After conducting their quantitative study, the researchers determined that high school GPA and composite ACT scores were the best predictors of persistence to the second year. The study also found age to be a predictor of persistence with the likelihood of persistence increasing as the age of the student increased.

Han and Ganges (1995) studied a group of specially admitted students at Northern Illinois University to determine if their academic and other background characteristics influenced

their persistence in college. These 1,639 students were admitted from 1986-1989. The data set from the university's institutional research office included students' gender, ethnicity, ACT scores, and high school percentile ranks. In their quantitative study of these background variables, they found that, overall, females persisted longer than males, that those with ACT scores greater or equal to 11 persisted longer than those with lower scores, and that those with a high school percentile rank of 50 or higher persisted longer than those ranked less than 50. Among the four ethnicity groups (Asian, White, Hispanic, and African-American), Asians had the highest overall persistence rate, and African-Americans had the lowest.

At least one recent study of these more homogenous groups found the opposite to be true of precollege characteristics being predictive of retention. Laskey and Hetzel (2011) conducted a study of 115 incoming students who were admitted to a medium-sized, private Midwestern university in a special program called the Conditional Acceptance Program (CAP). This program allows students who do not meet the university's normal admissions requirements, yet show potential for success, to be admitted for one year to earn regular admission. The results of their study showed neither high school GPA nor ACT scores were predictive of retention for these CAP students. Other demographic characteristics, such as gender and ethnicity, which were examined in the study as well, also showed no predictive power for retention. The one background characteristic that the researchers found that had a positive relationship with retention was conscientiousness.

### **Institutional Culture and Practices**

Another aspect of student persistence that has been studied by multiple researchers is institutional culture and practices affecting persistence (Baker & Pomerantz, 2001; Berger, 2002; Braxton & McClendon, 2002; Hossler, Ziskin, & Gross, 2009; Jones & Braxton, 2010; Keup,

2005; Kuh, 2001; Whalen, Saunders, & Shelly, 2009). As universities and colleges have begun to focus on retaining students to graduation, more studies have examined how institutions create a culture for student success and persistence and what types of retention programming have been designed and implemented at various institutions. A common conclusion that has been reached in many of these studies is that there is no one program that will improve student persistence at every campus. Each institution must develop a culture and programming that works with its unique student population and setting.

Kuh (2001) presented a meta-analysis of the literature on creating a culture of success on campuses which encouraged students to persist. He stated early in the study that at that time there was little research on how persistence was influenced by institutional culture. He recommended six steps based on the meta-analysis that would help an institution build a culture of success leading to persistence. The first step was to ensure that prospective and new students hear about the values and expectations of the institution on a regular basis. The second step promoted examining how students are experiencing the institution both inside and outside the classroom and during more than just their freshmen and senior years, which is when students have traditionally been surveyed. Consistently using best practices for campus programming and in the classroom was the third step. Purposefully finding ways to relate the curriculum to students' lives and using those ties to bring students and university resources together was the fourth step. The fifth step involved removing as many barriers to student success as possible while maintaining the academic integrity of the campus. The final step was to use research to determine how peer groups influence student persistence on a particular campus.

Since Kuh's (2001) review of the literature, several other meta-analyses have been done which have updated recommendations for institutional practices and culture changes to improve

student persistence. Berger (2002) made 10 recommendations based on his meta-analysis which drew on a conceptual framework of organizational behavior. Similar to Kuh's (2001) earlier study, one recommendation was to clearly communicate campus values and expectations to students as this promotes persistence through greater student understanding of the realities of college life. Secondly, institutions need to allow students to become involved in campus policy decisions and committee work. Promoting fairness in dealings with students was a third recommendation from Berger's meta-analysis. Limiting bureaucratic structures to only what is necessary and allowing student involvement in political activity on campus were also recommendations for promoting persistence. Berger (2002) also recommended providing campus personnel to advocate for students as this has helped students persist by demonstrating a strong level of caring for students. Using symbols to promote community and forging strong connections to external resources that can be of assistance to students also are recommended as means for improving persistence. Berger's final recommendations were to assess and understand both the organizational behavior of the institution and the students' perceptions of that organizational behavior.

In the same year, Braxton and McClendon (2002) also reported on a meta-analysis of the literature they had reviewed on student persistence and institutional behavior. They made 20 recommendations based on eight particular areas of institutional practice. In academic advising, they recommended that advisors help students choose course offerings based on teaching evaluations of the faculty and that advisors encourage students to become involved in student activities on campus. Four recommendations were made in the areas of administrative policies and procedures: (a) clearly communicate policies to students, (b) use fairness to students in carrying out policy, (c) at residential colleges, require students in their first two years to live on

campus, and (d) create social opportunities for all students, but especially for commuter students. The researchers gave three recommendations to the area of enrollment management: (a) accurately portray the institution to prospective students, (b) strongly encourage prospective students to complete a campus visit before enrolling, and (c) award financial aid in some amount to all students who demonstrate need. In the area of faculty development, the researchers recommended that both active learning strategies and collaborative/cooperative learning strategies be areas of focus in faculty development programs. The researchers made three recommendations in the area of faculty reward systems: (a) using teaching practices that promote student persistence should carry some weight in faculty evaluation, (b) instructional skills, organization, and preparation of faculty should be evaluated by students, and (c) active learning should also be emphasized in various components of the faculty evaluation process. Braxton and McClendon (2002) recommended that new student orientation programs should provide activities that promote social interaction among new students. The residence life program of campuses should build community among residents by using intentional processes for assigning new students to residence halls and by encouraging social activities among those residents. Finally, providing workshops on stress management, career planning, and diversity were recommendations for student affairs programs in order to promote persistence.

Other researchers have studied how institutional practices affect student persistence. One study by Keup (2005) examined three practices: (a) first-year seminars, (b) service learning courses, and (c) learning communities. She used a national database of survey data from the CIRP Freshman Survey and the Your First Year of College Survey, also from CIRP, to examine participation in these three practices by the institutions of 19,995 first-time, full-time students across the nation. She found that participation in any of these practices had a positive

relationship with students' intent to enroll for a second year of college. In another study on institutional culture and practices focused on learning communities, Baker and Pomerantz (2001) compared a group of 328 students involved in learning communities with a control group of 328 students who were matched with the students in learning communities on the basis of gender, race, age, ACT composite score, major, part-time/full-time status, enrollment or not in the UNV 101 freshman orientation course, and admission status. Their study took place at a predominantly commuter campus of about 12,000 students located in an urban setting. This quantitative study focused on six criteria of student success, one of which was persistence to the second year of college. In all six criteria, the students in the learning communities were more successful than the students in the control group. In Whalen et al.'s study (2009), the researchers studied a sample of just over 1,000 incoming freshmen in a single year at a large Midwestern research-intensive university with an overall population of 20,000 students. This quantitative study was conducted in two phases. The first examined first-to-second year persistence and the second examined graduation prior to the seventh year or persistence to the seventh year and explored the influence on persistence of a variety of student characteristics and institutional practices including learning communities. This study also found that learning communities were a significant predictor of first-to-second-year persistence for students who participated.

Jones and Braxton (2010) conducted a study of institutions in the four states with the best performance in retaining students at four-year institutions and the four states with the worst performance as determined by the *Measuring Up 2006 National Report Card on Higher Education*. The top four performing states were Massachusetts, Pennsylvania, Iowa, and Delaware while the four lowest performing states were Arkansas, New Mexico, Nevada, and Kentucky. A total of 54 public and private four-year institutions in these eight states responded

to the researchers' request for information. The researchers found no statistically significant differences in the types of activities concerning student persistence that were being done at public and private universities. With student persistence generally being lower at public institutions, this was surprising to the researchers. They also found that commuter campuses were conducting more research studies on student persistence at their institutions than residential institutions were. Their final finding demonstrated that the amount of research on student persistence being done at institutions in the low-performing states differed little from the amount being done in the high-performing states.

In a combination of two studies, Hossler et al. (2009) worked with the Indiana Project on Academic Success and the College Board to determine effective policies and procedures to improve student persistence. The Indiana Project on Academic Success is a collaborative effort between the Center for Postsecondary Research at Indiana University and 15 two- and four-year public and private institutions in Indiana to implement and evaluate programs on campuses to improve student persistence and success. The College Board study was a pilot study with four-year institutions in five states to survey them about policies and practices on their campuses that influence student persistence. In a review of these two studies, Hossler et al. (2009) made four recommendations concerning what institutions can do to improve student persistence. The first was to have someone at the institution be in charge of coordinating all efforts to improve persistence and graduation rates. The second was for institutions to provide sufficient resources for those in charge of implementing persistence strategies. The researchers' third recommendation was to establish clear goals for improving persistence and graduation rates. Finally, they recommended that annual reports on persistence efforts be provided for senior

policy makers and the board of trustees at an institution to provide accountability and focus on these efforts.

### **Effects of First-Year Seminars on Persistence**

A large number of studies examining institutional practices that influence persistence focused on the influence of first-year seminars on first-to-second-year persistence (Andradre, 2008; Keup & Barefoot, 2005; Lang, 2007; Miller, Janz, & Chen, 2007; Williford, Cross Chapman, & Kahrig, 2000; Zimmerman, 2000). Lang (2007) conducted an experimental design study on an elective first-year seminar at a public research university in the Northeast. His experimental group was made up of students who completed the first-year seminar at the university in their first semester while the control group was made up of students who did not take the course, yet were matched one-to-one with students in the experimental group on the basis of gender, race, SAT score, high school GPA, and intended major. Lang (2007) found that students who took the course had higher first-year GPAs, higher persistence rates to the second year, and higher fourth-, fifth-, and sixth-year graduation rates than students in the control group. Williford et al.'s (2000) study was conducted at a residential, Research II university in the Midwest and concluded with similar findings. This longitudinal study examined student information from 10 incoming classes of students from 1986 through 1995 comparing students who enrolled in the university's first-year seminar and those who did not. Students were compared on first-year GPA, retention from first to second year, and graduation rates. The researchers found that first-year GPA was higher for participants in the first-year seminar than for non-participants across all 10 years of the study. Persistence and graduation rates were higher for participants than non-participants in the last five years of the study. Mixed results in these two rates occurred during the first five years of the study.

Targeting a specific group of first-year students, Andrade's (2008) study of a first-year seminar designed particularly for international students was conducted at a private, faith-based, residential undergraduate university with nearly half of its population being international students from Asia and the Pacific Islands. About a year after the seminar concluded, students who had taken the first-year seminar for international students were invited to complete an online survey to provide information about the seminar and about their first year at the institution. Forty-nine students participated by completing the survey. Andrade's study concluded that the students felt the seminar had enabled them to be more comfortable culturally at the university. The students also felt that the seminar enabled them to adjust better academically to the American university and to persist to their second year of study.

The study by Keup and Barefoot (2005) examined how participating in a first-year seminar course influenced students' academic and social experiences. This quantitative study used a national data set from the CIRP Freshman Survey and the CIRP Your First Year of College Survey. A sample of 3,680 students from 50 institutions was used for this study. The findings of this study indicated that participation in a first-year seminar improved communication between students and faculty, the academic practices of students, campus involvement of students, and the social success of students on campus.

Focusing specifically on a first-year seminar's effect on persistence, Miller et al.'s (2007) study chose two first-year cohorts from back-to-back years at a medium-sized public university in the Midwest and examined outcomes for students who participated in a first-year seminar versus those who did not. These cohorts were further divided in the study by academic preparation level at the time of enrollment determined by "ACT score, college preparatory units taken, and high school class rank" (p. 53). In a study of the first cohort, 1,913 students were

examined, then the study was replicated using a second cohort of 1,736 students. The researchers found that all participants benefitted from participation in the seminar regardless of their level of high school preparation for college. Those students who participated in the first-year seminar had a higher first-to-second-year persistence rate than all other freshmen except those who had the highest levels of academic preparation for college during high school.

Also focused on persistence, Zimmerman's (2000) study examined how grades earned in a journal-based, first-year seminar course at a small, Midwestern, public, 2-year technical college were related to student success. Journal writing was a major component of this class with the journal being worth 70% of the grade at the end of the five-week course. The population of this study was 160 students who took this journal-based seminar course from the same instructor over seven years. The researcher found "that the orientation-course grade is strongly related to retention; that is, the higher the grade, the more likely the student was to persist to the second year" (p. 35).

### **Effects of Social Integration on Persistence**

Social integration was another area that researchers have examined in connection with improving student persistence. Along with academic integration, social integration is a key aspect of Tinto's interactionist theory. While some may think only of student interaction with peers as a part of social integration, relationships and interaction with faculty and staff on campus can also influence the persistence of students.

A number of researchers have studied peer relationships and their influence on persistence as part of the concept of social integration (Kim, 2009; Liu & Liu, 2000; Swenson Goguen, Hiester, & Nordstrom, 2010). Kim's (2009) study at a large public university in the Midwest with a majority White population examined how ethnic peer networks affected racial

minority students' adjustment to college and persistence from first to second year. This qualitative study used semi-structured interviews with 49 students, nearly half male and half female. The study found that these ethnic peer networks had a positive effect on student persistence. The researcher also found that most of these racial minority students relied on peers for information rather than trust employees of the university to answer questions or give guidance.

Another study of relationships with peers and how persistence is tied to those relationships was done with 271 students from two universities in the Northeast, one a private liberal arts college and one a branch campus of a public university. Swenson Goguen et al. (2010) used three different inventories to measure the peer relationships of the students: (a) the Intimate Friendship Scale, (b) the Inventory of Peer Attachment, and (c) the Quality of Relationships Inventory. The researchers found that "the quality of the friendship with one's best college friend did predict persistence from first to second year" (p. 329). The researchers also found that taking part in activities with friends in college made students more likely to persist to their second year.

