

St. John Fisher College

Fisher Digital Publications

Education Doctoral

Ralph C. Wilson, Jr. School of Education

8-2014

Personal and Institutional Investment Required: The Relationship between Commitment and Persistence for Underrepresented First-Year Community College Students

Renée Freeman-Butler

St. John Fisher College, rf04803@students.sjfc.edu

Follow this and additional works at: https://fisherpub.sjfc.edu/education_etd



Part of the Education Commons

[How has open access to Fisher Digital Publications benefited you?](https://fisherpub.sjfc.edu/education_etd/194)

Recommended Citation

Freeman-Butler, Renée, "Personal and Institutional Investment Required: The Relationship between Commitment and Persistence for Underrepresented First-Year Community College Students" (2014). *Education Doctoral*. Paper 194.

Please note that the Recommended Citation provides general citation information and may not be appropriate for your discipline. To receive help in creating a citation based on your discipline, please visit <http://libguides.sjfc.edu/citations>.

This document is posted at https://fisherpub.sjfc.edu/education_etd/194 and is brought to you for free and open access by Fisher Digital Publications at St. John Fisher College. For more information, please contact fisherpub@sjfc.edu.

Personal and Institutional Investment Required: The Relationship between Commitment and Persistence for Underrepresented First-Year Community College Students

Abstract

The African proverb “It takes a village...” embodies the interdependence of the student experience and the spirit of personal and institutional investment required. Retention and student persistence continue to challenge higher education institutions and specifically community colleges. Using a non-experimental design, this study explored the influence of underrepresented students’ psychosocial behavior on their persistence. The study surveyed a population of 2,993 incoming first-year students. Two hundred seventy-seven students responded to the 62-item survey, and 204 met the underrepresented-student criteria. Three binary logistic regressions were run to understand the relationships of the 10 psychosocial behaviors and the three dichotomous dependent variables of persistence. The 10 psychosocial variables accounted for 14.3% of the variance in persistence among underrepresented community college students. The dichotomous dependent variable of persistence was measured by passing 67% of credits attempted, second semester re-enrollment, and a GPA of 1.50 or greater. The study found: (a) there is no statistically significant relationship among the Freeman-Butler commitment subscales or four of the remaining psychosocial factors (academic self-efficacy, resiliency, campus engagement, and social comfort) with the dichotomous dependent variable of persistence; (b) Student academic engagement was a significant predictor for GPA among the 204 underrepresented community college students; (c) Educational commitment, resiliency, and campus engagement were trending toward statistical significance for passing 67% of credits attempted, and GPA of 1.50 and greater respectively; (d) 14.3% of the variability in persistence was explained by the 10 psychosocial skills for underrepresented community college students.

Document Type

Dissertation

Degree Name

Doctor of Education (EdD)

Department

Executive Leadership

First Supervisor

Janice Kelly

Second Supervisor

Byron Hargrove

Subject Categories

Education

Personal and Institutional Investment Required: The Relationship between Commitment
and Persistence for Underrepresented First-Year Community College Students

By

Renée Freeman-Butler

Submitted in partial fulfillment
of the requirements for the degree
Ed.D. in Executive Leadership

Supervised by

Dr. Janice Kelly

Committee Member

Dr. Byron Hargrove

Ralph C. Wilson, Jr. School of Education

St. John Fisher College

August 2014

Copyright by
Renée Freeman-Butler
2014

Dedication

This journey was made possible by the encouragement and guidance of so many, and I want to acknowledge and thank them for their support with all praises to God as my co-pilot. To my committee members, Dr. Janice Kelly and Dr. Byron Hargrove, thank you for so graciously agreeing to serve as my committee, engaging me in ways that expanded my knowledge and analysis of research. Thank you for your thoughtful and thought-provoking feedback.

Heartfelt thank you to Dr. Betsy Barefoot and Dr. John Gardener for serving as my panel of experts, and sharing their insight, expertise, and scholarship. A special thanks to Dr. Paul Arcario for serving as my Executive Mentor and helping me to sharpen the dissertation topic lens. Thank you to the Vice President for Student Affairs, and members of the LaGuardia Community College faculty, staff, and administrators who supported my journey. Thank you to the St. John Fisher family of dedicated faculty and staff for your insight, guidance, and expertise.

A special thanks to my friends and colleagues who listened, were patient, and encouraged me through this process: Sonya Evariste, Marina Prorokovic, Renée Fuseyamore, Terik Tidwell, Kevin Jordan, Irving Uribe, and Esther Hayes.

Special thanks to Dr. Guy Cohen who responded without hesitation to my many statistical interpretation questions. Many thanks to Carla Smith and Judith Riggs for being the rocks that I could lean on. Your collegiality and friendship during this process were truly invaluable.

To my amazing family that stood by me at each step of my journey. To my mom, Carrie, who is always willing and able to assist no matter the time of day or the need, thank you. To my sister, Selina, who always found time to listen and give me feedback, to encourage and be ever so positive and uplifting, thank you for being there for me.

Heartfelt thanks to my children, Crystal and Daechaun, for their support and understanding. Thank you to my grandchildren, Cayla, Caleah, Shaniya, and Cameron, for appreciating and respecting the process. A special thanks to Cayla for taking an interest and listening to me for hours on end talk about my topic. Thank you so much for being you and supporting me. Lastly, thank you to my cousin, Irene, whom I could always count on to be there for me.

Biographical Sketch

Renée Freeman-Butler is a seasoned higher education professional and practitioner. In her capacities as a Higher Education Officer and Assistant Dean at LaGuardia Community College, she is a leader in student development and Student Affairs' practice. Ms. Freeman-Butler holds a Bachelor of Science degree in Speech Pathology and Elementary Education and a Master of Science in Early Childhood/Elementary Education with a specialization in Day Care Administration from Queens College of the City University of New York. She also holds a post Masters' Professional Diploma in School Administration and Supervision from Queens College, and a permanent N-6 New York State Teaching Certification. Ms. Freeman-Butler began work on her Ed.D. in Executive Leadership at St. John Fisher College in the summer of 2012. She pursued her research on the relationship between psychosocial factors, with a focus on commitment and the persistence of underrepresented community college students under the direction of Dr. Janice Kelly and Dr. Byron Hargrove and received the Ed.D. in the summer of 2014.

Abstract

The African proverb “It takes a village...” embodies the interdependence of the student experience and the spirit of personal and institutional investment required. Retention and student persistence continue to challenge higher education institutions and specifically community colleges. Using a non-experimental design, this study explored the influence of underrepresented students’ psychosocial behavior on their persistence. The study surveyed a population of 2,993 incoming first-year students. Two hundred seventy-seven students responded to the 62-item survey, and 204 met the underrepresented-student criteria. Three binary logistic regressions were run to understand the relationships of the 10 psychosocial behaviors and the three dichotomous dependent variables of persistence. The 10 psychosocial variables accounted for 14.3% of the variance in persistence among underrepresented community college students. The dichotomous dependent variable of persistence was measured by passing 67% of credits attempted, second semester re-enrollment, and a GPA of 1.50 or greater. The study found: (a) there is no statistically significant relationship among the Freeman-Butler commitment subscales or four of the remaining psychosocial factors (academic self-efficacy, resiliency, campus engagement, and social comfort) with the dichotomous dependent variable of persistence; (b) Student academic engagement was a significant predictor for GPA among the 204 underrepresented community college students; (c) Educational commitment, resiliency, and campus engagement were trending toward statistical significance for passing 67% of credits attempted, and GPA of 1.50 and greater

respectively; (d) 14.3% of the variability in persistence was explained by the 10 psychosocial skills for underrepresented community college students.

Table of Contents

Dedication	iii
Biographical Sketch	v
Abstract	vi
Table of Contents	viii
List of Tables	x
List of Figures	xii
Chapter 1: Introduction	1
Introduction	1
Problem Statement	3
Theoretical Rationale	9
Statement of Purpose	14
Potential Significance of the Study	16
Definitions of Terms	17
Chapter Summary	21
Chapter 2: Review of the Literature	24
Introduction and Purpose	24
Review of the Literature	28
Chapter Summary	55
Chapter 3: Research Design Methodology	57
Introduction	57

Research Context	62
Research Participants	62
Instruments Used in Data Collection	63
Data Analysis	69
Chapter Summary	71
Chapter 4: Results	72
Research Questions	73
Data Analysis and Findings	74
Summary of Results	91
Chapter 5: Discussion	93
Introduction	93
Implications of Findings	94
Limitations	97
Recommendations	98
Conclusion	104
References	107

List of Tables

Item	Title	Page
Table 1.1	Psychological Factor Definitions and Sample Items	14
Table 3.1	Annual Enrollments Fall 2013–Spring 2014	63
Table 3.2	Freeman-Butler Commitment Subscale.....	65
Table 4.1	Summary of Population Demographics.....	73
Table 4.2	Statistical Data of the Cronbach Alpha Reliability Split Half Test for the Respondents to the Pilot.....	75
Table 4.3	Summary of Gender Frequencies and Percentages of the Underrepresented Student Sample	76
Table 4.4	Race and Ethnic Sample Demographics.....	77
Table 4.5	The Null Hypothesis Prediction for Spring Attend	79
Table 4.6	Summary of Regression Analysis Predicting Spring Attend.....	80
Table 4.7	The Null Hypothesis Prediction for PASS 67%	81
Table 4.8	Summary of Regression Analysis Predicting PASS 67%	81
Table 4.9	The Null Hypothesis Prediction for GPA.....	82
Table 4.10	Summary of Regression Analysis Predicting GPA	83
Table 4.11	The Null Hypothesis Prediction for GPA.....	85
Table 4.12	Summary of Regression Analysis Predicting GPA	86
Table 4.13	The Null Hypothesis Prediction for Spring Attend	87
Table 4.14	Summary of Regression Analysis Predicting Spring Attend.....	87