Liu and Liu (2000) studied a group of 378 students from the incoming class of freshmen at a state university by having students answer an initial satisfaction survey and then a follow-up satisfaction survey in their first spring term. The researchers in this study measured students' satisfaction with their social integration by such aspects as if they found the campus to be a friendly place, if they felt there were adequate extra-curricular activities to be involved in, and if they had a chance to meet and get to know people from diverse backgrounds. Liu and Liu (2000) found a positive relationship between students' satisfaction with their social integration and their persistence at the institution.

Faculty encountered by students also influence the social integration of students (Hong, Shull, & Haefner, 2011; Jaeger & Hinz, 2008; Lillis, 2011). Two researchers examined the influence of faculty, in particular the use of adjunct faculty to teach first-year students, and how that influence affected persistence to the second year (Jaeger & Hinz, 2008). This quantitative study using institutional data from a large research-intensive university in the Southeast examined five incoming cohorts of freshmen with a total population of 15,399 students. The researchers found that the chances of persisting from the first to the second year of college decreased as the amount of instructional time with adjunct faculty increased. In a quantitative study by Hong et al. (2011), conducted at a small, public institution on the East Coast with a predominantly traditional-age student population, the researchers used the Student Perceptions of Faculty Scale to measure students' views of their faculty. The researchers found,

Students in this study revealed that they yearn for a good relationship with faculty, not necessarily a close or personal one, but a validated relationship that enables them to define who they are, what they want, and how to achieve their goals. This is consistent with the theories of Tinto, Bean, and Astin in that students' intention to stay at or discontinue in college is correlated with how they fit into the environment and their relationships with the people in that environment. (p. 302)

Hong et al. (2011) also found that students' perceptions of their faculty's level of caring and quality of classroom instruction were significantly correlated with persistence.

Another study on student relationships with faculty and the role faculty play in student persistence was completed by Lillis (2011) at a small, private college in the Northeast. This study involved 102 incoming freshmen students enrolled in an introductory management course for business majors. Each student was assigned a faculty mentor from the business department faculty and was required to meet with that mentor and complete a survey. The researcher used the Emotional Competence Inventory to have students measure the emotional intelligence of their faculty mentor. Faculty also rated themselves on this same instrument. The average of

these ratings were used to divide the nine faculty mentors into a group of five with high emotional intelligence and a group of four with low emotional intelligence. The students also evaluated themselves on frequency of communication with their faculty outside of class, being divided into high or low communication frequency ratings and evaluated themselves on “desire to stay” (p. 163) with lower scores indicating likelihood of persistence. The researchers found that students who experienced less communication with their faculty outside of the classroom had less desire to stay at the institution than those students who experienced a high frequency of communication with their faculty. They also found that higher emotional intelligence on the part of the faculty mentor increased students’ desire to stay even if the students were in the low frequency of communication group.

### **Effects of Financial Aid on Persistence**

As the costs of attending post-secondary education have continued to rise, fewer students have been able to pay for their college education without assistance. The need for and emphasis on financial aid has come to the forefront in the study of student persistence. The influence of financial aid and scholarships on first-to-second-year persistence has been examined in several studies (Braunstein, McGrath, & Pescatrice, 2001; Cabrera, Nora, & Castaneda, 1992; Herzog, 2005; Whalen et al., 2009; Wohlgemuth et al., 2006).

One of the earliest and often referenced studies on the effect of financial aid on student retention was done by Cabrera et al. (1992). This longitudinal study was completed at a large urban campus with a large commuter population. The researchers gave an initial survey and a follow-up survey to incoming freshmen who matriculated to the university in the fall of 1988 and obtained 466 usable responses. The influence of financial aid on persistence was measured using two factors, a financial attitude score based on one item from the survey measuring satisfaction

with the financial support received and whether or not the student was awarded financial aid. The researchers found that financial aid had the third highest total effect on persistence in the study behind intent to persist and cumulative GPA in college. The fact that this study examined both financial aid awarded and students' attitude about their financial support made this study unique at the time it was completed. Most studies done prior to this one had examined only one or the other of those factors.

In Herzog's (2005) longitudinal study, the effects of a state-wide scholarship program and other types of financial aid were examined using incoming freshmen class data from the institution for the fall of 2000, 2001, and 2002. The researchers compared that data to data for the entering freshmen from 1996-1999, which were gathered prior to the state-wide scholarship program. The study was completed at an urban public university which is largely a commuter campus. Herzog (2005) found that the state-wide scholarship, as well as other types of financial aid, had a positive effect on persistence to the second year of college for students who continued to be eligible for the aid. For students who lost the state-wide scholarship, this loss was negatively correlated with persistence.

In a third study looking at the influence of financial aid on persistence, Whalen et al. (2009) found that financial aid variables were a significant predictor of both first-to-second-year persistence and persistence to graduation. This study was a two-phase quantitative study conducted at a large, Midwestern, public, research university using 1,905 students' records. These records were a combination of institutional data and data from the CIRP Freshman Survey which was administered to the university's incoming freshmen during their summer orientation. The researchers found that students with larger total amounts of financial were more likely to persist than students with lower amounts of aid. According to the study, "each additional \$1,000

of total aid resulted, on average, in an increase of 8.9% in the probability of being retained rather than not retained” (p. 418).

Wohlgemuth et al. (2006) reported similar findings to the Whalen et al. (2009) study. In this quantitative study at a large, public, research university in the Midwest, the researchers used institutional data from the incoming class of 1996. The researchers examined how gift aid, loans, and work study funds affected student persistence and graduation rates. Using logistic regression to analyze the data, the researchers found that student persistence increased both as gift aid increased and as the accepted amount of loan aid increased. Students who received gift aid were more likely to persist than those who did not receive gift aid. They found that persistence increased for students who were awarded work-study as opposed to those who were not.

In contrast to these other studies, Braunstein et al. (2001) found that “Essentially, none of the measures of financial aid had any significant impact on student persistence at this institution” (p. 200). Researchers conducted this quantitative study with data from freshmen enrolled at a private, liberal arts college of medium size located in New York. The campus was urban with a large commuter population. Data from 636 freshmen who enrolled in 1991 and data from 615 freshmen who enrolled in 1993 were used in the study. The financial variables included in the study were amount of family income, amount of financial aid awarded, and type of financial aid awarded. The study also used a control group consisting of those freshmen who either did not apply for financial aid or whose family income was over \$85,000 who would receive little if any financial aid. This control group was found to be more likely to persist at this institution than other students. The researchers posited three reasons why financial aid did not influence persistence at the institution studied. One reason was that aid at the institution was non-

revocable if students maintained a certain GPA, so the question of aid for students who successfully maintained their GPA became a moot point. Second, since aid was normally used as a freshmen recruitment tool, a lack of aid when transferring to another institution encouraged students to stay at their original institution. Finally, the researchers posited that most students who were academically successful would find a way to stay at their institution regardless of their financial aid package.

### **Persistence of Specific Student Populations**

Persistence from the first-to-second year also has been examined for specific populations of students (Beaudin, Roth, Greenwood, & Boudreau, 2002; Engle & Tinto, 2008; Mamiseishvili & Koch, 2011). As diversity of all types has increased in institutions of higher education, specific populations of students have brought differing characteristics to college and have experienced college in different ways. To help retain students from diverse backgrounds, higher education has had to make an effort to understand these specific populations of students and how to help them persist in college.

Engle and Tinto (2008) studied first-generation and low-income students as a unique population to determine if these characteristics affected persistence. Their study was conducted for The Pell Institute for the Study of Opportunity in Higher Education using data from the National Center for Education Statistics' *Beginning Postsecondary Study*. The *Beginning Postsecondary Study* tracked students who first enrolled in college in 1995-96 and followed them for six years through 2001-2002. The researchers found that "Low-income, first-generation students were nearly four times more likely – 26 to 7 percent – to leave higher education after the first year than students who had neither of these risk factors" (p. 11). This was true across all types of institutions, with the percentage of attrition even higher for low-income and first-

generation students who were enrolled in public two-year and for-profit institutions. Of the low-income, first-generation students who left college without completing a degree, almost 60% left after the first year (Engle & Tinto, 2008).

Prior research has also focused on students in the Science, Technology, Engineering, and Mathematics (STEM) fields and their persistence to the second year in college (Beaudin et al. 2002). Beaudin et al. (2002) conducted a mixed methods quasi-experimental study with students at a two-year liberal arts college in the Northeast that is part of a larger, private, comprehensive university. This college is unique in that its mission is to work with academically underprepared students to help them succeed and transfer to a four-year university program. The researchers of this study examined students who participated in a special science cohort designed specifically for those whose interest was a career in the life or physical sciences, health professions, computer science, or engineering. Fourteen students were in the experimental group, the special science cohort, in this study. A control group of students who matched the students in the science cohort on quantitative and verbal SAT scores and a math placement test score was also established. The students in the experimental group performed better academically and persisted at a higher rate than those in the study's control group. The study's control group persistence rate, 81%, was consistent with the college's historical first-to-second-year persistence rate. The special science cohort persisted to their second year at a rate of 93%.

Researchers have also conducted studies of students with disabilities to examine factors that affect their first-to-second-year persistence (Mamiseishvili & Koch, 2011). The researchers used data from the *Beginning Postsecondary Students Longitudinal Study* (BPS:04/06). In the sample, there were 1,910 students among those who were first-time students in Fall 2003 who reported having a disability. The researchers also chose to examine system persistence,

individuals remaining enrolled in any institution of higher education, rather than institutional persistence, students remaining enrolled at a particular institution. The researchers found a significant relationship between the type of disability and first-to-second-year persistence among the students in this study. A significant relationship was also found between persistence and the type of accommodations that students received for their disability. Academic and social integration also had significant relationships with persistence in the study. The researchers found that several in-college characteristics were significant predictors of first-to-second-year persistence. These in-college factors included full-time enrollment, on-campus residence, higher first-year GPAs, and higher degree expectations.

### **Review of the Cooperative Institutional Research Program (CIRP)**

The CIRP Freshman Survey that is administered to incoming college students just prior to or soon after matriculation has been used in a number of studies to provide data that could be used in the prediction of first-to-second-year persistence of college students. In an article chronicling his personal involvement in developing the CIRP Freshman Survey, Astin (2003) stated,

Although there is no way I can do justice here to all of the substantive contributions that CIRP data have made to our understanding of student development, let me mention briefly just a few of the highlights. CIRP data have been crucial, for example, in enhancing our understanding of the importance of faculty-student contact, of the residential experience, of the power of the student peer group, and of the critical role played by student involvement. And when it comes to specific educational practices, CIRP data have documented the potential value of such diverse elements as service learning, interdisciplinary studies, a core curriculum, honors programs, extracurricular activities, full-time attendance, study abroad, interracial interaction, multicultural programming, scholarship aid, and a strong student affairs program. Diversity and multicultural experiences, for example, appear to have positive effects on students' cultural awareness, civic engagement, and satisfaction with college. (p. 24)

A number of studies using CIRP Freshman Survey data have been completed by the Higher Education Research Institute (HERI) at the University of California-Los Angeles (UCLA), the

institution which now houses and administers the CIRP Freshman Survey. Using the CIRP Freshman Survey, HERI researchers have examined college adjustment and degree attainment of African American students (Allen, Jayakumar, Griffin, Korn, & Hurtado, 2005), Asian American students (Chang, Park, Lin, Poon, & Nakanishi, 2007), and Latina/o students (Hurtado, Saenz, Santos, & Cabrera, 2008). Various researchers from HERI have also examined incoming freshmen across the nation (Pryor, Hurtado, Saenz, Santos, & Korn, 2007), first-generation college students (Saenz, Hurtado, Barrera, Wolf, & Yeung, 2007), transfer students (Ruiz & Pryor, 2011), students with disabilities (DeAngelo, 2011), and under-represented students (Arellano, Guillermo-Wann, Hurtado, & Colin, 2010).

Gender differences in college students and how these differences relate to college completion have also been studied using the CIRP survey (Sax, 2000; Smith, Morrison, & Wolf, 1994). In her study, Sax (2000) examined men and women who completed undergraduate STEM degrees and chose to go on to graduate school in a science, mathematics, or engineering field. She studied what factors in their pre-college and undergraduate experiences influenced these decisions. For men, having strong academic ambitions and self-confidence was a predictor of enrollment in a STEM graduate field, while this did not hold true for women. Having a peer group that values the sciences was a predictor for both men and women but was more than twice as strong a predictor for women than for men. For women only, attending a four-year college rather than a university was a predictor of enrollment in a STEM graduate program. Also examining the effects of college on the genders, Smith et al. (1994) used CIRP data from the initial Freshman Survey and a follow-up survey given four years later to examine how the college experience changes men and women differently. The researchers used CIRP Freshman Survey data from the incoming freshman class of 1986 and then data from the follow-up survey

given in 1990. The study had 1,789 female participants and 1,870 male participants. The researchers found that at the beginning of college, men and women are very different according to their self-ratings and those differences as described in self-ratings persist after four years of college.

Institutional climate and its effect on retention and degree completion have also been studied using CIRP data (Oseguera & Rhee, 2009; Rhee, 2008). In the quantitative study by Oseguera and Rhee (2009), institutional climate as measured by students and faculty through the CIRP Freshman Survey and the CIRP Faculty Survey was the focus of the research. The researchers examined if the institutional climate, as perceived by students and faculty, had an effect on the persistence to graduation of students who participated in the 1994 CIRP Freshman Survey from 262 baccalaureate-granting institutions. The researchers specifically examined “aggregated measures of students’ intentions to dropout, stopout, or transfer” (p. 560) and faculty perceptions of campus climate to determine how these two measures of institutional climate affected persistence to degree attainment. The researchers found that the student measures of intentions to dropout and transfer did have a negative effect on probability of persistence while intention to stopout had a positive effect on probability of persistence. The perception of faculty about the campus climate had no effect on the probability of persistence to graduation for students. Also using CIRP data, Rhee (2008) examined institutional climate, especially as it affected diversity, and if climate had an influence on different types of withdrawal decisions, such as transfer, dropout or stopout. Rhee did a longitudinal study using CIRP data from 1985-1989 with a sample size of 23,947 students from 373 four-year institutions. Rhee found that institutions with a strong emphasis on diversity had a higher percentage of students who stopout versus those who dropout or transfer.