Table 4.15	The Null Hypothesis Prediction for PASS 67%	89
Table 4.16	Summary of Regression Analysis Predicting PASS 67%.	90
Table 4.17	Summary of Logistic Regression Variability Explained	91

List of Figures

Item	Title	Page
Figure 1.1	Psychosocial and Study Skill Factor Constructs and Their Representative Measures	23
Figure 2.1	National Enrollment Trends	31
Figure 2.2	National Ethnographic Data	32
Figure 3.1	Freeman-Butler Commitment Subscale and Psychosocial Behaviors Structural Model	69
Figure 4.1	Summaries of Sample Student Ages	77

Chapter 1: Introduction

Introduction

Colleges and universities across the country grapple with the issue of low retention rates among students. Nationally, 9.3% of first-time, full-time students enrolled in 2003 earned an associate degree by 2009; 15% were still enrolled somewhere else; and 35% had dropped out (Carey, Kevin, 2010). Fifty percent of two-year public college students never make it to the second year (Complete College America, 2011). Malveaux (2003) found that the gap for degree completion between underrepresented minority students and other groups is particularly harmful because it affects individuals' long-term social mobility. The attainment of any postsecondary degree often results in a greater net dividend for minority populations (Carter, 2006). The large percentage of students not persisting beyond the first year of college is a national problem and subsequently contributes to poor graduation rates (Complete College America, 2011).

“Today, many will rise above their believed limitations and make contact with their powerful innate strength. Why not you?” (Maraboli, 2007). Maraboli's quote calls for deep and reflective thought, and raises keen questions when thinking about the complexities of retention and the benchmarks used to measure student persistence, retention, and institutional effectiveness (Metz, 2004–2005). Do the majority of community college students believe in their ability to rise beyond the challenges and persevere to academic success? What roles do student behavior, commitment, attitude,

and self-confidence play in the students' learning, persistence, and retention particularly in the first year?

Are community colleges valued as important contributors in post-secondary education by their four-year college counterparts? Does the open door, all are welcome criteria for student acceptance by community colleges hinder student persistence and institutional effectiveness? These questions are just the tip of the iceberg in research on student retention or fall-to-fall re-enrollment and provide insight into the complexity of understanding and mitigating the diversity of factors contributing to persistence, that is, students' decisions to leave or stay in college and the role commitment and psychosocial factors play in that decision (Hogan, 2012; Strauss & Volkwein, 2004).

Understanding who the students are and their character, personality traits, values, culture, academic aptitude, expectations, goals, and commitments; how they think and view the world; and how they apply their knowledge and experiences are all important factors in understanding student persistence. Add to these elements that life happens and students must weigh priorities and make decisions in their lives including whether to leave or stay in college (Astin & Osequera, 2012).

The student's decision to leave or not re-enroll is defined as attrition from an institutional perspective. The decision to stay or re-enroll is defined as retention. These descriptors focus the lens on persistence (Morrison & Silverman, 2012). Persistence can be defined as the student's initiated decision to re-enroll, making measurable satisfactory progress through the educational pipeline (Mortenson, 2012). While attrition and retention can be viewed as the opposite sides of the same coin, persistence and retention are analogous to the same side of the same coin (Berger, Ramirez, & Lyons, 2012).

While Maraboli's quote on the surface appears to address the individual's personal investment, it also applies to the organizational and institutional investment in the members of its communities. Leaders who influence and guide others within the community contribute to the collective rise of its members and the organization above its believed or perceived limitations (Bolman & Deal, 2008). It is what institutions do (their culture, values, beliefs) rather than what institutions are that has the most profound impact on student persistence (Terenzini, Ro, & Yin, 2012). The work of Bean and Metzner (1985) supports the value of exploring the relationship of psychosocial factors, particularly commitment, on student persistence and retention. The researchers' findings purport those students with greater educational goal aspirations are more likely to succeed than those with lesser aspirations. Bean and Metzner (1985) also defined psychological variables as representing goal commitment among other factors. They found that despite grade point average, some students dropped out of college if their psychological outcomes were negative. These outcomes included negative utility, goal satisfaction, and commitment. Negative utility, using Bentham's theoretical premise, is defined as a tendency to bring displeasure or pain (Read, 2004).

Problem Statement

Community colleges are praised for being accessible to students who do not have outstanding academic preparation and for their ability to work flexibly with industry, the community, and potential employers (Bragg & Durham, 2012). Community colleges are also often viewed as the ideal vehicle for retooling America by preparing students for the many technical and specialized jobs a 21st century economy requires (Obama, 2009; Bragg & Durham, 2012). This optimistic view of the roles and responsibilities of

American community colleges stands in stark contrast to the effects of what might be termed a “perfect storm” of factors that makes it very difficult for community colleges to live up to the expectations (Dowd, 2005). Faced with escalating enrollment, declining publicly funded revenue, and dismal retention and graduation rates, community colleges are challenged with finding meaningful ways to help all students succeed (Center for Community College Student Engagement, 2012; Dowd, 2005).

The problem of students leaving before graduation affects many stakeholders (Trostel, 2010). Institutions lose tuition and revenue; employers lose a skilled workforce; and families lose an opportunity for upward economic and social mobility (Bragg & Durham, 2012). The costs for recruiting students are significantly higher than for retaining students, but institutions continue to focus more of their efforts on recruitment (Cuseo, 2009).

One student remaining for four years costs colleges less financially than four students who leave after one year do (Bean, 2003). Zhu and Dickmeyer (2011) define the cost of education based on the number of credits attempted. The report reveals that in 2008–2009, one community college spent \$51 million on 1,634 students who graduated compared to \$78 million on 5,497 students who did not return (Zhu & Dickmeyer, 2011). The \$1,703.00 cost-per-student difference in favor of those students who did not return appears on the surface to be less costly than for students who persist through graduation. The fiscal benefits of college degree attainment for the students’ lifetime earnings of at least \$1 million, as well as the benefit of lower postgraduate governmental spending, increased tax revenues, and the overall societal contributions, are not factored into the cost-per-student expenditure (Hagedorn, 2012; Trostel, 2010).

Much research exists on the topic of retention (ACT, 2010; Astin, 1999; Bean, 2003; Bean & Eaton, 2002; Berger, Ramirez, & Lyons, 2012; Cabrera, Castaneda, & Nora, 1993; Hogan 2012; Tinto, 1975) and, in particular, first-year retention (Carter, 2006; Cuseo, 2009; Hrabowski III, 2005; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008; Upcraft, Gardner, Barefoot, & Associates, 2005). The researchers focus in varying degrees on the relationship of the incongruence between attitudes, behaviors, commitment, norms, and expectations of students entering college with the rigors of academic pursuit and commitment (Arum & Roksa, 2011). However, definitive and generalizable solutions remain elusive and point to the need for additional research to unpack the 75–80% benefit attributed to non-cognitive skills and its relationship to persistence (Bowles, Gintis, & Osborne, 2001; Robbins et al., 2004).

Bowles et al. (2001) examined the economic perspective and found that the number of years of education predicts labor market outcomes. He found, however, that cognitive skills only account for 20% of the benefit, leaving 80% to non-cognitive skills. Research by Robbins et al. (2004) supports Bowles' findings. Robbins found that traditional predictors (SAT scores, high school GPA, etc.) only account for 25% of the variance in predicting first-year academic performance, leaving 75% of the variance attributed to other than academic predictors. The literature also points to the lack of empirical data on community colleges and the limiting effect it has on the practitioners' and policy makers' ability to make evidence-based arguments in support of existing or new initiatives (Hossler, Moore III, Ziskin, & Wakhungu, 2008).

Given the complexities confounding the student persistence equation and the promise of what may be uncovered in the 75–80% variance (attributed to other than

academic predictors) for student persistence, future studies will need to intentionally examine the predictability of persistence using the psychosocial non-cognitive lens, specifically commitment in two-year college settings.

Institutions must address the complexities of retention, which also places an emphasis on meeting demands for accountability (Dowd, 2005). Retention is further complicated, particularly for community colleges, with the responsibility for addressing the needs of low-income students who are disproportionately academically underprepared.

Complete College America's (2011) national study found that the metrics used to measure the success of students and institutions do not favor the nontraditional, underrepresented students' patterns of attendance. The need for underprepared students to persist and the challenge for institutions to find meaningful ways to help students achieve their educational goals are at the core of the student persistence and retention challenge (Center for Community College Student Engagement, 2012; Metz, 2004–2005; Tinto, 2006–2007).

Accountability policies focus institutions on data reporting, which may amount to be more symbolic than practical efforts that do not produce effective and sustainable student persistence practices. Community college practitioners must be more engaged in shaping accountability systems and making the systems responsive to the mission and students served. The crucial need is for community colleges to ask about student attainment and if enough is being done to ensure student success; this is a paradigm shift for two-year institutions (Dowd, 2005).

Community colleges must be committed to developing a culture of evidence by carrying out serious, persuasive research and useful analysis if they are to traverse the changing paradigm from access to completion (Dowd, 2005). The culture of evidence is grounded in accountability and assessment practices (Alfonso & Bailey, 2005; Bragg & Durham, 2012). Traversing the paradigm shift is even more pervasive in the 21st century as President Obama's 2009 Graduation Initiative has begun to shift its emphasis from students' access to students' completion, with completion being the primary measure of success (Obama, 2009).

Students will need to persist through the first year and beyond if the nation is to meet the national imperative for retooling the American workforce (Complete College America, 2011). One approach to assessing persistence predictability that is grounded in a culture of evidence and, more importantly, a culture of inquiry is shifting the paradigm to include theory integration, and diverse schools of thought with supporting research (Borden, 2012; Hagedorn, 2012; Hogan, 2012). Alternative models for explaining persistence build on the "process models of organizational turnover and attitude-behavior interaction" (Cabrera, Castaneda, & Nora, 1993, p.125). The intersection of student behaviors and institutional conditions provides opportunities for colleges to intervene and influence student persistence (Cabrera, Castaneda, & Nora, 1993,; Kuh, Kinzie, Buckley, Bridges, & Hayck, 2006).

The work of Hogan (2012) on adapting measures of organizational commitment to college student persistence exemplifies an alternative research model by examining the psychosocial non-cognitive skill of commitment, which is why it serves as a foundational study for this research. Hogan's research seeks to understand college student persistence

and its relationship to student institutional commitment (attitude and behavior). Further, her work supports the fundamental premise of Bean's (1980, 1985) earlier works on attrition. Bean's attrition model is noted as an alternative model for explaining persistence and is built on "process models of organizational turnover and attitude-behavior interaction" (Cabrera, Castaneda, & Nora, 1993, p. 125).

Similarly, Roos's (2012) work on the relationship between first-year student retention, non-cognitive risk factors, and advising is built on the premise that the uses of data on educational commitment, among other factors, play an instrumental role for informing practice. Although Roos's research does not depart from the foundational literature on retention or adapt measures from other disciplines in the literature, his work demonstrates an intentional focus on the value of non-cognitive factors to college student persistence and institutional practice. Roos's research lens examines the potential institutional influence and value added to mediating student behavior and persistence with the knowledge and understanding of their non-cognitive skill levels. The research of Roos and Hogan (2012) is foundational to this study, and their findings serve as the impetus for this study. Specifically, using a quantitative approach, this study will model the research integration of Hogan (2012) and Roos (2012).

This study will examine whether the independent variables of the commitment subscales (normative, continuance, affective, and intent to commit) are significant predictors of the dependent variables of persistence (as measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment) for first-year underrepresented students at a community college in Queens, New York. This community college is part of a larger university system in New York. It offers degree

programs to more than 18,000 students. The student demographics are representative of a diverse and largely underrepresented student body population that is 58% female and 42% male. The student population breakdown is 21% Asian, 19% Black (non-Hispanic), 44% Hispanic, 13% White (non-Hispanic), and 3% other. Fifty percent of students are born outside the U.S. and are from 161 countries, speaking 124 languages. Seventy nine percent of all students admitted for the fall 2011 semester required enrollment in one or more developmental courses. Sixty percent of students living away from parents had incomes under \$15,001, and 28% had incomes under \$5,000. Thirty-seven percent of students living with parents had incomes under \$15,001, and 16% had incomes under \$5,000.

This study examined whether the Freeman-Butler commitment subscales and the Student Strength Inventory psychosocial (also termed non-cognitive) factors (academic self-efficacy, academic engagement, campus engagement, resiliency, social comfort, and educational commitment) were significant predictors of persistence. The study also identified the variance percentage of the commitment subscales and factors to first-year underrepresented student persistence at a community college in Queens, New York.

Theoretical Rationale

The eclectic approach of adapting theoretical frameworks and measures from diverse schools of thought began early in retention research and literature (Hadel, 2011). The 1970s were the theory-building period for retention research and used the lens of a deficit model for student departure. Retention research in the 1980s was influenced by a shift in student demographics and, more specifically, the rise in community college

enrollment. This shift facilitated the need to refine and expand the theoretical constructs to include a broad diversity of characteristics, attitudes, and behaviors that were more representative of the changing ethnographics and more inclusive of underrepresented student populations (Berger, Ramirez, & Lyons, 2012).

From the onset, Spady's theoretical framework integrated sociological and psychological constructs by expanding the perspectives to include the student's psychosocial skills, personal qualities, and behavior. Spady's early work focused on the student's sense of belonging and its relationship to student commitment and persistence (Hausmann, Schofield, & Woods, 2007; Metz, 2004–2005). Building on the work of Spady, Tinto's student departure and interactionist theories focused on the importance of student academic and social integration in the institution to facilitate student persistence and minimize departure (Tinto, 1975). He emphasized the related but independent processes of academic and social integration. Social integration refers to students being a part of the college environment, fitting into social groups on campus, and having the necessary support systems to facilitate a positive experience in college. Academic integration represents student acceptance of academic expectations and measures of academic success such as passing grades, academic goal commitment, and normative structures (Tinto, 1975). Concurrent to the work of Tinto is Alexander Astin's student involvement research and the Input-Environment-Outcome (I-E-O) theory substantiating the influence of external and internal environmental factors on student persistence and retention (Metz, 2004–2005).

Tinto (2005) expanded his theory to include the influence of student expectations and aspirations, the student's integration, or not, into the college environment, and the

influence of institutional elements such as peer relationships, faculty–student interactions, and co- and extra-curricular engagement on student persistence. The expansion of his theoretical framework incorporated elements of the psychological and organizational constructs (Tinto, 2005).

The psychological construct is the level of psychosocial or non-cognitive development the student brings to the learning environment. The psychological attributes include attitude, behavior, and personality traits such as self-efficacy. The organizational construct comprises the campus culture, the type and size of the institution, resources, and faculty student ratios (Kuh, Kinzie, Buckley, Bridges, & Hayck, 2006). Pascarella and Terenzini (1983) postulated that student characteristics (including academic aptitude, race, socio-economic level, and family background) all lead to initial commitments, both to the institution attended and the student’s educational goal. Attitude and behavior interactions as contributors to students’ decisions to stay or leave were recognized in Bean’s (1980) student attrition model. Bean (2003) purports that a student’s decision to stay or leave is shaped by factors outside of the institution (Cabrera, Castaneda, & Nora, 1993). Bean posits that there is a strong relationship among beliefs, attitudes, behaviors, and intentions. His research found students’ attitudes about the institution influence their behavior and decisions to leave, and behavior is a strong indication of intent to persist. The researcher postulated that there are social psychological factors as well as external environmental influences that contribute to student persistence and retention (Eaton & Bean, 1995).

Bean (1980) was one of the earliest researchers to build his work on models of organizational turnover to test a causal model of attrition. Bean and associates tested

varying adaptations of the student attrition model. The outcomes were largely supportive of the accepted role of organizational, personal, and environmental variables in both attitudes and interest as well as the role of intent to persist on the dropout criterion. Bean's work is credited with making the argument that student attrition is comparable to turnover in work organizations and the significance of student intentions as predictors of persistence behavior (Cabrera, Castaneda, & Nora, 1993).

By the start of the 1990s, the research on retention had produced significant amounts of empirical study support for theory integration and elaboration. Astin's groundbreaking work on student access and persistence provided the framework for future researchers and supports Bean, Roos, and Hogan's theoretical underpinnings of attitudes, behaviors, and the influence of external environmental factors (Astin & Oseguera, 2012). The work of Hogan (2012) adds to the work of Robbins et al. (2004) and supports the underpinnings of Bean's earlier work on organizational turnover by aligning student persistence with organizational commitment and defining intent as being analogous to the organizational behavior literature's withdrawal cognitions. Hogan proposed using an organizational employees' intent to leave model to predict student persistence.

The researcher postulated that there are three types of commitments: affective commitment, normative commitment, and continuance commitment. They all result from different causes and result in different attitudes and behaviors (Hogan, 2012). For the purposes of her study, Hogan defined normative commitment as a student feeling a sense of obligation because administrators, staff, and instructors had given the student so much. The researcher defined continuance commitment as the students' sense that the financial

and emotional costs of leaving the institution to pursue other opportunities compared to the costs of staying are greater (Hogan, 2012).

Roos's (2012) research adds to the work of Hogan, Bean, and Astin. He focused on the relationship among first-year student retention, non-cognitive risk factors, and institutional practice. His research also supported the foundational underpinnings of this study. Roos's research is built on the premise that the use of data on educational commitment, among other factors, played an instrumental role for informing practice. The non-cognitive variables included academic self-efficacy, academic engagement, campus engagement, resiliency, social comfort, and educational commitment (Leuwerke & Dervisevic, 2008). Table 1.1 outlines the non-cognitive factors' scale, definitions, and sample items.