Students in the science, technology, engineering, and mathematics (STEM) fields have also been studied using CIRP data to see how they persist to degree completion and how institutions can provide support for them (Eagan, Hurtado, & Chang, 2010; Garcia & Hurtado, 2011). In a paper presented at the annual meeting of the Association for the Study of Higher Education (ASHE) in 2010, Eagan et al. (2010) examined the completion rates of students who began their college career as STEM majors. They found after five years almost one-third of the students who began as STEM majors had completed a degree in a STEM major. CIRP data have also been used to examine factors that influenced the completion of degrees in a STEM major. In a paper presented at the annual meeting of the American Educational Research Association (AERA) in 2011, Garcia and Hurtado (2011) reported examining the factors influencing STEM degree completion for Latina and Latino students testing a *model of student engagement* for Latin students put forth by Nora (2003) in an earlier study. This model of student engagement has six major components: (a) precollege factors/pull factors, (b) sense of purpose and institutional allegiance, (c) academic and social experiences, (d) cognitive and non-cognitive outcomes, (e) goal determination and institutional allegiance, and (f) persistence. Garcia and Hurtado found that many of the factors in this model were also predictive of Latina and Latino completion of STEM degrees. They also found that there was not a significant difference in completion of STEM degrees for Latin students if they attend a Hispanic Serving Institution (HSI) or a non-HSI.

A recent major study published in 2011 examined degree completion rates of students at four-year, non-profit institutions (DeAngelo, Franke, Hurtado, Pryor, & Tran, 2011). This study, using data from the CIRP Freshman Survey and the National Student Clearinghouse (NSC), studied four-, five-, and six-year completion rates of over 200,000 students who began college in

2004 at over 350 institutions. The study found that 38.9% of these students finished their degree in four years. This percentage of completion reached 56.4% after five years and 61.2% after six years. The researchers further disaggregated the data to examine completion rates by institutional type, gender, first-generation students, and race/ethnicity. The researchers found that four-year graduation rates are almost three times greater at private universities than at public universities, but that this gap shrinks dramatically after six years. Women graduate after four years at higher rates than men, but again this gap shrinks at the fifth- and sixth-year marks. At four years, the graduation rate gap is 10.9 percentage points while it shrinks to 5.5 percentage points after six years. While this gap shrinks by gender, the gap between four-year completion rates and six-year completion rates for first-generation students as compared to students who have at least one parent who completed college remains nearly the same. At four years this rate is 14.7 percentage points while at six years it only drops to 14.0 percentage points. Completion rates also differ by race/ethnicity. The researchers found that “Asian American and White students are twice as likely as African American students, and almost three times as likely as American Indian students to earn a degree in four years” (p. 10).

### **Review of Studies Examining CIRP Constructs**

Few studies have provided insight into how students’ self-perceptions have influenced persistence. In a report by Reason (2009), students’ self-perceptions were discussed as concept that has not been explored by many researchers in the study of college student persistence in higher education literature. The sections that follow provide an overview of studies that have examined students’ self perceptions using concepts similar to the four constructs from the CIRP Freshman Survey: (a) Habits of the Mind, (b) Academic Self-concept, (c) Social Self-concept, and (d) Likelihood of College Involvement.

## **Habits of the Mind**

The CIRP construct Habits of the Mind is defined in the 2009 Appendix to the CIRP Technical Report as, “a unified measure of the behaviors and traits associated with academic success. These learning behaviors are seen as the foundation for lifelong learning” (p. 23). These habits of the mind were examined by Conley (2003) in a study done as part of a project of the Association of American Universities and The Pew Charitable Trusts. Habits of the mind are behaviors that have been identified by college faculty as necessary for students to have and use in order to be successful in college studies. According to Conley (2003), many higher education faculty who participated in his study believed these habits of the mind to be more important for new college students to bring with them from high school than knowledge from any particular subject area. Conley’s report states,

The habits of the mind include critical thinking, analytic thinking, and problem solving; an inquisitive nature and interest in taking advantage of what a research university has to offer; the willingness to accept critical feedback and to adjust based on such feedback; openness to failures from time to time; and the ability and desire to cope with frustrating and ambiguous learning tasks. Other critical skills include the ability to express one’s self in writing and orally in a clear and convincing fashion; to discern the relative importance and credibility of various sources of information; to draw inferences and reach conclusions independently; and to use technology as a tool to assist the learning process rather than as a crutch. (p. 8)

Another report, *Framework for Success in Postsecondary Writing* (Council of Writing Program Administrators, National Council of Teachers of English, & National Writing Project, 2011), also addressed habits of the mind as they pertain to college writing. This report, developed by writing faculty from the nation’s high schools as well as two- and four-year postsecondary institutions, described habits of the mind as “ways of approaching learning” (p. 1) that were essential for success in college. Similar to Conley’s (2003) study, this report also described habits of the mind as going beyond specific content knowledge toward active ways of

engaged learning. Several studies have been done that look at one or more of these habits of the mind and how persistence is affected by them (e.g., Brown & Salisch, 1996; Cole & Korkmaz, 2010). One example, the study by Brown and Salisch (1996) addressed both critical thinking and written and oral expression through a project called *The Freshman Thinking Project*, a cross-disciplinary cluster of classes designed to teach critical thinking in conjunction with written and oral communication skills at Pace University. Examining the group of 73 students who participated in the project in the fall of 1989 and a control group of the same number of students who had comparable verbal SAT scores, the researchers found that students who participated for one year in this project had a higher persistence rate and a higher graduation rate than the control group of students they used in the study. After the first year, just over 95% of the students in the project returned for the second year, while approximately 82% of the control group persisted. After 5 years, 75% of the students who had participated in the project in 1989 had graduated while only 55% of the control group students had.

Cole and Korkmaz (2010) completed a study using data from Beginning College Survey of Student Engagement (BCSSE) and the National Survey of Student Engagement (NSSE) that examined some of these same habits of the mind. They used data from 1,500 first-year college students from across the United States who had completed both the BCSSE and the NSSE. These students were attending baccalaureate-granting institutions, and they were randomly selected for the study. Based on the data, the researchers focused on two groups of students in their study, those who were less engaged in high school and remained less engaged in college and those who were less engaged in high school but became more engaged in college. They found that those who became more engaged in college gave more in-class presentations and asked more questions in class than those in the less-engaged group. These more-engaged

students also worked more with others outside of class and discussed what they were reading more with others outside of the class than those who were less engaged. These distinctions between the two groups ranged from 50-55% in the differences between these two groups in these four aspects of engagement.

### **Academic Self-concept**

A second construct from the CIRP Freshman Survey is Academic Self-concept. The CIRP Technical Report Appendix defined this construct as “A unified measure of students’ beliefs about their abilities and confidence in academic environments” (p. 37). Much has been written about academic self-concept and its effect on student achievement and persistence. Some of these studies have looked at specific racial and ethnic populations (Brown-Robinson & Kurpius, 1997; Gloria & Robinson Kurpius, 2001; Gloria, Robinson Kurpius, Hamilton, & Wilson, 1999; Torres & Solberg, 2001; Tracey & Sedlacek, 1984, 1987).

Gloria and Robinson Kurpius (2001) examined how self-beliefs, academic aspirations, social support and high school preparation affected persistence of American Indian undergraduates at a predominantly White, large university in the southwestern United States. The researchers surveyed 83 American Indian students, which was about 10% of the American Indian population at the university in the study. They found that self-beliefs were a significant predictor of persistence along with social support and comfort in the university environment. They found that positive self-beliefs about academic abilities led to fewer non-persistence decisions. The authors stated, “Believing in one’s own ability to complete college and degree-related tasks appears to result in fewer self-doubts about obtaining one’s undergraduate degree” (p. 98). A five-year longitudinal study by Brown-Robinson and Kurpius (1997) was a follow-up study to one conducted in 1989 at the same university by Mayo, Melnick, and Wolf (1990)

examining American Indian students' academic attitudes and behaviors. In their study, Brown-Robinson and Kurpius examined 288 students to determine which students from the previous study had persisted and which had not. The researchers examined seven aspects of the students' precollege and first-year experience: (a) perceived discrimination, (b) social integration, (c) family encouragement, (d) faculty or staff interactions, (e) valuing of education, (f) academic preparations and aspirations, and (g) academic performance. Of these seven aspects, the researchers found that only three, academic preparation and aspirations, academic performance, and faculty or staff interactions, actually discriminated between persisters and non-persisters. Those who persisted reported higher academic aspirations and more confidence in their academic preparation than those who did not persist, as well as more interactions with faculty or staff during their first year on campus.

Tracey and Sedlacek (1984) completed a study of noncognitive factors and their predictive value for persistence between Black and White students at a large state university in the East. This study examined 1,995 freshmen students in 1979 and 747 freshmen students in 1980. The researchers found that three noncognitive factors, positive self-concept, realistic self-appraisal, and academic familiarity, were significantly related to the prediction of persistence for Black students while there was little relation between any of the noncognitive factors and persistence for White students. In another study of persistence of Black college students and White college students done at a large university in the eastern United States on a predominantly White campus, Tracey and Sedlacek (1987) discovered similar results to those in their 1984 study. The researchers found that noncognitive factors were not significantly related to the persistence of White students, but they were for Black students. In this study the researchers found that a positive self-concept, realistic self-appraisal, long-range goal orientation, and

leadership experience were significantly related to persistence for Black students, but none of these noncognitive factors were predictive of persistence for White students.

Another study of African American students at a large, predominantly White university in the Southwest by Gloria et al. (1999) found that both self-beliefs and social support predicted persistence for the African American students. This study involving 98 African American students found that “Self-esteem and degree-related self-efficacy were both positively related to persistence decisions” (p. 265). The authors also found that the more confidence African American students had in their ability to accomplish tasks related to earning their degree, the more likely the students were to make decisions to persist in college.

A study of Latino students (Torres & Solberg, 2001) found that academic self-efficacy directly related to students’ intentions to persist. This study was completed with students from both a two-year technical college and a four-year university. The researchers surveyed 112 Latina students and 67 Latino students using five different surveys. Their study found that academic self-efficacy reduced stress and predicted persistence of these students during their first year of college. The researchers also found that social integration did not predict persistence intentions for these students which seemed to contradict other research in this area of student persistence.

Other studies have looked at various subpopulations of university students to determine how academic self-concept influences persistence (Rayle, Robinson Kurpius & Arredondo, 2006; Ting, 1998; White & Sedlacek, 1986). In a quantitative study of 527 first-year women at a large, predominantly White university in the Southwest, Rayle et al. (2006) found that women’s decisions about staying in college were directly related to their beliefs about how well they had been prepared for college. Those who were academically confident were more likely to persist

while those who lacked confidence in their academic preparation were more likely to decide to leave. This held true across populations of both White college women and women of color. In the discussion of their findings, the researchers stated, “having strong self-beliefs in the form of self-esteem, educational self-efficacy, and personal valuing of education are important for college females in general and do not necessarily interact with race/ethnicity” (p. 338).

White and Sedlacek (1986) examined persistence of 58 students who were admitted to college by special admission and how academic self-concept, among other noncognitive concepts, predicted persistence for this population. Special admission at this flagship university in the East where the study was conducted meant the students had high school GPAs of less than 2.0 or they had a combined math and verbal SAT score of less than 650. The researchers found that positive self-concept and leadership experiences were the best predictors of persistence for these specially-admitted students at all points of measurement in this study. In a study of first-generation and low-income students at a mid-sized, public, comprehensive university in the midwestern United States, Ting (1998) also examined noncognitive predictors of persistence. Unlike similar studies, he found that positive self-concept related to academics was not a predictor of persistence for this population of students. Only one noncognitive variable, successful leadership experience, was predictive of persistence for this population.

Several studies investigated how academic self-concept related to persistence from first-to-second year across populations of post-secondary students (Boulter, 2002; Brown et al., 2008; Chemers, Hu, & Garcia, 2001; Davidson & Beck, 2006; House, 1992, 1993; Mattern & Shaw, 2010). A study by Davidson and Beck (2006) was completed at a mid-sized public university in the southwestern United States examining 603 first-time freshmen and their persistence to the second year of enrollment. The researchers reported that students persisted if they saw

themselves as capable, if they handled problems rather than avoiding them, and if they saw success and failure as under their control rather than being controlled by other forces. Their study found that academic self-efficacy, which they defined as one's belief in one's own ability to accomplish academic tasks, was a significant predictor of retention. Boulter (2002) investigated if positive academic self-concept would be a predictor of students' adjustment to college at a small, private liberal arts college located in the Southeast. He examined 265 first-year students who were enrolled in a required Orientation course. His study showed that for both men and women positive belief in intellectual ability proved to be a predictor of adjustment to college.

Chemers et al. (2001) examined how 256 first-year students at the University of California-Santa Cruz with high levels of academic self-efficacy performed in college. They defined academic self-efficacy as being confident in one's ability to handle the academic challenges of course work in college. Their study found that academic self-efficacy was a significant predictor of academic performance. Those students who came to college with high levels of academic self-efficacy performed better than those who had less confidence in their academic abilities. Even after controlling for high school GPA, academic self-efficacy was still a significant predictor of academic performance. Brown et al. (2008) in their meta-analytic path analysis hypothesized that students with high levels of academic self-concept would persist in college regardless of challenges they might encounter. The results of their study found that while high levels of academic self-concept did strongly predict academic performance, academic self-concept only moderately predicted academic persistence. Mattern and Shaw (2010) completed a study of individual data from 107,453 students from 110 colleges and universities across the United States. They investigated academic self-beliefs asking students to separately

rate their academic self-beliefs in their math ability and in their writing ability. Students who believed they were in the top 10% in their math ability had higher persistence rates than students who believed they were below average in math. The same was found to be true with writing ability.