Feelings influence thoughts, thoughts influence behavior, and the three variables are interdependent. This interdependency suggests meaningful opportunities for institutions to explore relationships among the three variables to gain deeper insight on possible contributing factors for facilitating change in behavior, identifying interventions, and informing practice as it relates to the subscales of commitment, non-cognitive factors, and persistence (Satterfield, 2011). The work of Satterfield (2011) supported the attitude-behavior research of Bean and the value added by modifying and applying the organizational behavior literature's research on employee turnover to college student persistence. Finding meaningful strategies and sustainable institutional practices grounded in research and designed to mediate student persistence continues to be the primary objective for most retention research (Bailey & Alfonso, 2005).

Table 1.1

Student Strengths Inventory: Psychosocial Factors Definitions & Sample Items

Scale	Definitions	Item
Academic Engagement	The value an individual places on academics and attentiveness to school or work.	I turn in my homework on time
Academic Self-Efficacy	An individual's confidence in his or her ability to achieve academically and succeed in college.	I will excel in my chosen major
Educational Commitment	An individual's dedication to college and the value placed on obtaining a degree.	I see value in completing a college education
Resiliency	An individual's approach to challenging situations and stressful events.	I manage stress well
Social Comfort	An individual's comfort in social situations and ability to communicate with others.	I am comfortable in groups
Campus Engagement	Involvement in campus activities and attachment to the college/university.	Being active in extracurricular activities is important

Note: The data is from “Beacon: Student Strengths Inventory Sample Items” by Andrea Palmer, 2012, Beacon SSI Presentation, p. 2. Copyright by Campus Labs, Inc. Reprinted with permission.

Statement of Purpose

The purpose of this research was to gain an understanding of the relationship associations of commitment and other non-cognitive factors on the persistence (as measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment) of underrepresented first-year students in an urban community college. This research embraced a theory integration approach and adapted constructs

and measures of organizational behavior, education, and the psychological underpinnings of research by Hogan (2102), Roos (2012), and Bean (2003) in order to gain clarity on the associated relationships, including the odds ratios, predictive value, and the variance percentage of commitment and other non-cognitive factors on first-year underrepresented student persistence. Additionally, this research sought to understand the relationship among the students' levels of commitment, the SSI non-cognitive factors of academic engagement, resiliency, social comfort, academic self-efficacy, campus engagement, and the influence on persistence. This research intended to identify relationship associations and potential predictors of student persistence to gain an understanding of the extent to which community colleges can identify, articulate, and influence the characteristics of the institution and student behavior that are central to student persistence and ultimately degree attainment. Moreover, a better understanding of how the wealth of psychosocial behaviors contribute to student success, particularly persistence, can inform the discussion on behavioral and labor market outcomes with an intended purpose of guiding and promoting student holistic development, practice, and associated career placement (Weel, 2008).

Specifically, this research used a quantitative approach, the work of Roos (2012) as one of its foundational studies, and the replicated work of Hogan (2012). Hogan's research adapted measures of organizational commitment and withdrawal cognitions to college students' persistence with the specific future research recommendations for contextual and population adjustments and aides in the study of the following questions.

Research Questions

1. What are the relationships between underrepresented community college student commitment (defined as affective, continuance, normative, educational, and intent to commit) and their persistence (measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment)?

2. What are the relationship associations among underrepresented community college student commitment (defined as affective, continuance, normative, educational, and intent to commit), psychosocial behaviors/non-cognitive factors (defined as educational commitment, academic self-efficacy, academic engagement, resiliency, campus engagement, and social comfort), and persistence (measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment)?

Potential Significance of the Study

This study added to the literature by integrating divergent schools of thought from organizational behavior, educational, and psychological literature to gain knowledge on the predictive relationship between the Freeman-Butler subscales of commitment combined with the non-cognitive factors of academic engagement, resiliency, social comfort, academic self-efficacy, campus engagement, and the dependent variable of persistence to improve higher education institutions' responsiveness to the changing needs of the students served. Moreover, the study added to the literature by using its findings to inform practice. According to Hossler (2008), there is a need for research that addresses student retention and the effectiveness of specific programmatic initiatives. Specifically, educational literature is experiencing an urgent need for retention research to broaden its approach by expanding its measures and perspectives to allow for a more accurate measure of student progress or persistence (Hagedorn, 2012). Similarly,

Hossler, Moore III, Ziskin, & Wakhungu (2008) raise the need for published research articles on the assessment of campus-based retention programs. ACT (2010) labeled the need for institutions to focus on student success and determine predictors of first-year community college student retention as a national imperative.

Definitions of Terms

The conceptualization and definition of retention and persistence have not been consistent over time. The descriptors for the retention phenomenon and its related issues are ever changing because of the growing knowledge in the field (Cabrera, Castaneda, & Nora, 1993). Terms may be closely related but not always synonymous (Berger, Ramirez, & Lyons, 2012). This study used Berger et al. (2012) definitions for the following key concepts except where otherwise cited.

Affective commitment: refers to students being emotionally attached to an institution because of family ties, a sense of belonging, early experiences on the campus, and/or the love for an athletic team and other similar affiliations that would connect them to the institution (Hogan, 2012).

Affective commitment: is referred to as institutional commitment in education literature. Institutional commitment refers to the students' sense of belonging, overall satisfaction, perception of educational quality, and intent to re-enroll in the institution (Strauss & Volkwein, 2004).

Attrition: refers to a student who fails to re-enroll at an institution in consecutive semesters. *Commitment*: is defined by five independent types of commitment, which describe the students' attachment to the institution for various reasons; it further defines the students' academic goal or purpose and the students' behavior that is in response to

their levels of commitment, resulting in the outcome of persistence or withdrawal (Bean, 200; Hogan, 2012).

Continuance commitment: refers to students weighing the financial and emotional costs of leaving the institution for pursuing other options (another college or career) compared to the costs of staying (Hogan, 2012).

Dismissal: refers to a student who is not allowed by the institution to continue.

Dropout: refers to a student whose initial educational aspiration was to complete at minimum an associate's degree or educational credential such as a certificate but did not.

Intent: refers to students thinking about leaving college (Hogan, 2012).

Intent to commit and Intent to persist: refer to students thinking about staying in college (Hausmann, Schofield, & Woods, 2007).

Non-cognitive variables: refer to emotional and social intelligence. Factors pertaining to adjustment, commitment, perseverance, self-concept, self-efficacy, motivation, and/or student perceptions among other personality traits are included in the non-cognitive realm (Sedlacek, 2011). There is a debate in the literature viewed as conceptual confusion on the use of this term in educational literature. The cognitive psychological literature refers to these factors as psychosocial variables that fit within the realm of cognition (Robbins et al., 2004). For the purposes of this study, the term psychosocial replaces non-cognitive. Replacing the terminology is not to engage in the naissances of semantics but to emphasize and agree that the traits and skills identified as non-cognitive draw on cognition. Expanding cognition to include the construction of knowledge and its application to real world experiences is supported by the fields of cognitive psychology and cognitive science but differs from didactic educational models (Sandberg &

Wielinga, 1991). Understanding and embracing this expanded conceptual view of cognition sets the framework to grasp the relationship among commitment, a conscious decision that influences behavior; and persistence, a behavior, desire and/or action to achieve a goal. The interconnectedness of the construction of knowledge, its application within the context of lived experiences, and its relationship to behavior shapes meaning making and is a critical lens undergirding the foundation of this study.

Normative commitment: refers to students having a strong sense of obligation to the institution, feeling that they owe it to the institution to continue (Hogan, 2012).

Persistence: refers to student behavior and the desire and action of a student to stay within the system of higher education from first year through degree attainment.

Personality traits: refer to the individual characteristics that make up human behavior and disposition. The Big Five are the top five hierarchical domains that represent hundreds and maybe thousands of traits. The extroversion domain includes outgoing, assertiveness, and talkativeness; agreeableness domain includes pleasantness, kindness, and warmth; conscientiousness domain includes dependability, organization, and thoroughness; emotional stability domain includes strength, nervousness, and temperamentality; openness or intellect domain includes imagination, creativity, and curiosity.

Each of the domains also includes the contrasting traits (Goldberg, 1993).

Re-enroll: refers to students who register for classes in subsequent semesters (Hagedorn, 2012).

Retention: refers to an institutional metric system that is a percentage rate of first-time, full-time, degree-seeking undergraduate students from the previous fall and enrolled again in the current fall (Arnold, 1999).

Withdrawal: refers to the voluntary departure of a student from a college.

The operational definitions of the below key terms for the purposes of this study are:

Continuance commitment: is redefined to refer to students weighting the socio-economic, emotional, and quality of life costs of leaving the institution and not obtaining their academic goal compared to staying and persisting. The recommendation of Hogan (2012) for future studies suggests researchers consider issues around measurements. She suggests that alternative language or wording be explored to define normative and continuance commitments with items added that would further tap into those constructs.

Intent to commit: is redefined as students expressing doubts about attending college or thinking about leaving school.

Normative commitment: is redefined to refer to the students' feelings of obligation to family and others who have influence in their lives. Students persist or not because of the expectations of and/or family, parents, and others who have influence in their lives.

Persistence: refers to student behavior and initiated decision to re-enroll, making measurable satisfactory progress through the educational pipeline (Mortenson, 2012).

Practices: refer to institutional interventions, services, policies, and/or processes.

Psychosocial factors: refer to variables of emotional and social intelligence. The factors include the constructs of academic commitment and social engagement, pertaining to adjustment, commitment, perseverance, self-concept, self-efficacy, motivation, and/or student perceptions among other personality traits (Robbins et al., 2004). Robbins et al. (2004) outlines the psychosocial constructs, their meaning, and respective measures among other factors in Figure 1.1.

Satisfactory progress: refers to students earning 67% of credits attempted and achieving a minimum cumulative GPA of 1.50 or higher depending on the number of credits earned in their first semester (LaGuardia Community College Enrollment Services, 2013).

Underrepresented students: refer to those individuals who have been historically underrepresented in colleges across the United States, and/or have delayed entry. The underrepresented populations are minority students, particularly, African American, Hispanic, and Native American; and students who are typically 25 years and older, of low socio-economic levels, and/or underprepared for college (Advisory Committee on Student Financial Assistance, 2012; Hrabowski III, 2005).

Withdrawal cognitions: refer to students thinking about leaving college (Hogan, 2012).

For the purposes of this study, this term will be renamed intent to commit.

Chapter Summary

The challenges for colleges, particularly community colleges, are complex, diverse, and very much rooted in the philosophical and political debate of access, completion, better preparation, and appropriate levels of resource allocations to the largely underrepresented populations that community colleges serve (Pascarella & Terenzini, 2005). According to the Integrated Post-Secondary Education Data System (IPEDs), 41% of first-year students at two-year colleges drop out before their second year.

Psychosocial and Study Skill Factor Constructs and Their Representative Measures

Psychosocial and study skill factor construct	Definition and measures
Achievement motivation	<i>Construct definition:</i> One's motivation to achieve success; enjoyment of surmounting obstacles and completing tasks undertaken; the drive to strive for success and excellence. <i>Representative measures:</i> Achievement Scale (Personality Research Form [Jackson, 1984], used in Paunonen & Ashton, 2001); Achievement Needs Scale (Pascarella & Chapman, 1983; derived from Stern's, 1970, Activities Index) need for achievement (Ashbaugh, Levin, & Zaccaria, 1973); Achievement Scale (College Adjustment Inventory [Osher, Ward, Tross, & Flanagan, 1995], used in Tross et al., 2000).
Academic goals	<i>Construct definition:</i> One's persistence with and commitment to action, including general and specific goal-directed behavior, in particular, commitment to attaining the college degree; one's appreciation of the value of college education. <i>Representative measures:</i> Goal commitment (Pascarella & Chapman, 1983; Pavel & Padilla, 1993; Williamson & Creamer, 1988); commitment to the goal of graduation (Pascarella & Chapman, 1983); preference for long-term goal (Non-Cognitive Questionnaire [NCQ; Tracey & Sedlacek, 1984]); degree expectation (Braxton & Brier, 1989; Grosset, 1991); desire to finish college (D. Allen, 1999); valuing of education (Brown & Robinson Kurpius, 1997).
Institutional commitment	<i>Construct definition:</i> Students' confidence of and satisfaction with their institutional choice; the extent that students feel committed to the college they are currently enrolled in; their overall attachment to college. <i>Representative measures:</i> Institutional commitment (e.g., Berger & Milem, 1999; Pike, Schroeder, & Berry, 1997); institutional attachment (Student Adaptation to College Questionnaire [Krosteng, 1992]).
Perceived social support	<i>Construct definition:</i> Students' perception of the availability of the social networks that support them in college. <i>Representative measures:</i> Family emotional support (College Student Inventory; D. Allen, 1999); social support (Coping Resources Inventory for Stress; Ryland et al., 1994); social stress (Solberg et al., 1998); family support (Solberg et al., 1998); Perceived Social Support Inventory (Gloria et al., 1999); Mentoring Scale (Gloria et al., 1999).
Social involvement	<i>Construct definition:</i> The extent that students feel connected to the college environment; the quality of students' relationships with peers, faculty, and others in college; the extent that students are involved in campus activities. <i>Representative measures:</i> Social Alienation From Classmates Scale (Daugherty & Lane, 1999); social integration (Ethington & Smart, 1986); University Alienation Scale (Suen, 1983); Personal Contact Scale and Campus Involvement Scale (Mohr et al., 1998); Class Involvement Scale (Grosset, 1991); Student-Faculty Interaction Scale (Pascarella & Terenzini, 1977).
Academic self-efficacy	<i>Construct definition:</i> Self-evaluation of one's ability and/or chances for success in the academic environment. <i>Representative measures:</i> Academic self-efficacy (Chemers et al., 2001); academic self-worth (Simons & Van Rhee, 2000); academic self-confidence (Ethington & Smart, 1986); course self-efficacy (Solberg et al., 1998); degree task and college self-efficacy (Gloria et al., 1999).
General self-concept	<i>Construct definition:</i> One's general beliefs and perceptions about him/herself that influence his/her actions and environmental responses. <i>Representative measures:</i> Rosenberg self-esteem (White, 1988); NCQ general self-concept and realistic self-appraisal (Young & Sowa, 1992; Fuertes & Sedlacek, 1995); self-confidence (W. R. Allen, 1985); self-concept (Williamson & Creamer, 1988).
Academic-related skills	<i>Construct definition:</i> Cognitive, behavioral, and affective tools and abilities necessary to successfully complete task, achieve goals, and manage academic demands. <i>Representative measures:</i> Time-management skills, study skills and habits, leadership skills, problem-solving and coping strategies, and communication skills.
Contextual influences	<i>General definition:</i> The favorability of the environment; the extent that supporting resources are available to students, including (1) availability of financial supports, (2) institution size, and (3) institution selectivity. The three subconstructs are operationally distinct and are therefore treated separately in our analyses. Their specific definitions are further provided below.
Financial support	<i>Construct definition:</i> The extent to which students are supported financially by an institution. <i>Representative measures:</i> Participation in financial aid program (McGrath & Braunstein, 1997); adequacy of financial aid (Oliver et al., 1985).
Size of institutions	<i>Construct definition:</i> Number of students enrolled at an institution. <i>Representative measures:</i> Total institutional enrollment (Ethington & Smart, 1986).
Institutional selectivity	<i>Construct definition:</i> The extent that an institution sets high standards for selecting new students. <i>Representative measures:</i> Institutional selectivity or prestige (Stoecker et al., 1988), mean SAT/ACT score of admitted students (Ethington & Smart, 1986).

Figure 1.1. Represents construct definitions for psychosocial and study skill factors. APA permission is not required for a maximum of three tables or figures from journal articles or chapters (American Psychological Association Inc., 2014; Robbins et al., 2004).

It is essential that students recognize and balance their expectations with those of the institution while responding to the demands of their personal lives (Kinzie, Kuh, Schuh, & Whitt, 2010). Personal-life demands such as economic stability, family and work commitments, and other external institutional variables, including market trends and local and national policy, represent the diversity of contributing factors to student persistence and retention (Crisp & Mina, 2012).

This chapter provided a framework for examining the critical shifts in theoretical construct integration and ideological support for continued research on theory integration across divergent schools of thought. The differing and overlapping theoretical and conceptual frameworks were outlined with mention of the conceptual challenge of clarity or consistency of terminology as it relates to non-cognitive, psychosocial, and cognitive factors.

Applying the organizational behavior, education, and cognitive psychology constructs to this study's relationship associations of the Freeman-Butler commitment subscales, combined with the SSI psychosocial factors and persistence, were introduced. Terms relevant to the study were defined and the proposed research methodology was noted. Chapter 2 will provide an in-depth review of the literature and research relevant to these constructs. The research design methodology for this study will be detailed in Chapter 3. Chapter 4 will provide the results and explanation of the findings. Lastly, Chapter 5 will include discussion, implications of the findings, limitations of the study, and recommendations.

Chapter 2: Review of the Literature

Introduction and Purpose

Faced with escalating enrollment, declining publicly funded revenue, dismal retention, and graduation rates, community colleges are challenged with finding meaningful ways to help all students succeed (Center for Community College Student Engagement, 2012; Dowd, 2005).

The large percentage of students not persisting beyond the first year of college is a national problem and subsequently contributes to poor graduation rates (Complete College America, 2011). Colleges and universities across the country grapple with the issue of low retention rates among students. Nationally, 9.3% of first-time full-time students enrolled in 2003 earned an associate degree by 2009; 15% were still enrolled somewhere else and 35% had dropped out (Carey, 2010). Further complicating matters for community colleges are their dismal graduation rates. Fifty percent of those seeking a two-year degree require remediation and remedial students are less likely to graduate. Fifty percent of two-year, public-college students never make it to the second year, resulting in an 18.8% graduation rate for full-time two-year college students in four years and 7.8% for their part-time counterparts over the same four-year period (Complete College America, 2011).