Two studies by House (1992, 1993) also examined the effect of students' academic self-concept on their academic performance and persistence. His 1992 study examined "if either academic self-concept measures or achievement-related expectancies are significantly related to student persistence" (p. 6). This study was done on a midwestern campus of a large public research university that was highly residential and relatively selective. His study looked at three aspects of academic self-concept: (a) overall ability, (b) mathematical ability, and (c) drive to achieve. Fourth-semester persistence was the first point of time House examined. He found that overall academic ability and drive to achieve were both predictors of fourth-semester persistence for men and women. The 1994 study by House, using the same sample of students as his 1992 study, examined the relationship between academic self-concept and persistence for four years of college. In this study he investigated five aspects of academic self-concept: (a) drive to achieve, (b) overall academic ability, (c) mathematical ability, (d) writing ability, and (e) self-confidence in intellectual ability. He found that overall academic ability was the most significant predictor of student withdrawal, but it was stronger in this study for male students than for female students.

### **Social Self-concept**

The third construct from the CIRP Freshmen Survey is Social Self-concept. This construct is defined in the CIRP Technical Report Appendix as being "a unified measure of students' beliefs about their abilities and confidence in social situations" (p. 38). While the

importance of social integration once a student comes to campus and the importance of social integration to persistence has been heavily studied, less has been written about how students perceive their social abilities prior to their college experience and how that self-perception, or social self-confidence, affects persistence. Only a few studies that examined social self-perception were found in the literature (Boulter, 2002; McGaha & Fitzpatrick, 2005; Nora & Lang, 2001; Paul & Kelleher, 1995; Terenzini et al., 1994).

In a qualitative study examining students' social self-perceptions, Terenzini et al. (1994) investigated the transition from high school to college by interviewing 132 students from four different types of institutions, including a community college, a residential liberal arts college, a predominantly Black comprehensive state university, and a large research university. The researchers conducted focus groups with the students that lasted about an hour each. The researchers stated, "While these students occasionally expressed some concern about their ability to meet the academic competition, making new friends dominated their conversation. For them, the most threatening disjunction was interpersonal, not academic" (p. 62). The social aspect of college was the predominant concern for most traditional students in making the transition to college and in becoming integrated with the campus.

A study by Paul and Kelleher (1995) that investigated precollege attitudes about the transition to college also focused on the social aspect. This study was conducted at a mid-sized state college with a suburban campus in the Northeast and used data from two questionnaires filled out by 70 first-year college students. The researchers in this study found that students were concerned with both their precollege and at-college friendships. The students' self-esteem about their social adjustment was affected by their concerns about both their precollege friendships and about making friends at college. This study actually found that precollege friendships had a

more significant effect on students' social self-esteem than concerns about making friends at college did. In a paper presented at the annual meeting of the Association of Institutional Research, Nora and Lang (2001) reported that of the six psychosocial constructs examined in their study, the one that best predicted persistence was social self-efficacy. The researchers conducted their study at a small, southern, public undergraduate institution with 151 participants in the sample who completed two surveys, one prior to matriculation and the second late in their second semester. Persistence data on the students was gathered at the beginning of their third semester. The researchers found that students who were confident in their ability to make friends and fit in on campus were more likely to persist.

The study by McGaha and Fitzpatrick (2005), however, had contradictory findings. Their study was conducted at a southwestern university and involved 127 undergraduate students representing all undergraduate levels. In their study, they used a construct they termed "interpersonal competence" as a measure of social self-confidence. They found that this construct was actually negatively related to persistence. Concerning their findings, they theorized that it was possible that this interpersonal competence actually detracted from students' focus on their academic tasks and therefore could lead to withdrawal due to poor academic performance. They also argued that not focusing on academics might be a part of the socially competent student's image, part of what made the student popular, again leading to withdrawal due to poor academic performance. In a study with similar findings, Boulter (2002) examined college adjustment and persistence of 265 first-semester students at a small, private, southeastern liberal arts college. He hypothesized that students with positive self-perceptions about their social acceptance would make a better adjustment to college and persist; however, he found that social self-perception had no significant relationship to adjustment and persistence.

## **Likelihood of College Involvement**

The final construct from the CIRP Freshman Survey to be examined in this study is likelihood of college involvement. This construct is defined by CIRP as “a unified measure of students’ expectations about their involvement in college life generally” (HERI, 2009, p. 36). While much has been written about the importance of student involvement in the persistence process, there is very little that examines how students perceive their likelihood to be involved in college prior to matriculation (Berger & Milem, 1999; Kuh et al., 2008; Wilder & Kellams, 1987).

A study at a highly selective, private, residential research university in the Southeast by Berger and Milem (1999) found that college students who got involved with peers and other aspects of the institution had a greater tendency to persist. This study did not, however, investigate how students perceived their likelihood to be involved in college prior to coming. A paper presented at the annual meeting of the American Educational Research Association (AERA) in 1987 by Wilder and Kellams examined background characteristics that predicted student involvement in college. The authors stated, “Pre-college commitments are based largely upon students’ expectations of the college experience. Such predispositions will either be confirmed or changed by the reality of personal experiences in college” (p. 5). The researchers posited that students who enter college with a high level of commitment will become involved and those who enter college with a low level of commitment will not become involved. In turn, their commitment will lessen even more and likely lead to their dropping out. Their research questions examined if precollege commitment affected involvement and how that precollege commitment and subsequent involvement affected persistence. The study took place at a four-year public liberal arts college in the East with 670 residential freshmen participants in the study.

In their analysis of the data, the authors found that pre-college commitment did not predict involvement during the freshman year which seemed to contradict the conceptual framework chosen by the authors based on Tinto's theory of integration. In support of Tinto's theory of integration, they found that involvement in college was a much stronger predictor of end of freshman year commitment than any of the pre-college factors were. While this finding is not directly equivalent to the pre-college self-rating of likelihood of college involvement that is used in the CIRP Freshman Survey, it does show how pre-college thoughts about involvement in college can affect actual involvement.

Kuh et al. (2008) conducted a study using data from 18 colleges and universities which had participated in the NSSE survey between 2000 and 2003. Part of their study examined the effect of student engagement on persistence to the second year of college. The researchers found, "Student engagement in educationally purposeful activities during the first year of college had a positive, statistically significant effect on persistence, even after controlling for background characteristics, other college experiences during the first year, academic achievement, and financial aid" (p. 551). This study was consistent with others that demonstrated that student involvement at college was important to persistence, and, in this particular case, to first-to-second-year persistence.

### **Chapter Summary**

Student persistence from first-to-second year has been researched from many different perspectives. Researchers have examined how persistence is influenced by exploring various factors such as demographic and background characteristics of students, institutional culture and practices of colleges and universities, first-year seminars, students' social integration, and financial aid. Researchers have also explored how the CIRP Freshman Survey could be used to

study student persistence and specifically, how concepts similar to the four constructs from the CIRP Freshman Survey (i.e., Habits of the Mind, Academic Self-concept, Social Self-concept, and Likelihood of College Involvement) can influence students' persistence to the second year of college.

While some research has explored concepts similar to these four constructs, no studies have examined how students' self-perceptions of these constructs prior to matriculation might provide insight into their persistence decisions at small, private, faith-based universities. The review of existing research has revealed that most of the studies using CIRP Freshman Survey data have been conducted at public colleges and universities or at private liberal arts institutions. The literature review pointed to a gap in the research examining how students' self-perceptions about their Habits of the Mind, Academic Self-concept, Social Self-concept, and Likelihood of College Involvement using CIRP data collected prior to matriculation in college may have affected their first-to-second-year persistence at small, private, faith-based institutions. The next chapter discusses the methodology used in this study that attempted to fill this existing gap in the research.

## **CHAPTER III**

### **METHODS**

#### **Introduction**

The purpose of this study was to examine the effects of first-year students' perceptions of their behaviors, attitudes, and aptitudes on their first-to-second-year persistence at a small, private, faith-based institution. More specifically, the study investigated how incoming first-year students' demographic and background characteristics as well as four constructs measured by the CIRP Freshman Survey, (a) Habits of the Mind, (b) Academic Self-concept, (c) Social Self-concept, and (d) Likelihood of College Involvement affected their likelihood of persistence to their second year of college.

The study investigated six research questions that examined demographic and background characteristics and several constructs from the CIRP Freshman Survey and how these characteristics and constructs affected students' first-to-second-year persistence:

1. What was the demographic and background profile of first-year students along with their perceptions of their Habits of the Mind, Academic Self-concept, Social Self-concept, and Likelihood of College Involvement at a small, private, faith-based institution?
2. How did demographic and background characteristics of first-year students affect their persistence to the second year of college at a small, private, faith-based institution?
3. Did first-year students' perceptions of their Habits of the Mind affect their persistence to the second year of college at a small, private, faith-based institution?
4. Did first-year students' perceptions of their Academic Self-concept affect their persistence to the second year of college at a small, private, faith-based institution?

5. Did first-year students' perceptions of their Social Self-concept affect their persistence to the second year of college at a small, private, faith-based institution?
6. Did first-year students' perceptions of their Likelihood of College Involvement affect their persistence to the second year of college at a small, private, faith-based institution?

### **Research Design**

The study was a non-experimental predictive correlational research study that used cross-sectional survey data. Correlational research design explains how two or more variables relate to one another. Researchers have used predictive correlational design “to identify variables that will predict an outcome or criterion” (Creswell, 2008, p. 359). Important to keep in mind is that correlational design, while showing a relationship between two variables, does not prove causation between those variables (Marczyk, DeMatteo, & Festinger, 2005). Instead, researchers have used correlational design to show if variables influence one another. Non-experimental predictive correlational research often uses a discrete outcome variable (Miller & Salkind, 2002). In this study, this means the outcome variable was whether or not students were classified as either persisters or non-persisters.

This study examined how demographic and background characteristics and the perceptions of incoming first-time, full-time students concerning their Habits of the Mind, Academic Self-concept, Social Self-concept, and Likelihood of College Involvement influenced their first-to-second-year persistence. The study utilized cross-sectional survey data collected at one point in time from each of two incoming freshmen classes (2007 and 2009) and the persistence data for these two classes from the beginning of their second year of college. The survey data used in this study captured the perceptions of these incoming students during New Student Orientation just prior to matriculation. Examining perceptions at one particular point in

time has been a common type of cross-sectional survey design (Creswell, 2008). One advantage of this type of survey design is that it allows the researcher to make comparisons between subpopulations of the overall survey population (Fife-Schaw, 1995). One limitation of this design has been that “time of measurement effects” may have too much influence on the data (Fife-Schaw, 1995). This means that things which have recently occurred in the participants’ lives, of which the researcher may or may not be aware, could have influenced responses to the survey (Fife-Schaw, 1995).

### **Sample**

The population of this study included incoming first-time, full-time students at a small, private, faith-based university. According to the Carnegie Foundation for the Advancement of Teaching (2010), the university has been classified as a four-year baccalaureate institution with diverse fields. The institution, historically, has been a highly residential campus. Table 1 provides data on the demographic and background characteristics of the target population of this study. In 2007, the institution had a total enrollment of 1,203 traditional undergraduate students with 361 of those being first-time, full-time freshmen. The class had 155 males (42.9%) and 206 females (57.1%). The students’ average high school GPA was 3.54. Just over half of the students graduated from a public high school (50.2%) and 35.1% graduated from a private high school, either religiously affiliated or independent, while the remaining 14.7% were home-schooled. Whites made up 79.5% of the class, with 20.5% being students of color. Nearly three-quarters of the students had a father with a bachelor’s degree or higher (71%) with the remainder (29%) of the fathers having some college or less. The percentage of mothers with a bachelor’s degree or higher was slightly less at 68% with 32% having some college or less. First-to-second-year persistence for this class was 79.2%.

In 2009, the institution had a total enrollment of 1,234 traditional undergraduate students with 305 of those being first-time, fulltime freshmen. This class had 135 males (44.3%) and 170 females (55.7%). The average high school GPA was 3.53. More than three-quarters of these students graduated from public high schools (76.3%); 23.1% graduated from private high schools; and only 0.6% were homeschooled. Ethnically, 76.3% of the students in this class were White, with 23.7% being students of color. Over half of these students had fathers with a bachelor's degree or higher (57.2%) with 42.8% having some college or less. In this class, more of the mothers had a bachelor's degree or higher (59.6%) with 40.4% having some college or less. The first-to-second-year persistence rate for these students was 75.1%.

Table 1

*Demographic and Background Characteristics of All First-Time, Full-Time Students in the Target Population*

Characteristics	Total N = 666	2007 n = 361	2009 n = 305
	Frequencies (%)		
<b>Gender</b>			
Male	290(43.5)	155(42.9)	135(44.3)
Female	376(56.5)	206(57.1)	170(55.7)
<b>Type of High School Attended</b>			
Public high school	414(62.2)	181(50.2)	233(76.3)
Private high school	197(29.6)	127(35.1)	70(23.1)
Home school	55(8.2)	53(14.7)	2(0.6)

Race			
White	520(78.1)	287(79.5)	233(76.3)
Students of Color	146(21.9)	74(20.5)	72(23.7)
Parents Educational Level			
Mothers with Bachelor's degree	427(64.1)	245(68.0)	182(59.6)
Mothers without Bachelor's degree	239(35.9)	116(32.0)	123(40.4)
Fathers with Bachelor's degree	445(66.8)	271(71.0)	174(57.2)
Fathers without Bachelor's degree	236(35.4)	105(29.0)	131(42.8)
		2007 Average	2009 Average
High School GPA		3.54	3.53

The sample of this study included only 2007 and 2009 incoming first-time, full-time students who participated in the CIRP Freshman Survey during New Student Orientation. The institution has administered the CIRP Freshman Survey every other year to all incoming students in attendance at New Student Orientation. The survey was administered to 652 students in those two years. In 2007, 353 incoming students took the survey. In 2009, 299 incoming students took the survey. Students who did not provide an identification number or social security number were eliminated because there was no way to associate them with institutional data. Also, any students who were not first-time, full-time freshmen when they took the survey were eliminated. This effectively eliminated any transfer students or part-time students from the final

sample. Thus, the final sample included the total of 436 full-time, first-time freshmen who participated in CIRP survey in fall 2007 or fall 2009.