President Obama's (2009) Graduation Initiative has begun to shift the emphasis from access to completion for community colleges with completion being the measure of success. He suggests that there is a national imperative for retooling the American

workforce if we are to remain competitive in the global economy. America's global strength and workforce requires an ever-increasing demand for an educated and skilled workforce. The 21st century comes with growing demands for occupations needing some type of postsecondary education for entry, and these occupations are projected to grow the fastest during the 2010–20 decade (Complete College America, 2011). The upward social and economic mobility for students and their families depends on student access to postsecondary education and, more importantly, their persistence in the first year through completion (Bragg & Durham, 2012).

Community colleges are praised for being accessible to students who do not have outstanding academic preparation and for their ability to work flexibly with industry, the community, and potential employers (Bragg & Durham, 2012). Community colleges must make the case that a shift in metrics, moving from access to completion, requires the institutions to document the “inextricably linked” variables of access and completion, and further require that part-time students be counted as part of the retention metrics (Bragg & Durham, 2012, p.107; Complete College America, 2011). The increased emphasis on information, data gathering, analysis, and performance-based resource appropriations highlight the value for building an ongoing culture of evidence for colleges and particularly continued research on community college persistence, completion, and institutional practices. Eliminating the open admission, all are welcome mission of community colleges will only serve to create disparate socio-economic equity among student populations (Bragg & Durham, 2012).

Commuter and part-time students now make up the predominate student population at community colleges with 64% attending part time and only 36% attending

full time compared to their four-year college counterparts at 29% and 71% respectively (Bailey & Alfonso, 2005). The shift in student demographics includes ever-expanding enrollments of underrepresented students, particularly at community colleges, that influence perspectives, research, and practice as institutions embrace a broader understanding of variables affecting student persistence (Bragg & Durham, 2012).

Dating back to the work of Spearman, Webb, and Jensen on the “g” factor, the search to identify and understand the human personality traits contributing to the structure of intelligence, cognition, and their individual relationship to achievement and vocational success was of prominent interest, leading to the *Big Five*. The *Big Five* are defined as the hierarchical top five personality traits contributing to the structure of cognitive ability (Almlund, Duckworth, Heckman, & Kautz, 2011). Consciousness is the trait identified by Jensen as the most universal trait, also supporting Spearman and Webb’s findings. Consciousness was defined as “being responsible, dependable, caring, organized, and persistent” (Almlund, Duckworth, Heckman, & Kautz, 2011, p. 16).

Weel (2008) cites the study by Borghans et al. (2006) that reviewed the integration of the psychological and economic literatures to understand the predictive power of psychosocial or non-cognitive skills. The results of the findings are reported in relationship to the *Big Five* personality traits.

There is a large difference between the stability of cognitive and non-cognitive skills over the lifecycle. Cognitive skills sharply increase during childhood and peak in late adolescence. Noncognitive skills increase until late adulthood and for some personality traits, it peaks after age 50. The expression and development of

these traits seems to be more context related than the development of cognitive traits (Weel, 2008, p. 736).

The researcher suggests that behaviors can result from personality trait constraints imposing restrictions on the behavior. This suggestion supports Satterfield's premise that feelings influence thoughts and thoughts influence behaviors. Further, the researcher highlights the importance of non-cognitive "determinants of labor and behavioral outcomes" (Weel, 2008, p. 736).

Advancing the study of retention and adding to the base of knowledge are Bean's (1983, 1985, 1995, 2000) organizational attributes model, Pascarella and Terrenzini (1991, 2005) operational measures of the core constructs of social and academic integration expanding perspectives and identified as a noteworthy contribution, and Astin's (1975, 1977, 1985, 1993) Input Environmental Outcomes (I-E-O) model along with his extensive national data analysis from hundreds of colleges on involvement. Astin's analysis offers a keen perspective for understanding persistence and informing campus-based institutional practices. With an attrition rate of 45% from first to second year and a 28% persistence-to-degree rate for public two-year institutions, it becomes a national imperative that institutions focus on student success and determine predictors of first-year community college student retention (ACT, 2010).

This chapter reviews the literature that provides an overview of the purpose and the populations served by community colleges, the benefits of degree attainment, and a historic context on persistence and retention theory. A review of the persistence and retention constructs as they relate to underrepresented first-year student persistence is discussed as part of the historic context. The chapter further explores existing research

examining the relationship among the subscales of commitment, the non-cognitive factors of academic self-efficacy, academic engagement, resiliency, campus engagement, and social comfort, and the dependent variable of student persistence. The chapter concludes with a brief overview of the principles and underpinnings supporting student persistence and commitment. The researchers' theories support Bean's premise that beliefs shape attitudes, attitudes shape behavior, and behavior signals intent (Kuh, Kinzie, Buckley, Bridges, & Hayck, 2006).

Review of the Literature

Today's students no longer fit the mode of what is defined as "traditional" first-year college students. Upcraft, Gardner, Barefoot, & Associates (2005) define traditional students as students who are single, right out of high school, middle class, enrolled full time, living on campus, and academically prepared. Trends in student enrollment for more than 20 years reveal the traditional student, as defined by Upcraft et al. (2005), no longer holds true for community colleges across the United States (Upcraft, Gardner, Barefoot, & Associates, 2005). Underrepresented students refer to those individuals who have been historically underrepresented in colleges across the United States.

Underrepresented student populations are primarily African American, Hispanic, and Native American; and students who are typically 25 years and older, of low socioeconomic levels and/or underprepared for college (Advisory Committee on Student Financial Assistance, 2012; Hrabowski III, 2005). These students represent the new 21st century traditional student. In spite of the student demographic shift, administrators and faculty have not adequately responded to the changing needs of the new traditional student (Complete College America, 2011).

The state of community colleges. Retention and persistence are complex and multi-causal (Morrison & Silverman, 2012). Community colleges with their open door, all are welcome criteria for acceptance have historically been the gateway to higher education for underrepresented students (Bragg & Durham, 2012). Underrepresented students are individuals who have been historically underrepresented in colleges across the United States. The underrepresented populations are minority students, particularly African American, Hispanic, and Native American; and/or students who are typically 25 years and older, of low socio-economic levels, and underprepared for college (Hrabowski III, 2005).

Community colleges enrolled 6.2 million or 35% of all students in post-secondary education in the United States for the academic year 2006–2007 (Provasnik & Planty, 2008). Complete College America (2011) found that providing community college students with an additional year to earn an associate degree only increases graduation rates by 4.9%. Complicating matters for community colleges are their dismal graduation rates. Fifty percent of those seeking a two-year degree require remediation, and remedial students are less likely to graduate. Fifty percent of two-year, public college students never make it to the second year resulting in an 18.8% graduation rate for full-time two-year college students in four years, and 7.8% for their part-time counterparts over the same four-year period (Complete College America, 2011).

Undergraduate enrollment in the United States has doubled from 1970–2009, resulting in increasing access to colleges for an ever-growing diverse student population, but with little to no change to the completion rates. Figure 2.1 represents national college enrollment trends from 1970–2010 with a trajectory through 2021. Figure 2.2 reflects the

shift in ethnographics for college enrollment nationally (Complete College America, 2011). The urgency for addressing persistence and retention for underrepresented students is rooted in the statistic that only 7.5% of African American community college students attending full-time graduate with a two-year degree in three years compared to 2.1% of their part-time counterparts. Hispanic students show a slightly higher but still disconcerting statistic of 11.1% of full-time students graduating with a two-year degree in three years compared to 2.6% of their part-time counterparts (Complete College America, 2011).

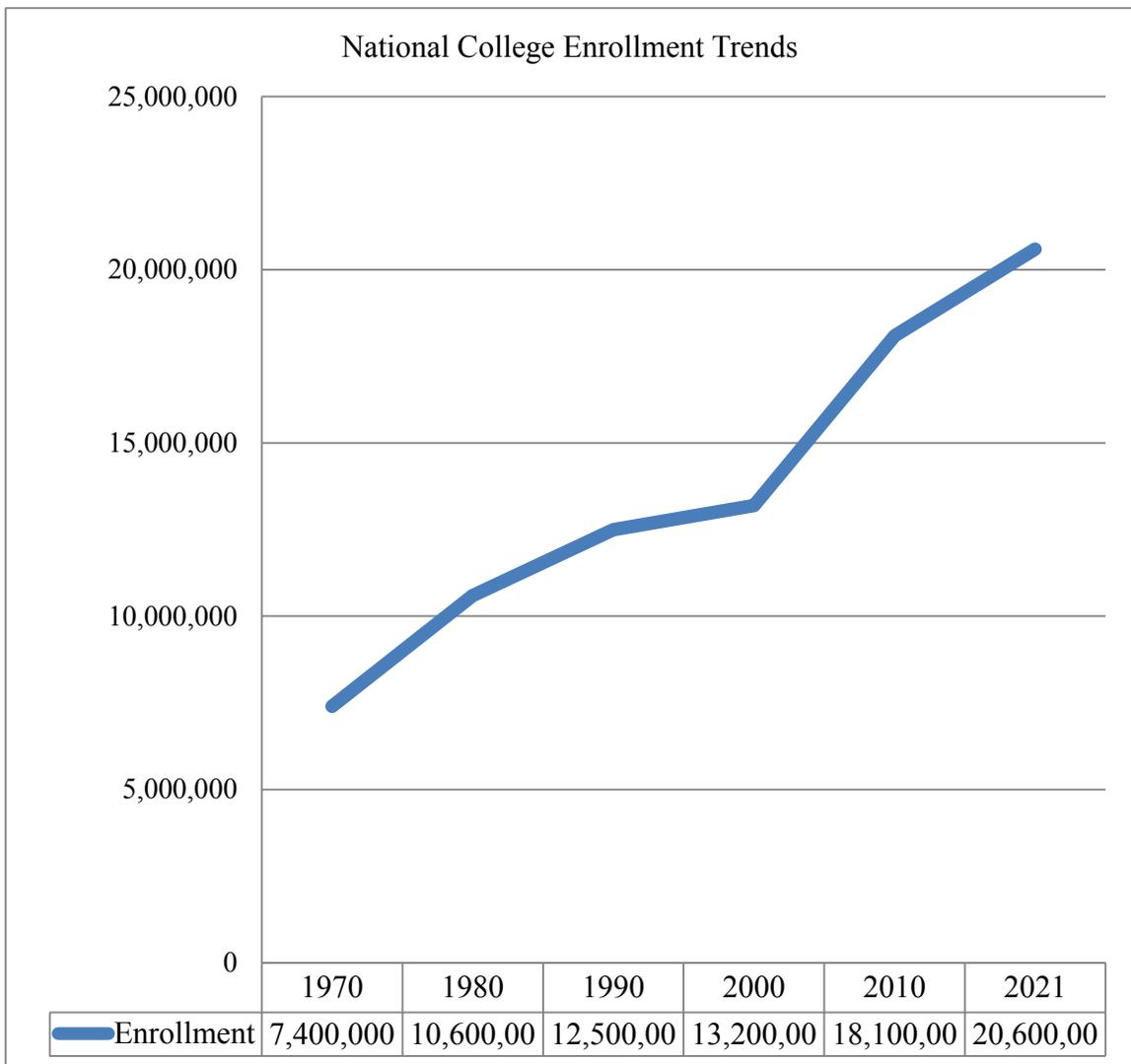


Figure 2.1. National college enrollment trends from 1970 and projected through 2021. From Complete College America Data (2011).

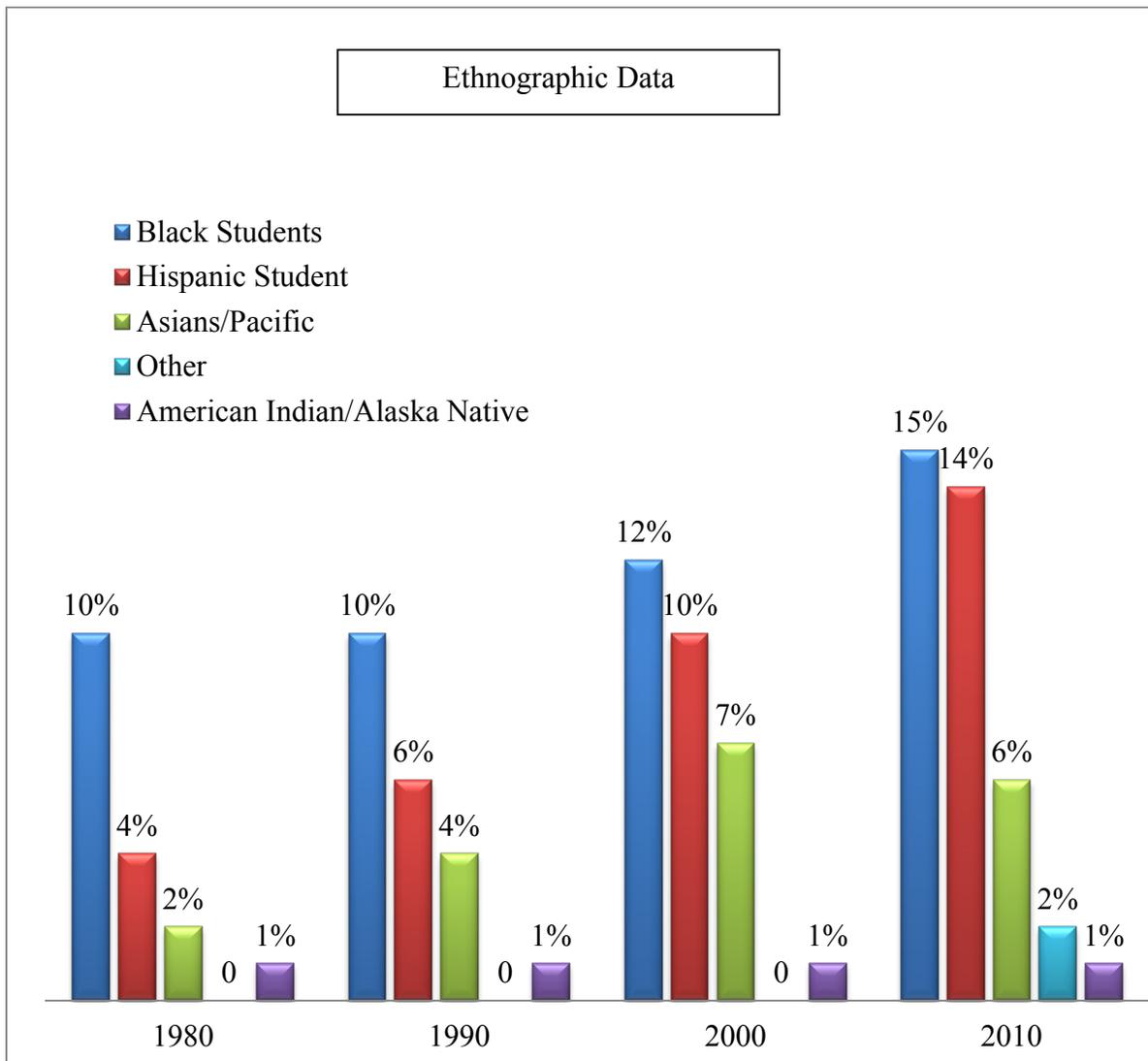


Figure 2.2. Reflects the shift in ethnographics for college enrollment nationally. Data from “Time is the enemy,” by Complete College America, 2011, Washington, DC: Complete College America. Copyright 2011 Complete College America..

In his remarks on the American Graduation Initiative, President Obama (2009) refocused the nation on the education agenda. He acknowledged that there is a national imperative for retooling the American workforce if we are to remain competitive in the global economy.

Now is the time to build a firmer, stronger foundation for growth that will not only withstand future economic storms, but one that helps us thrive and compete

in a global economy. It's time to reform our community colleges so that they provide Americans of all ages a chance to learn the skills and knowledge necessary to compete for the jobs of the future (Obama, 2009, p. 1).

Bragg & Durham (2012) postulated that the nation's objective to increase by 60% the number of quality degrees conferred by the year 2025 requires 8.2 million graduates with associate degrees or higher between the ages of 25 and 34.

The lack of empirical studies and research on community colleges, critical partners in post-secondary education, creates a gap and serves to perpetuate negative stereotypical beliefs that two-year colleges are of lesser value than their four-year counterparts (Bragg & Durham, 2012). The majority of published retention studies are focused on four-year colleges with the findings used to inform practice and address student persistence and retention at community colleges. This practice is not representative of the level of demographic, ethnographic, academic, and social economic diversity of community college students, which differs from that of four-year college students (Metz, 2004-2005).

The retention equation also includes contextual institutional factors. The type of institution (its size, culture, values, normative structure) and the way the institution engages its students academically and socially influence student persistence (Kuh, Kinzie, Buckley, Bridges, & Hayck, 2006). Success of the teaching and learning process, and student, faculty, and staff interactions influence the student's experience and have direct impact on student persistence (Astin & Osequera, 2012). This perspective begs the questions: Are all students, student relationships, and the rich diversity students bring to

the environment valued by the institution? Do institutional beliefs and practices influence student persistence (Cabrera, Castaneda, & Nora, 1993)?

Retention and persistence are complex and multicausal (Morrison & Silverman, 2012). Complete College America (2011) found that providing community college students with an additional year to earn an associate degree only increases graduation rates by 4.9%. National college enrollment trends have risen exponentially, from 7.4 million in 1970 to 18.1 million in 2010 with a trajectory of 20.6 million for 2021 (Complete College America, 2011). The ethnographic shift for college projects: “by the year 2020, minority students will account for 45% of the nation's public high-school graduates, up from 38% in 2009” (Hoover, 2013).

The urgency for addressing the persistence and retention of underrepresented students is rooted in the statistic that only 7.5% of African American community college students attending full-time graduate with a two-year degree in three years compared to 2.1% of their part-time counterparts. Hispanic students show a slightly higher but still disconcerting statistic of 11.1% of full-time students graduating with a two-year degree in three years compared to 2.6% of their part-time counterparts (Complete College America, 2011).