### **Data Sources**

This study used two data sources to retrieve data for analysis. The data on students' first-to-second-year persistence was retrieved from the institutional data available through the institution's Institutional Research Office. Second, the study utilized data collected using the CIRP Freshman Survey. Data on students' demographic and background characteristics were retrieved both from institutional and CIRP Freshman Survey data, respectively. Institutional data and CIRP Freshman Survey data were matched using student ID numbers.

According to the HERI (2011) website, the CIRP Freshman Survey has been available since 1966. Hundreds of four-year colleges and universities have administered this survey to their incoming students (HERI, 2011). Over the years, more than 15 million students have completed the CIRP Freshman Survey (HERI, 2011). To provide insight into incoming students' perceptions about themselves and about their expectations for their college experience, higher education institutions typically have administered the survey either prior to the beginning of the fall semester or soon after fall semester begins. The CIRP Freshman Survey explored the following areas: "established behaviors in high school, academic preparedness, admissions decisions, expectations of college, interactions with peers and faculty, student values and goals, student demographic characteristics, and concerns about financing college" (HERI, 2011, About the CIRP Freshman Survey, para. 1). The constructs of the CIRP Freshman Survey, which were introduced for the first time with the 2007 survey, were determined using Item Response Theory (IRT) which is one of two methods used when constructing measurements of latent traits (Sharkness et al., 2010). According to Sharkness et al. (2010), "These constructs are designed to

be used both locally, at an institution, for internal assessment, as well as more broadly, by researchers using the aggregate national data” (p. 3). Individual items from the CIRP Freshman Survey were evaluated for inclusion in a construct by exploratory factor analysis (Sharkness et al., 2010).

The institution in this study had administered the CIRP Freshman Survey to its incoming students every other year for over 25 years. Incoming students participated in the survey as a mandatory activity during New Student Orientation. Predetermined groups of students reported to classrooms around campus to take the survey. Members of the university’s admissions staff proctored the survey following instructions provided by HERI. This particular institution used a paper-based administration of the survey although a web-based administration was also available. Once the CIRP data were returned to campus, the Admissions Department and the Institutional Research Office analyzed the data. The Institutional Research Office reported on the data to the campus community through a website as well as in faculty and staff meetings.

## **Variables**

### **Outcome Variable**

The outcome variable in this study was a dichotomous, categorical variable indicating whether the students persisted to their second year of college as determined by reenrollment at the institution in the fall semester of their second year. Persisters were those first-time, full-time students who stayed enrolled throughout their first year and then returned in the fall of their second year. Non-persisters were those who either left during their first year or did not return to the institution in the fall of their second year. Students who persisted to the second year of college were coded as 1, and those who did not were coded as 0.

## **Predictor Variables**

Predictor variables in this study included four constructs from the CIRP Freshman Survey: (a) Habits of the Mind, (b) Academic Self-concept, (c) Social Self-concept, and (d) Likelihood of College Involvement. Demographic and background characteristics were also included in this analysis. Demographic characteristics included gender, race/ethnicity, and first-generation student status. Background characteristics included high school GPA and the type of high school attended. Appendix A provides detailed information about each of the measures used in the study.

### **Demographic and background characteristics.**

This study examined the following demographic and background characteristics of the students: gender, race/ethnicity, first-generation student status, high school GPA, and type of high school attended. Gender was a dichotomous, categorical variable that was coded as 0 = male and 1 = female. The race/ethnicity variable was another dichotomous variable and was coded as follows: 1 = White and 2 = Students of color. First-generation college student status, a dichotomous, categorical variable, was coded as 1 = neither parent of the student holds a bachelor's degree and 0 = at least one parent of the student holds a bachelor's degree. Students' high school GPA was another variable included in the study and was measured on a five-point scale. GPA was represented in 5 categories and coded as follows: 1 = below 1.00; 2 = 1.00-1.99; 3 = 2.00-2.99; 4 = 3.00-3.99; and 5 = 4.0 or above. Type of high school attended variable, represented in three categories indicated whether the student attended 1 = public high school; 2 = private high school; and 3 = home school. All of these variables except first-generation college student status were retrieved from institutional data. First-generation college student status was retrieved from the CIRP Freshman Survey data.

**Habits of the mind.**

Eleven activities comprised the Habits of the Mind construct. The question asked, “How often in the past year did you?” (HERI, 2009, p.23). Students responded by rating the frequency of each of the following activities: (a) ask questions in class, (b) support your opinions with a logical argument, (c) seek solutions to problems and explain them to others, (d) revise your papers to improve your writing, (e) evaluate the quality or reliability of information you received, (f) take a risk because you feel you have more to gain, (g) seek alternative solutions to a problem, (h) look up scientific research articles and resources, (i) explore topics on your own even though it was not required for a class, (j) accept mistakes as part of the learning process, and (k) seek feedback on your academic work (HERI, 2009). The frequency ratings of these activities were coded as follows: 1 = not at all; 2 = occasionally; 3 = frequently.

**Academic self-concept.**

The construct of Academic Self-concept consisted of four questions on which students self-rated themselves as highest 10%, above average, average, below average, or lowest 10% on the following four categories: (a) academic ability, (b) drive to achieve, (c) mathematical ability, and (d) self-confidence (intellectual) (HERI, 2009). The ratings were coded as follows: 1 = lowest 10%, 2 = below average, 3 = average, 4 = above average, and 5 = highest 10%.

**Social self-concept.**

The third construct, Social Self-concept, was comprised of three questions, on which students self-rated themselves highest 10%, above average, average, below average, or lowest 10% on the following categories: (a) leadership ability, (b) public speaking ability, and (c) self-confidence (social) (HERI, 2009). The ratings were coded as follows: 1 = lowest 10%, 2 = below average, 3 = average, 4 = above average, and 5 = highest 10%.

### **Likelihood of college involvement.**

Likelihood of College Involvement, the final construct, consisted of five questions. The question stem was “What is your best guess as to the chance that you will” (HERI, 2009, p. 36). Students answered each of the following five questions: (a) participate in student government? (b) participate in volunteer or community service work? (c) socialize with someone of another racial/ethnic group? (d) participate in student clubs/groups? and (e) participate in a study abroad program? (HERI, 2009). The responses were coded as follows: 1 = no chance, 2 = very little chance, 3 = some chance, and 4 = very good chance.

### **Data Analysis**

The data in this study were analyzed in two primary ways. Descriptive statistics were examined for all variables used in this study. The means and standard deviations were calculated for all CIRP constructs. Students’ demographic/background characteristics and persistence rates were reported using frequencies and percentages. Logistic regression was conducted to address the primary purpose of this study. Logistic regression was an appropriate method of analysis because the outcome variable of this study was dichotomous, and logistic regression was used with dichotomous outcome variables because this method “does not assume that the dependent variable (probability of being in the group coded 1) is a linear function of the independent variables” (Glass & Hopkins, 1996, p. 183). Additionally, in logistic regression, predictor variables can be a mix of continuous and categorical variables, without them being “normally distributed, linearly related or of equal variance within each group” (Tabachnick & Fidell, 2007, p. 437). Logistic regression allows the researcher to take multiple independent variables and determine which best predicted the probability of being categorized in either of the dichotomous divisions of the outcome variable. This was accomplished through using a forced entry method

(Field, 2009, pp. 271-272). With logistic regression, the analysis determined which variables stayed in the equation and which were unnecessary because they contributed no unique predictive power (Leary, 2008).

### **Chapter Summary**

This chapter described the methods and procedures used in this study. These descriptions included the study design, the population and sample, data sources, measures, and the means of data analysis used. This study examined a sample of first-time, full-time freshmen at a small, private, faith-based institution who were surveyed using the CIRP Freshman Survey just prior to their matriculation. Descriptive statistics and logistic regression were used to explore how students' perceptions of their behaviors, attitudes, and aptitudes influenced their first-to-second-year persistence.

## **CHAPTER IV**

### **RESULTS**

#### **Introduction**

Persistence in college has become a focal point in higher education over the last 30 years. Determining factors that influence students' persistence decisions has been a challenge to higher education practitioners especially those factors that influence students to leave after their first year of college. When students leave between their first and second years of college, they rarely return to their original institution to complete a degree.

This chapter first provides an overview of the study followed by descriptive statistics to answer question one of the study concerning demographic and background characteristics of the students and their perceptions about the four CIRP constructs. Then the chapter provides the results of the logistic regression to address questions two through six of the study concerning the effects of demographic and background characteristics and the four constructs from the CIRP Freshman Survey on the first-to-second-year persistence of these students. This chapter concludes with a summary of the results.

#### **Overview of the Study**

The purpose of this study was to examine the effects of first-year students' perceptions of their behaviors, attitudes, and aptitudes on their first-to-second-year persistence at a small, private, faith-based institution. More specifically, the study investigated how incoming first-year students' demographic and background characteristics as well as four constructs measured by the CIRP Freshman Survey, (a) Habits of the Mind, (b) Academic Self-concept, (c) Social Self-concept, and (d) Likelihood of College Involvement, affected their likelihood of persistence to their second year.

This study drew from a psychological model of persistence developed by Bean and Eaton (2000) that linked students' self-perceptions and attitudes to their persistence. According to this model, students' self-beliefs affect the way they interact with the college environment. This interaction with both the academic and social environments of the institution ultimately leads to a decision about persistence.

The study was designed as a non-experimental predictive correlational study using cross-sectional survey data. The data for this survey were institutional data collected from the CIRP Freshman Survey that the institution administered to all of its first-time, full-time students at New Student Orientation for the 2007 and 2009 incoming classes. Students' persistence data were drawn from the institutional data collected by the Institutional Research Office. A total of 652 students completed the CIRP Freshman Survey in 2007 and 2009 combined. From those surveyed, any students who were not first-time students were eliminated as well as any who were not planning to enroll on a full-time basis. Next, any survey respondents who could not be matched by student identification numbers with institutional persistence data were eliminated from the study. The final sample included 436 students who enrolled for the first time at the institution in either fall semester 2007 or fall semester 2009. Descriptive statistics and logistic regression were used to analyze the data in this study using SPSS 19.0. These analyses allowed the examination of how demographic and background characteristics as well as the four constructs taken from the CIRP Freshman Survey affected the first-to-second-year persistence of the first-time, full-time students who took the survey.

### **Results from Descriptive Statistics**

#### **Students' Demographic and Background Characteristics**

Descriptive statistics were conducted to examine the demographic and background profile of the sample in this study. Table 2 provides frequencies and percentages for all the background and demographic variables examined in the study for the total sample in the aggregate as well as separately for persisters and non-persisters.

In the total sample, there were 182 (41.7%) males and 254 (58.3%) females. Of the persisters, 145 (42.2%) were male while 199 (57.8%) were female. Among the non-persisters, 37 (40.2%) were male and 55 (59.8%) were females. The percentages of males and females were fairly consistent between the total sample, the persisters group, and the non-persisters group. Of the total sample, 355 (81.4%) of the students were White while 78 (17.9%) of the students identified themselves as students of color. Among the persisters, 283 (82.3%) were White students while 58 (16.9%) were students of color. Students of color were a larger share of the non-persisters group (21.7%) than they were of either the persisters or the total sample (16.9% and 17.9%, respectively).

A large majority, 396 (90.8%) students, had at least one parent who held a bachelor's degree or higher. Similarly, an overwhelming majority of the persisters group (93.3%) had at least one parent with a bachelor's degree or higher while only 6.4% of the persisters were first-generation college students. On the other hand, in the non-persisters group, only 81.5% of the students had at least one parent with a bachelor's degree or higher while 17.4% were first-generation college students.

In the total sample of students, 22.9% had a high school GPA of 4.0 or higher; 64.9% had GPAs between 3.00 and 3.99; and the remainder, 53 students, had high school GPAs below 3.00. As illustrated in Table 2, among the persisters, 310 (90%) students had a high school GPA higher than a 3.0 while 73 (79.3%) of the non-persisters had high school GPAs that high. The final

demographic variable examined in the study was the type of high school attended. Of the total sample, 223 (51.1%) graduated from public high schools, 141 (32.3%) graduated from private high schools both religiously-affiliated and independent, and 71 (16.3%) graduated from home schools. Among persisters, 173 (50.3%) were graduates of public high schools, 121 (35.2%) were graduates of private high schools, and 49 (14.2%) were graduates of home schools.

Compared with persisters, a larger share of non-persisters were graduates of public high schools (54.3%) and home schools (23.9%), with only 21.7% of non-persisters graduating from private high schools.

Table 2

*Students' Demographic and Background Characteristics*

Variables	Total N=436	Persisters n=344	Non-persisters n=92
	Frequencies (%)		
Gender			
Males	182(41.7)	145(42.2)	37(40.2)
Females	254(58.3)	199(57.8)	55(59.8)
Race			
White	355(81.4)	283(82.3)	72(78.3)
Students of Color	78(17.9)	58(16.9)	20(21.7)
First Generation College Students			
First-Generation	38(8.7)	22(6.4)	16(17.4)
Not First-Generation	396(90.8)	321(93.3)	75(81.5)
High School GPA			

4.0 or above	100(22.9)	92(26.7)	8(8.7)
3.00-3.99	283(64.9)	218(63.4)	65(70.7)
2.00-2.99	43(9.9)	27(7.8)	16(17.4)
1.00-1.99	4(0.9)	4(1.2)	0
Below 1.00	6(1.4)	3(0.9)	3(3.3)
Type of High School			
Public High School	223(51.1)	173(50.3)	50(54.3)
Private High School	141(32.3)	121(35.2)	20(21.7)
Home School	71(16.3)	49(14.2)	22(23.9)

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*Note:* Frequencies and percentages may not add up to 100% due to missing data.

### **Students' Perceptions of their Habits of the Mind**

The next factor examined in the study was a construct from the CIRP Freshman Survey called Habits of the Mind. Habits of the Mind included 11 variables on which students, using a 3-point scale (i.e., 1 = not at all, 2 = occasionally, and 3 = often), reported how often in the past year they did the following: (a) ask questions in class, (b) support your opinions with a logical argument, (c) seek solutions to problems and share them with others, (d) revise your papers to improve your writing, (e) evaluate the quality or reliability of information you received, (f) take a risk because you felt you had more to gain, (g) seek alternative solutions to a problem, (h) look up scientific research articles and resources, (i) explore topics on your own even though it was not required for a class, (j) accept failure as part of the learning process, and (k) seek feedback on your academic work. Table 3 below presents the means and standard deviations for each of the 11 variables included in the Habits of the Mind construct. As illustrated in the table, variables such as ask questions in class (Mean = 2.54, SD = .54) and revise your papers to improve your

writing (Mean = 2.54, SD = .60) had the highest mean ratings. The variable with the lowest mean rating was look up scientific research articles and resources (Mean = 1.82, SD = .69). Additionally, the variable that indicated how often students sought feedback on their academic work had the greatest disparity in the mean ratings between persisters and non-persisters (.23). The mean scores were higher for persisters than non-persisters on all variables, except take a risk because you feel you have more to gain, which had a mean of 2.24 for both persisters and non-persisters.

Table 3

*Students' Perceptions of Habits of the Mind*

Variables	Total N = 436	Persisters n = 344	Non-Persisters n = 92
	Means (SD) – Range 1 - 3		
Ask questions in class	2.54(.54)	2.57(.54)	2.41(.57)
Support your opinions with a logical argument	2.51(.59)	2.54(.58)	2.38(.60)
Seek solutions to problems and explain them to others	2.43(.57)	2.46(.56)	2.33(.57)
Revise your papers to improve your writing	2.54(.60)	2.57(.58)	2.42(.65)
Evaluate the quality or reliability of information you received	2.33(.55)	2.36(.56)	2.17(.52)
Take a risk because you feel you have more to gain	2.24(.57)	2.24(.55)	2.24(.66)
Seek alternative solutions to a problem	2.41(.55)	2.42(.55)	2.36(.60)

Look up scientific research articles and resources	1.82(.69)	1.81(.68)	1.79(.65)
Explore topics on your own, even though it was not required for a class	2.11(.68)	2.11(.67)	2.05(.72)
Accept mistakes as part of the learning process	2.21(.64)	2.21(.64)	2.27(.63)
Seek feedback on your academic work	2.38(.59)	2.42(.59)	2.19(.59)

The variable that indicated the overall standardized score for all Habits of the Mind items was also examined in the study. For the total sample, the mean of the overall Habits of the Mind score equaled 48.90 (SD = 8.01), with a minimum score of 15.07 and a maximum score of 67.73. For the persisters, the mean equaled 49.49, with a standard deviation of 8.01 and minimum and maximum scores of 17.24 and 67.73, respectively. As for the group of non-persisters, the mean equaled 46.64, with a standard deviation of 7.76 and minimum and maximum scores of 15.07 and 67.73, respectively. Table 4, below, shows the standardized mega scores on the four CIRP constructs for the total sample in the aggregate as well as separately for persisters and non-persisters.

Table 4

*Standardized Mega Scores for CIRP Constructs*

Construct	Total	Persisters	Non-Persisters
	N = 436	n = 344	n = 92
	Means (SD)		
Habits of the Mind	48.90(8.01)	49.49(8.01)	46.64(7.76)

Academic Self-concept	48.50(8.42)	49.41(8.45)	44.81(7.24)
Social Self-concept	48.84(8.27)	49.30(7.92)	47.04(9.39)
Likelihood of College Involvement	49.60(7.27)	50.15(7.09)	47.17(7.52)

### Students' Perceptions of their Academic Self-concept

The construct of Academic Self-concept from the CIRP Freshman Survey included students' self-ratings of their academic ability, drive to achieve, mathematical ability, and self-confidence in their intellectual abilities, on a five-point Likert scale: 1 = lowest 10%, 2 = below average, 3 = average, 4 = above average, and 5 = highest 10%. As illustrated in Table 5, students rated their drive to achieve the highest (Mean = 3.94, SD = .79) and their mathematical abilities the lowest (Mean = 3.21, SD = .99). Both persisters and non-persisters rated themselves the highest on the drive to achieve variable and the lowest on their mathematical abilities. Overall, persisters rated themselves higher on all four variables. However, the greatest disparities between the self-ratings of the two groups were observed for the following two traits: academic ability (.44) and self-confidence (intellectual) (.31).

Table 5

#### *Students' Perceptions of Academic Self-concept*

Variables	Total N = 436	Persisters n = 344	Non-Persisters n = 92
Means (SD) – Range 1 - 5			
Academic ability	3.91(.73)	3.99(.74)	3.55(.61)
Drive to achieve	3.94(.79)	3.99(.78)	3.78(.81)
Mathematical ability	3.21(.99)	3.23(.99)	3.07(.99)

Self-confidence (intellectual)	3.60(.82)	3.66(.81)	3.35(.82)
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The variable that indicated the overall standardized score for all Academic Self-concept items was also examined in the study. As presented in Table 4, for the total sample, the mean of the overall standardized Academic Self-concept score equaled 48.50 (SD = 8.42), with a minimum score of 24.59 and a maximum score of 66.92. For the group of persisters, the mean equaled 49.41 (SD = 8.45), with a minimum score of 25.65 and a maximum score of 66.92. As for non-persisters, their standardized mean rating of the overall Academic Self-concept mega scale equaled 44.81 (SD = 7.24), with minimum and maximum scores of 24.59 and 66.92, respectively.

### **Students' Perceptions of their Social Self-Concept**

The construct of the Social Self-concept from the CIRP Freshman survey was the next factor examined in the study. Social Self-concept used self-ratings by the students on three traits: (a) leadership ability, (b) public speaking ability, and (c) self-confidence in their social abilities. Students rated themselves using a five-point Likert scale: 1 = lowest 10%, 2 = below average, 3 = average, 4 = above average, and 5 = highest 10%. Table 6 presents the means and standard deviations for each of the three traits on which students rated themselves. The students in this study rated their leadership abilities the highest (Mean = 3.74, SD = .86) and their public speaking ability the lowest (Mean = 3.20, SD = 1.03). Overall, persisters rated themselves higher on all three variables. However, the greatest disparity was observed on their ratings of public speaking ability (.39).

Table 6

*Students' Perceptions of Social Self-concept*

Variables	Total N = 436	Persisters n = 344	Non-Persisters n = 92
	Means (SD) – Range 1 - 5		
Leadership ability	3.74(.86)	3.77(.83)	3.60(1.00)
Public speaking ability	3.20(1.03)	3.28(1.01)	2.89(1.08)
Self-confidence (social)	3.45(.89)	3.47(.88)	3.36(.92)

The overall standardized scores for all Social Self-concept items are provided in Table 4. For the total sample, the mean for the overall Social Self-concept score equaled 48.84 (SD = 8.27), with a minimum score of 21.73 and a maximum score of 70.14. For the group of persisters, the mean rating was 49.30 (SD = 7.92), with a minimum score of 24.46 and a maximum score of 70.14. As for the non-persisters, the standardized mean rating for the Social Self-concept mega scale was 47.04 (SD = 9.39), with a minimum score of 21.73 and a maximum score of 67.16.

**Students' Perceptions of their Likelihood of College Involvement**

Likelihood of College Involvement was the final construct examined from the CIRP Freshman Survey in this study. Likelihood of College Involvement included five variables on which students, using a 4-point scale (i.e., 1 = no chance, 2 = very little chance, 3 = some chance, and 4 = very good chance), reported their likelihood of involvement in college in the following: (a) participate in student government, (b) participate in volunteer or community service work, (c) socialize with someone of another racial/ethnic group, (d) participate in student

clubs/groups, and (e) participate in a study abroad program. Table 7 presents the means and standard deviations for each of the five variables included in the Likelihood of College Involvement construct. As illustrated by Table 7, the variable socialize with someone of another racial/ethnic group (Mean = 3.71, SD = .52) had the highest mean rating. The variable with the lowest mean rating was participation in student government (Mean = 2.06, SD = .85). Mean ratings of all five variables were higher for persisters than non-persisters. The greatest disparities in the means between persisters and non-persisters were on the following two variables: participate in student clubs/groups (.30) and participate in a study abroad program (.33).

Table 7

*Students' Perceptions of Likelihood of College Involvement*

Variables	Total N = 436	Persisters n = 344	Non-Persisters n = 92
	Means (SD) – Range 1 - 4		
Participate in student government	2.06(.85)	2.08(.84)	1.99(.87)
Participate in volunteer or community service work	3.38(.72)	3.43(.71)	3.19(.77)
Socialize with someone of another racial/ethnic group	3.71(.52)	3.73(.51)	3.58(.57)
Participate in student clubs/groups	3.29(.81)	3.34(.78)	3.04(.90)
Participate in a study abroad program	3.08(.93)	3.14(.90)	2.81(.98)

The variable that indicated the overall standardized score for all Likelihood of College Involvement items was also examined in the study. As presented in Table 4, for the total sample,

the mean of the overall Likelihood of College Involvement score equaled 49.60 (SD = 7.27), with a minimum score of 25.17 and a maximum score of 65.95. For the persisters, the mean was 50.15 (SD = 7.09), with a minimum score of 25.17 and a maximum score of 64.95. As for the non-persisters, the mean equaled 47.17, with a standard deviation of 7.52 and minimum and maximum scores of 30.35 and 64.95, respectively.

### **Results from Logistic Regression Analysis**

Logistic regression analysis was conducted to determine what specific factors influenced the persistence to the second year of college for first-time, full-time students when all other predictors were held constant in the model. Before conducting logistic regression, appropriate assumptions were checked. First, the sample size was determined to be appropriate for using logistic regression. With too many variables in conjunction with too few cases in the sample, high standard errors could have resulted. Peduzzi, Concato, Kemper, Holford, and Feinstein (1996) recommended that the smaller of the classes of the dependent variable have at least 10 events per parameter in the model. In this study, the group of non-persisters was just over 90 students, so I limited the number of predictors to nine variables.

Second, the data were checked for multicollinearity to make sure that this assumption for the logistic regression was also met. The correlations between each of the independent variables were all below .4, which indicated that the independent variables were not highly correlated. In addition to correlations, Tolerance and Variance Inflation Factor (VIF) values were examined. Field (2009) suggested that the Tolerance value must be greater than 0.1 and VIF below 10 to assure there is no problem with multicollinearity. The lowest Tolerance value in the analysis was 0.722 and the highest VIF equaled 1.386 indicating that multicollinearity was not a concern. Finally, the standardized residuals were examined to detect outliers. Field (2009) stated that one

reason to examine residuals in an analysis is to “isolate points that exert an undue influence on the model” (p. 292). Field also indicated that with standardized residuals, less than 5% of the cases should have absolute values above 2 and less than 1% should have values above 2.5. “Any case with a value above about 3 could be an outlier” (Field, 2009, p. 293). The examination of standardized residuals in this study revealed seven with values above three. As a result, they were removed from the final logistic regression analysis.

After checking these assumptions, I proceeded with final logistic regression analysis. Overall, the logistic regression model correctly classified 81.3% of the total sample. The model correctly classified 97.9% of the students as persisters and 13.6% as non-persisters. Cox & Snell and Nagelkerke R Square statistics equaled .124 and .198, respectively. These statistics should be interpreted with caution since they are not directly equivalent to the R-squared in linear regression. The Hosmer and Lemeshow Test resulted in a non-significant Chi-Square ( $\chi^2(8) = 8.399, p = .395$ ), which indicated that the model fit the data well (Field, 2009).

As part of logistic regression, not only is the fit of the overall model important, but so is the contribution of individual predictor variables. In order to determine the contributions of the individual predictor variables, the Wald statistic tests were examined for each predictor. According to Field (2009), “The Wald statistic is usually used to ascertain whether a variable is a significant predictor of the outcome” (p. 270). Table 8 presents the results of the Wald Statistic tests, which, in this study, measured the contribution of each independent variable in predicting the persistence to the second year of college for first-time, full-time students. Field (2009) also explained that examining the odds ratios is critical when interpreting the results from the logistic regression model. Exp(B) in the last column of Table 8 is the odds ratio. In this study, the odds

ratio indicates a change in the odds of a student persisting with every one unit increase in the predictor variable.

Table 8

*Results of Logistic Regression for First-time, Full-time Students' Persistence on Selected Demographics and Students' Perceptions of their Habits of the Mind, Academic Self-concept, Social Self-concept, and Likelihood of College Involvement*

Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Female	-.400	.300	1.782	1	.182	.670
White	.178	.354	.254	1	.614	1.195
First-generation student*	-.876	.407	4.643	1	.031	.416
Type of high school***			15.978	2	.000	
Home school	-.577	.341	2.862	1	.091	.562
Private High School**	1.148	.367	9.786	1	.002	3.151
High School GPA**	.644	.231	7.794	1	.005	1.904
Habits of the Mind	.012	.019	.385	1	.535	1.012
Academic Self-concept*	.043	.019	5.109	1	.024	1.044
Social Self-concept	-.013	.019	.481	1	.488	.987
Likelihood of College* Involvement	.046	.021	4.661	1	.031	1.047

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

Logistic regression analysis discovered several significant predictors of persistence to the second year of college for first-time, full-time students in the study. As illustrated in Table 8, five variables were significantly related to persistence: (a) being a first-generation college student, (b) type of high school attended, particularly attending a private high school, (c) high school GPA, (d) Academic Self-concept, and (e) Likelihood of College Involvement. The type

of high school attended, GPA, Academic Self-concept, and Likelihood of college involvement all were positively related to persistence. More specifically, for every one point increase in the GPA, the odds of a first-time, full-time student persisting to the second year of college increased by a factor of 1.904, with all other predictors held constant. For every one unit increase in the rating of Academic Self-concept, the odds of a first-time, full-time student persisting to the second year of college increased by a factor of 1.044. For every one unit increase in the rating of Likelihood of College Involvement, the odds of a first-time, full-time student persisting to the second year of college increased by a factor of 1.047. Finally, students who attended a private high school were three times more likely to persist than students who attended a public high school. On the other hand, being a first-generation college student was negatively related to persistence. Being a first-generation college student decreased the likelihood of persistence by a factor of .416. None of the other predictors held significant in the final model.

### **Chapter Summary**

This chapter examined the results of descriptive statistics and logistic regression to determine which specific factors influenced first-time, full-time students to persist to their second year of college. The results from the logistic regression analysis indicated that when controlling for all the other predictors in the model, attending a private high school, high school GPA, Academic Self-concept, and Likelihood of College Involvement were positively related to students' persistence to the second year in college. In contrast, being a first-generation college student negatively affected the likelihood of persistence of first-time, full-time students to the second year of college in this study. The following chapter examines conclusions and recommendations based on these findings.

## **CHAPTER V**

### **DISCUSSION**

#### **Introduction**

The question of what factors influence college students' persistence from the first to second year of college is one that scholars and practitioners in higher education have been trying to answer for nearly 70 years (Braxton, 2000). Lack of persistence is costly for both students and institutions of higher education. For students, not staying in college can affect their future earning power and their self-esteem. For institutions of higher education, loss of students can have adverse effects on institutional finances and reputation. Previous research has examined the influence of many different student characteristics and institutional factors on persistence. The research has resulted in conflicting conclusions about how much these variables actually influence the persistence decisions of students. One conclusion that has seemed to permeate the research is that there is no one factor that influences students to persist across all institutions of higher education. This conclusion has directed institutions to examine their own populations of students and their unique institutional cultures to find answers as to what influences persistence at their own institutions.

This current study attempted to do just that and examine the effects of first-year students' perceptions of their behaviors, attitudes, and aptitudes on their first-to-second-year persistence at a small, private, faith-based institution. This chapter provides a summary of the study results, discusses its results and conclusions that can be drawn from those results, and presents recommendations for future research and practice.

### **Summary of the Study Results**

The purpose of this study was to examine the effects of first-year students' perceptions of their behaviors, attitudes, and aptitudes on their first-to-second-year persistence at a small, private, faith-based institution. More specifically, the study investigated how incoming first-year students' demographic and background characteristics as well as four constructs measured by the CIRP Freshman Survey, (a) Habits of the Mind, (b) Academic Self-concept, (c) Social Self-concept, and (d) Likelihood of College Involvement affected their likelihood of persistence to their second year of college. The study was based on the theoretical framework of a psychological model of retention by Bean and Eaton (2000) that suggested that “Past behavior, beliefs, and normative beliefs affect the way a student interacts with the institutional environment” (p. 56).

The data for this study were drawn from the CIRP Freshman Survey administered by the institution in the study to their incoming first-time, full-time students every other fall during their New Student Orientation program and from institutional data collected by the institution's Institutional Research Office. The final sample consisted of 436 students who had taken the CIRP Freshman Survey either in 2007 or 2009 and had subsequently enrolled in the university. The data were analyzed using descriptive statistics and logistic regression. What follows is the summary of the results by each research question.

1. What was the demographic and background profile of first-year students along with their perceptions of their Habits of the Mind, Academic Self-concept, Social Self-concept, and Likelihood of College Involvement at a small, private, faith-based institution?

Persisters in this study were predominantly White, the majority of whom came to college with a high school GPA of 3.00 or higher. Less than a tenth of the persisters reported a high

school GPA below 3.0. Just over three-fourths of the non-persisters reported high school GPAs above a 3.00. In terms of the racial make-up, the non-persisters group included a larger share of students of color compared with the total sample and persisters. On the other hand, gender make-up of the students in this study was fairly consistent among the total sample as well as persisters or non-persisters. A larger percentage of first-generation college students were in the non-persisters group than in either the overall sample or in the group of persisters. In fact, the percentage of first-generation college students was double the percentage of first-generation college students in the total sample and more than two and a half times the percentage of first-generation students in the group of persisters. Furthermore, a smaller percentage of private high school students were part of the non-persisters group, while the percentage of home-schooled students was higher than in the total sample or in the group of persisters.

The mega standardized scores for the four constructs from the CIRP Freshman survey were consistently higher for persisters than for non-persisters. These higher scores for persisters demonstrated that the persisters group had more confidence in themselves across all four constructs than the non-persisters group did. On the Habits of the Mind construct, the mean ratings on the variables in the construct were slightly higher for persisters than for non-persisters. So while these two groups of students did not see themselves as dramatically different, the persisters did rate themselves more highly on their Habits of the Mind than the non-persisters did. The variable in this construct with the biggest disparity in ratings between persisters and non-persisters was on seeking feedback on their academic work. The mega standardized scores for Academic Self-concept had the greatest disparity between the persisters and non-persisters of the four CIRP constructs. A notable difference between the mean scores for each variable in the construct also existed for persisters and non-persisters with the non-persisters scores being

lower. Persisters and non-persisters alike rated themselves highest on their drive to achieve and rated themselves lowest on mathematical ability. On the other two traits in this construct, self-confidence (intellectual) and academic ability, persisters ranked themselves higher than non-persisters.

On the construct of Social Self-concept, the mega standardized score for persisters was slightly higher than for non-persisters. Both persisters and non-persisters rated themselves highest on leadership ability and lowest on public speaking ability. Public speaking ability was also the trait with the biggest mean difference between persisters and non-persisters, with non-persisters ranking themselves lower than persisters. Finally, Likelihood of College Involvement had the mega standardized score for non-persisters several points lower than the score for persisters. Both persisters and non-persisters rated their likelihood of socializing with people of another race or ethnicity in college the highest in this construct. Both rated their likelihood of participating in student government at college the lowest. The difference between the means for persisters and non-persisters was the greatest on the likelihood of participating in student groups or clubs on campus and likelihood of participating in a study abroad program.

2. How did demographic and background characteristics of first-year students affect their persistence to the second year of college at a small, private, faith-based institution?

Gender and race did not significantly influence first-to-second-year persistence of students in this study. On the other hand, first-generation college students were significantly less likely to persist than students with at least one parent with a college degree. High school GPA also had a significant effect on persistence. The higher the high school GPA of incoming students, the more likely they were to persist to the second year. More specifically, the percentage of students in the persisters group who had high school GPAs of 4.0 or above was

three times larger than the percentage of students who had a high school GPA of 4.0 or above in the non-persisters group. On the other hand, the percentage of students in the non-persisters group with high school GPAs between 2.00 and 2.99 was nearly two and a quarter percentage points higher than the persisters group. Finally, the type of high school attended was also a significant predictor of persistence in this study. Logistic regression revealed that students who had attended private high schools were more likely to persist than students who had graduated from public high schools. Descriptive examination of data also showed that the share of home-schooled students was higher among non-persisters than persisters, but no significant differences emerged in the final logistic regression.

3. Did first-year students' perceptions of their habits of the mind affect their persistence to the second year of college at a small, private, faith-based institution?

Habits of the Mind did not significantly influence persistence of students in this study. Overall mean scores of Habits of the Mind mega scale revealed that persisters rated themselves slightly higher than non-persisters (49.49 and 46.64, respectively). However, it did not significantly influence students' likelihood of persistence to the second year in the final logistic regression.

4. Did first-year students' perceptions of their academic self-concept affect their persistence to the second year of college at a small, private, faith-based institution?

Academic Self-concept was a significant predictor of persistence for students in this study. The higher the students' perceptions of their Academic Self-concept, the more likely they were to persist to the second year in college. Indeed, the descriptive examination of the data revealed that persisters rated themselves higher with an overall mean score of 49.41 on the

Academic Self-concept mega scale as compared to the non-persisters who had an overall mean score of 44.81.

5. Did first-year students' perceptions of their social self-concept affect their persistence to the second year of college at a small, private, faith-based institution?

Social Self-concept did not significantly influence students' persistence to the second year in this study. Overall mean scores of Social Self-concept mega scale revealed that persisters rated themselves slightly higher than non-persisters (49.30 and 47.04, respectively). However, it did not significantly influence students' likelihood of persistence to the second year in the final logistic regression.

6. Did first-year students' perceptions of their likelihood of college involvement affect their persistence to the second year of college at a small, private, faith-based institution?

Likelihood of College Involvement was found to be significant in affecting persistence of students in this study. Students with higher self-ratings of their Likelihood of College Involvement were more likely to persist than those with lower self-ratings of their Likelihood for College Involvement. Moreover, an examination of the descriptive data demonstrated that persisters rated themselves higher with an overall mean score of 50.15 on the Likelihood of College Involvement mega scale than the non-persisters with an overall mean score of 47.14.

### **Discussion and Conclusions**

Several important conclusions can be drawn from the results of this study. First, the findings of this study revealed that being a first-generation college student at a small, private, faith-based institution can negatively affect first-to-second-year persistence. While the existing research supports the finding that persistence is more difficult for first-generation students than for students with college-educated parents (DeAngelo et al., 2011; Engle & Tinto, 2008; Saenz et

al., 2007), many would expect that the setting of a small, private, faith-based institution would be a more fitting place for first-generation college students to succeed. This study revealed that first-generation students are at-risk for non-persistence even at small institutions. Apparently the lack of experience in how colleges operate and lack of role models, who succeeded at college, can cause problems for students even at small private colleges.

This finding should be examined in the context of Bean and Eaton's (2000) psychological model of student persistence, which suggests that students need a strong self-perception that they can be successful academically and socially in order to persist. Without their parents' college experiences to draw upon, first-generation college students may not have the self-perception that they will be able to succeed in college because others in their family before them succeeded. Without that positive self-perception, first-generation college students often struggle to persist. Being a college student without having parents who understand the policies and procedures at institutions or who even understand what being a college student is like puts first-generation college students at a disadvantage no matter the size of the institution. Even for small colleges it is important to be sure that all students, but especially their first-generation students, receive support for understanding and learning the processes and procedures used in college and experience quality advising and support services.

Another important conclusion that can be drawn from this study is that students' high school grades make a difference for how likely they are to succeed in college. High school GPA has been studied often in relation to persistence and found to be predictive of persistence in college students (Belchier & Michener, 1997; Glynn et al., 2003; Peltier et al., 1999; Waugh et al., 1994). In this study, students with high GPAs, usually 3.00 or higher, persisted at a better rate than those with GPAs below 3.00. In most high schools, a C, or average grade, is a 2.00

while a 2.99 is in the upper B- range. In light of these results concerning GPA, even students who made average grades in high school might struggle to persist in college. For this study, the higher the student's GPA in high school the more likely a student is to persist in college.

A third conclusion that can be drawn from this study is that students, at least at this small, private, faith-based university, who attended private high schools might have an advantage over students who attended public high schools in persisting to their second year. Moving from one private school setting to another might make for an easier transition and thus encourage persistence in a familiar type of setting. Furthermore, parents who sent their children to private high schools typically did so because they wanted their children to get a good education. Those students who attended private high schools may have grown up in homes where education is highly valued and academic pursuits are strongly supported. This support might also give private high school students an advantage toward persistence once they reach college.

A fourth conclusion that can be drawn from this study is that students who show a stronger Academic Self-concept, as measured by the CIRP Freshman Survey, may be better prepared to persist to their second year of college than those students who have a weaker Academic Self-concept. Prior research about Academic Self-concept has also revealed that having a positive attitude about their academic abilities helped students to persist (Gloria & Robinson Kurpius, 2001). This study seems to confirm these findings since Academic Self-concept as measured on the CIRP Freshman survey was determined to be statistically significant as a predictor of persistence for the sample of first-time, full-time students at this small, private, faith-based institution.

Furthermore, other studies have also found that students who persist generally had higher self-perceptions about their academic abilities than those who did not (Brown-Robinson &

Kurpius, 1997). The results of this study also supported this conclusion. The trait of academic ability, which was one of the four traits that made up the construct of Academic Self-concept from the CIRP Freshman Survey, had the greatest disparity between the mean ratings for persisters and non-persisters in this study. In a study by Davidson and Beck (2006), the researchers reported that one's belief in one's own ability to accomplish academic tasks was a significant predictor of persistence. In this study, the mega standardized scores for Academic Self-concept showed greater differences between persisters and non-persisters than the mega standardized scores for any of the other CIRP constructs examined which again supports this conclusion that students' belief in their academic ability influences their persistence.

The fifth conclusion that could be drawn from this study is that students who report a higher likelihood of college involvement are more likely to persist to their second year of college. This conclusion is supported in part by the existing research that shows involvement in college is strongly linked to persistence (Berger & Milem, 1999; Kuh et al., 2008). Likelihood of College Involvement was one of two CIRP constructs that were found to be statistically significant in predicting persistence to the second year of college for first-time, full-time students at this small, private, faith-based institution. Much like the other CIRP construct that was statistically significant in this study, Likelihood of College Involvement showed larger disparity between the mega standardized scores for persisters versus non-persisters than the two constructs from the CIRP (i.e., Habits of the Mind and Social Self-Concept) that were not found to be predictive of persistence.

Affirming this conclusion from this study was Wilder and Kellams' (1987) study that found that students who enter college with expectations of involvement and who have been involved in high school activities were more likely to persist. The finding that Likelihood of

College Involvement was tied to persistence also fit with Tinto's interactionist theory of student persistence that highlighted the importance of students' social integration for persistence in college (Tinto, 1993). Tinto's theory explained that students must become involved socially on campus in order to persist. Even as recent research has questioned aspects of Tinto's theory, the concept of social integration being important to persistence has been found to be empirically sound.

A final conclusion from this study was one that seems to contradict some of the existing research about student persistence. This conclusion was that Social Self-concept was not found to be significant in predicting persistence in this study. Much research has been done that has examined how social integration is key to student persistence (Kim, 2009; Liu & Liu, 2000; Swenson Goguen et al., 2010). These studies were aligned with Bean and Eaton's (2000) psychological model of persistence. Bean and Eaton believed that persistence was determined in large part by students' desire to stay at an institution. In order to develop that desire, students must have had both academic and social success at the institution. Students who become involved may more likely feel the sense of social success and thus persist than students who do not engage socially in college. So the result of this study that students' Social Self-concept, as measured by the CIRP Freshman Survey, was not significant to persistence was surprising and contradictory to prior research that had found the opposite.

However, there have been at least two studies (i.e., Boulter, 2002; McGaha and Fitzpatrick, 2005) that are more in line with the findings of this study in regard to students' Social Self-Concept. Boulter's (2002) study found no relationship between students' perceptions of their social competence and persistence while McGaha and Fitzpatrick (2005) actually found that students' social self-concept was negatively related to persistence. In this study, the

standardized mean scores of the Social Self-concept mega scale were the most consistent across the persisters and non-persisters than for any other constructs. Mean ratings on the individual traits of the construct were also fairly similar for both persisters and non-persisters on two of the three traits, which may explain why Social Self-concept did not emerge as a significant predictor of persistence in this study.

Finally, it should be noted that the findings that Likelihood of College Involvement had a significant effect on first-to-second-year persistence while Social Self-concept did not may seem surprising and contradictory at first, but these two ideas really are very different. Social Self-concept examines students' self-perceptions of their social abilities and how they perceive themselves relating with others. Likelihood of College Involvement is more about how students anticipate actually fitting in socially on campus and getting involved. Likelihood of College Involvement is more closely related to social integration than to Social Self-concept since Likelihood of College Involvement examines how students perceive themselves being involved on campus when they get to college. This involvement in both academically- and socially-oriented college activities promotes connections for students with faculty, staff, and other students providing support systems that simply being social might not.

### **Recommendations for Practice**

The results of this study provide several implications for policy and practice for this small, private, faith-based institution in promoting persistence to the second year of college for its first-time, full-time students. This section highlights these implications and offers recommendations for policy and practice.

As indicated earlier, students who were first-generation college students were significantly less likely to persist to their second year at this small, faith-based, private institution

than students who had at least one parent with a bachelor's degree. As the institution continues to attract first-generation students, college staff and faculty must intentionally reach out to them, as well as their parents, to assist in the transition to college. More information must be given to these students and their parents in order to help them understand the policies and procedures of college and make them aware of services and assistance that are available to them. One possible practice would be having special sessions at New Student Orientation for first-generation college students and parents. College staff could be available in these sessions to explain some of the policies and procedures that are second-nature to those who are familiar with the context of higher education but most likely seem foreign to first-generation students and their parents.

Another possible practice is having a designated office on campus to serve as the point of contact for first-generation students and their parents. First-generation students and their parents could contact this office with any questions or concerns, and the personnel in this office would then connect the student or parent with the campus office or staff member best able to answer the question or concern. This office could also refer first-generation students to particular services or assistance that is available on campus. Obviously, with a fairly small population of first-generation students on campus, an office probably could not be solely dedicated to first-generation students, but a campus office could reasonably add this responsibility to its duties.

Another recommendation that emerges from the results of this study is the need for the institution to reach out to students who had average or low GPAs in high school in order to encourage their persistence on campus. When over 70% of the non-persisters in this sample had high school GPAs of 3.00-3.99, obviously not just students who struggled academically in high school are going to have difficulty persisting in college. The institution needs to ensure that all students, whether struggling with academics, personal issues, finances, or other problems, know

how to find help on campus. One means of accomplishing this is to train the instructors of the required first-year seminar courses to understand the student population they are teaching and to identify students who may be struggling. These faculty need to be well aware of the services and assistance available on campus. More specific training in identifying students who are struggling needs to be mandated for these instructors as well as others who teach predominantly freshman courses. Since faculty are with students daily in classes, providing them with training to better understand the generation of students who make up their classes and to more quickly identify and intervene with students who are struggling could have positive effects on the institution's retention rates.

The next recommendation that emerges from the results of this study is to provide assistance in adjustment for students who did not attend private high schools. Again utilizing New Student Orientation, the institution should consider making special sessions available for students who attended public schools, private schools, and home schools to highlight adjustment issues and solutions for each group. Upperclassmen who attended each of these types of high schools could be asked to speak about their adjustment from high school to college to provide first-hand perspective on these issues.

The institution might also want to target private school students for recruitment since they have a higher likelihood of persistence at the university. The university might consider developing recruitment and marketing materials directed toward private school students and their parents highlighting the success of private high school students at this institution. This might provide a recruiting advantage for the institution with private school students. Recruiting more students who start with an inclination toward persistence could be a means of increasing student retention at the institution.

An additional recommendation would be for the institution to provide students with assistance in strengthening their Academic Self-concept. This construct from the CIRP Freshman Survey used four traits for students to rate themselves: (a) academic ability, (b) drive to achieve, (c) mathematical ability, and (d) self-confidence (intellectual). The institution should make free academic assistance and tutoring in a variety of subjects available to all students. Since mathematical ability was the trait on which both persisters and non-persisters in this study rated themselves lowest, the institution might want to consider adding a math lab or math tutoring center specifically. This would require expansion in staffing and space for the current Academic Assistance Office of the university, but doing so would be an investment in student persistence. Since Academic Self-concept was one of two CIRP constructs that proved to be statistically significant in predicting persistence, the institution will want to make significant investments in helping students improve their Academic Self-concept.

Another way the institution can assist students in strengthening their Academic Self-concept is to provide instruction in learning strategies to all first-time students. This could be done through the required first-year seminar by expanding it from a two-credit hour to a three-credit hour structure, making use of the third hour to incorporate learning strategies instruction. Another option would be to provide learning strategies training for the peer mentors who assist with the first-year seminar so they are available on a one-to-one basis to assist first-year students in strengthening their Academic Self-concept. With increased knowledge of learning strategies, the students' confidence in their academic abilities may increase.

A further recommendation in strengthening Academic Self-concept would be to have remedial or developmental courses focus both on teaching content and building students' academic self-confidence. Currently, developmental education courses focus primarily on

improving students' understanding of content knowledge and skills in areas like math, writing, and reading. While improving students' knowledge base may help students succeed in further coursework, the findings of this study as well as Bean and Eaton's (2000) theoretical framework for persistence would also suggest that improving students' self-perceptions about their academic abilities is also vital to their persistence in college. As some students have to take multiple developmental level courses before being allowed to take credit-bearing courses, improving the students' self-beliefs about their ability to do college level work may actually help them persist as much or more than simply improving content knowledge.

Another recommendation for the institution would be to incorporate more opportunities for involvement on campus into prospective student visit days and in materials that are distributed to prospective students. Helping students understand the wide variety of college activities that will be available to them when they matriculate might help them plan to become involved before they ever get to campus. This could be accomplished through an activities fair as part of prospective student visit days. An activities fair would allow campus clubs, organizations, and ministries to have representatives available to speak with prospective students and to distribute information. Since Likelihood of College Involvement was the second CIRP construct that was statistically significant in predicting student persistence, the institution should help prospective students start thinking and dreaming about ways to be involved on campus before they even start college.

A final recommendation for the institution as a result of this study is that the institution needs to develop a more intentional and systematic way to make use of the results of the CIRP Freshman Survey and other institutional data that is collected to encourage persistence to the second year of college for its first-time, full-time students. The institution must be intentional in

using these data that are available very early after matriculation in making policy decisions that affect first-year students and in making programmatic changes that could influence persistence. Knowing characteristics of students who are less likely to persist can provide a starting point for college faculty and staff to offer support and intervention to those students. Having college personnel working in student service capacities ranging from Residence Halls to Business Offices who are aware of students who may be prone to attrition might enable the institution to provide earlier and more meaningful intervention for these students. Too often institutions wait until students are already struggling and thinking about dropping out to intervene, and often by that point, it is too late to do anything meaningful to help the students and change their plans.

### **Recommendations for Future Research**

This section provides recommendations for future research based on the limitations and results of this study. One of the before mentioned limitations of this study is that it was completed using only data from one institution which limits the generalizability of these findings to other institutions. Future research could examine the same demographic and background characteristics and the same four constructs from the CIRP survey from other small, private, faith-based institutions to determine if the results are consistent across institutions of this type. Future research could also look at other types of institutions using the same demographic and background characteristics and CIRP constructs to determine if these variables influence persistence at other types of institutions as well. With national data sets available from HERI, which administers the CIRP Freshman Survey, a study that examines the effects of the CIRP constructs of first-time, full-time students' persistence at a representative sample of four-year institutions across the nation could also be conducted.

Another avenue for future research might involve variables other than the five demographic/background characteristics and four CIRP constructs that were examined in this study. The CIRP Freshman Survey has other constructs that were not examined in this study which could be researched to determine their influence on persistence. The organization which produces the CIRP Freshman Survey also has a survey that can be administered at the end of the freshman year that has comparable constructs to the CIRP Freshman Survey. Future research could examine what changes occur in students' perceptions of their behaviors, attitudes, and aptitudes between the administrations of these two surveys.

One of the limitations of this study was that it only examined students' perceptions of their behaviors, attitudes, and aptitudes prior to matriculation, and not their actual behaviors, attitudes, and aptitudes while in college. Future research might compare actual student behaviors, attitudes, or aptitudes to the perceptions the students had about themselves prior to matriculating. This type of study might be particularly enlightening on constructs like Habits of the Mind or Likelihood of College Involvement. Comparison of how the students perceive themselves and how they actually behave in college could shed more light on student persistence.

### **Closing**

This study examined the effects of first-year students' perceptions of their behaviors, attitudes, and aptitudes on their first-to-second-year persistence at a small, private, faith-based institution. More specifically, the study investigated how incoming first-year students' demographic and background characteristics as well as four constructs measured by the CIRP Freshman Survey, (a) Habits of the Mind, (b) Academic Self-concept, (c) Social Self-concept, and (d) Likelihood of College Involvement affected their likelihood of persistence to their sophomore year. The study found that persistence was influenced by students' high school GPA,

type of high school attended, first-generation college student status, and two of the CIRP constructs, Academic Self-concept and Likelihood of College Involvement.

Persistence is of critical importance to both institutions and the students they serve. As the cost of attendance at colleges and universities continues to rise, potential students are weighing those costs against their opportunities for success and measuring those opportunities, at least in part, by retention and graduation rates. In an atmosphere of increasing competition for students, faculty and administrators in higher education need to understand what factors influence the persistence decisions of their students and find ways to strategically use those factors to promote persistence leading to greater student success and improved graduation rates.

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## Appendix

**Variables Included in the Study****Table 1: Outcome Variable**

Variable Name	Coding
Persistence to Second Year of Enrollment at Institution	0 = first-time, full-time students who either left during their first-year or did not return to the institution in the fall of their second year 1 = first-time, full-time students who stayed enrolled throughout their first year and then returned in the fall of their second year

**Table 2: Predictor Variables**

Variable Name	CIRP Freshman Survey Question #	Survey Question	Coding
Habits of the Mind	31	How often in the past year did you? Ask questions in class Support your opinions with a logical argument Seek solutions to problems and share them with others Revise your papers to improve your writing Evaluate the quality or reliability of information you received Take a risk because you felt you had more to gain Seek alternative solutions to a problem Look up scientific research articles and resources Explore topics on your own even though it was not required for a class Accept failure as part of the learning process Seek feedback on your academic work	1- not at all 2- occasionally 3- frequently

Academic Self-concept	29 (2007) 28 (2009)	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. Academic ability Drive to achieve Mathematical ability Self-confidence (intellectual)	1 – lowest 10% 2 – below average 3 – average 4 – above average 5 – highest 10%
Social Self-Concept	29 (2007) 28 (2009)	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. Leadership ability Public speaking ability Self-confidence (social)	1 – lowest 10% 2 – below average 3 – average 4 – above average 5 – highest 10%
Likelihood of College Involvement	41	What is your best guess as to the chances you will: Socialize with someone of another racial/ethnic group? Participate in a study abroad program? Participate in volunteer or community service work? Participate in student government? Participate in student clubs/groups?	1 – no chance 2 – very little chance 3 – some chance 4 – very good chance

**Table 3: Demographic and Background Characteristics**

Variable Name	Description	Coding
Gender	Student's gender	0 = male 1 = female
Race/Ethnicity	Racial/ethnic background that a student most closely associates himself/herself with	1 = White 2 = Students of color
First-generation College Student	Student's status as a first-generation college student	0 = neither parent of the student holds a bachelor's degree 1 = at least one parent of the student holds a bachelor's

		degree
High School GPA	The student's high school GPA	1 = below 1.00 2 = 1.00-1.99 3 = 2.00-2.99 4 = 3.00-3.99 5 = 4.0 or above
Type of High School Attended	The type of high school the student attended	1 = public high school 2 = private high school 3 = home school