Persistence in the first year of college through completion requires students to persevere, be self-assured, and committed to their goals. “A deeper understanding of student diversity in higher education is important to understanding these complex issues of access and equity and how they affect outcomes” (Bragg & Durham, 2012, p.,110). This is evidenced in the comparative data analysis of high school graduates and GED test takers. The findings demonstrate that the GED test measures the academic skill of

students who did not complete high school but are comparatively on par academically with average high school graduates. However, these two groups of students separate by their performance in their earning and educational achievements. According to the literature, high school graduates, although deemed intellectually equivalent, outpaced GED test takers in the labor market, and in life, and this is attributed to what the researcher termed their non-cognitive skills (Heckman & Rubinstein, 2011). These research findings substantiate Weel's 2008 research on the importance of psychosocial or non-cognitive determinants of labor market and behavioral outcomes

Underrepresented students. These students are historically underrepresented in college in the United States, and characterized by specific demographics and characteristics. Characteristics which include students of color, first generation and/or low income, delayed entry to college, less family procedural (understanding college knowledge and expectations) and financial support, heavier work responsibilities, poorer academic preparation, and a lack cultural capital (Chaudhari, Murrell, Pizzolato, Podobnik, & Schaeffer, 2008). The researchers refer to cultural capital as the communication and cultural knowledge expected for students to effectively navigate college, putting underrepresented students at a disadvantage (Moore, Shulock, & Wassmer, 2004).

Hrabowski III (2005) postulated that many times even strong, academically prepared, underrepresented students fail to persist. He attributed this phenomenon to variables/conditions including vulnerability resulting from negative stereotypes, low performance expectations, academic and cultural isolation, lack of academic peer support, and perceived and real discrimination. These stereotypical views and low

expectations for this student population contributed to raising student anxiety and negatively affecting motivation and performance (Hrabowski III, 2005). The outcomes of Hrabowski III (2005) research supported Bean and Metzner's (1985) findings that despite grade point average, some students dropped out of college if their psychological outcomes were negative. These outcomes included negative goal satisfaction or commitment.

While noncognitive variables are useful for all students, they provide viable alternatives in fairly assessing the abilities of people of color, women, international students, older students, students with disabilities, or others with experiences that are different than those of young, White, heterosexual, able-bodied, Eurocentric males in the United States (traditional students).

Standardized tests and prior grades provide only a limited view of one's potential (Sedlacek, 2011, p. 191).

A better understanding of the relationship among the first-year experience's organization and structure (to promote quality practices, student learning, and persistence) for underrepresented students with similar academic and socio-economic profiles, and their retention would help to inform planning, practice, and policy formation (Barefoot & Gardner, 2011; Hossler, Moore III, Ziskin, & Wakhungu, 2008).

The benefits of degree attainment. The social and economic equity that post-secondary degree attainment offers is life changing and the vehicle for retooling the workforce (Obama, 2009). Bailey and Belfield (2011) highlighted the value added with associate degree completion over a high school diploma. They addressed the individual earning gains as well as the health and overall quality of life gains that are associated

with associate degree completion. Gender and racial percentage differences were found in earning gains when moving from 12 to 14 years of schooling. Comparing black and white males to recent cohorts, the gains for black males grew significantly, while the gains for white males grew marginally (Belfield & Thomas, 2011). Improved individual earnings over a lifetime were attributed to the value of educational attainment. Students attaining an associate degree had a lifetime of earning estimates of 1.6 million dollars compared to 1.2 million for their high school graduate counterparts. These findings are supported in the earlier work of Kane and Rouse on higher wages for students attending college. The authors called for further research on the impact of the community colleges' role in preparing the workforce for the current labor market (Kane & Rouse, 1999).

The goal for economic stability, self-sufficiency, and meeting the ever-changing needs of the job market in the 21st century requires students to seek out post-secondary education. Their purpose to expand their knowledge and retool to compete in the 21st century economy is driven by the social and economic realities of the world they live in. Academicians, practitioners, and policy makers agree that the current system is not working, resulting in decreasing completion rates, increased student debt, fewer skilled and trained workers for the increasing market demand for high skill jobs, and less income for workers, "America falls further behind" (Complete College America, 2011, p. 3; Crisp & Mina, 2012).

A college degree is important to economic stability and responsible citizenship. Social and economic equity by associate degree attainment requires that students first persist through the first year of college (Kinzie, Kuh, Schuh, & Whitt, 2010; Kuh, Cruce, Shoup, Kinzie, and Gonyea, 2008).

First-year students. The primary objective of Obama's (2009) Graduation Initiative is to have the highest proportion of college graduates in the world by the year 2020 with community colleges at the core. Yet, according to IPEDs (2011) national data, 41% of first-year students at two-year colleges drop out before their second year.

First-year students present challenges including varying levels of academic preparedness, motivation, learning styles, and intellectual development (Erickson & Strommer, 2005). Engle and Tinto (2008) comprehensively reviewed the data on student success and recommended five pivotal areas for attention: The very first item on the priority list was focusing on the first year. With an attrition rate of 50.1% from first to second year and a 28% persistence-to-degree rate for public two-year institutions, it becomes a national imperative that institutions focus on student success and determine predictors of first-year community college student persistence (ACT, 2010; Complete College America, 2011). National research indicates that student attrition is highest during the first year of college, making it a critical juncture for focus and intervention (Carey, 2010).

Persistence and retention. The plight faced by students to persist and the challenge for institutions to find meaningful ways to help students achieve their educational goals are at the core of the student persistence and retention challenge. Persistence refers to student behavior, the desire, and action of a student to stay within the system of higher education from first year through degree attainment. Specifically, this is the student-initiated decision to re-enroll, making measurable satisfactory progress through the educational pipeline (Berger, Ramirez, & Lyons, 2012; Mortenson, 2012).

Goal directedness, or a generalized sense of purpose and action, predicted a decrease in psychological distress, a key marker of first-year college dropout. At the same time, goal directedness did not directly predict end-of-year academic performance but was mediated by academic behaviors (e.g., study skills, class attendance, etc.) (Robbins et al., 2004, p. 265).

Retention refers to the ability of an institution to retain a student from admission to graduation (Berger, Ramirez, & Lyons, 2012). Institutions must address the complexities of retention while meeting the demands for accountability. Addressing student persistence is further compounded, particularly for community colleges, because of the need to address the complexity of factors that many underrepresented students bring to the learning environment. Specifically, underrepresented students are of low income and disproportionately academically underprepared (Complete College America, 2011; Metz, 2004–2005; Tinto, 2006–2007;).

Moreover, the accountability metrics for measuring retention in higher education institutions often only count full-time, first-time students, consequently leaving out part-time and transfer students (Complete College America, 2011). Accountability standards and the metrics used to measure outcomes do not differentiate among the access policies, population, and institutional type. This practice is not representative of the demographic, ethnographic, academic, and social economic diversity of community college students, and differs from that of four college students (Bailey & Alfonso, 2005). The majority of published retention studies are focused on four-year colleges with the findings used to inform practice and guide student persistence and retention at community colleges.

Retention and persistence theory historic context. The most known and cited theories refer to student retention as continuous persistence toward degree attainment or an educational credential. The theoretical frameworks focus in varying degrees on the student's academic engagement, goal commitment, connection, institutional context, and interactions (Bailey & Alfonso, 2005).

The 1970s was the theory building period for retention research (Astin & Oseguera, 2012). Van Gennep (1960), Spady (1970), and Tinto (1975) are the earliest researchers and contributors in the field of retention who were influenced by Emile Durkheim. All three theorists built on the work of Emile Durkheim (1953), a French sociologist. Durkheim found that individuals commit suicide due to a lack of social support and/or being dissimilar from or not fitting in with the social group (Hadel, 2011). The difference among the theorists is how they apply Durkheim's constructs to individuals and college students who drop out (Bean & Eaton, 2001–2002; Tinto, 1975).

The eclectic approach of adapting theoretical frameworks and measures from diverse schools of thought began early in the retention research (Hadel, 2011). Van Gennep's rites of passage theory points to the use of rituals and ceremony to aid a person's integration into an environment or social group (Metz, 2004–2005). Spady applied Durkheim's theory by integrating sociological and psychological constructs. He expanded his perspectives to include the student's psychosocial skills, personal qualities, and behavior in an effort to explain why college students drop out and it helped him shape his student departure theory (Hadel, 2011). Spady also includes the recognition of student characteristics and specific goals and introduces the construct of academic performance as a significant influence on student behavior. Spady is the first sociologist

to develop a theory of student persistence, resulting from Durkheim's influence (Metz, 2004–2005). Tinto (1975, 1993, 2005), however, is the most cited and known theorist for persistence and retention research.

Building on the work of Spady, Tinto's student departure and interactionist theories highlight the importance of student academic and social integration in the institution to facilitate persistence and minimize departure (Tinto, 1975). At the core of Spady and Tinto's theories are Durkheim's findings that individuals commit suicide due to a lack of social support and/or being dissimilar from or not fitting in with the social group (Hadel, 2011).

Social integration refers to the students' sense of belonging or feeling a part of the college environment, fitting into social groups on campus, and having the necessary support systems to facilitate a positive experience in college. Hogan (2012) describes these characteristics as affective commitment. Bean and Eaton (2001) furthered the work of student characteristics and their relationship to student success and persistence with their attitude behavior theory. Bean and Tinto differed on measures for student involvement (Robbins et al., 2004). Bean's attrition model highlights the importance of behavior while Tinto uses the perceptual lens as the measure for student involvement (Robbins et al., 2004).

Bean's theoretical model addressed the psychology underlying successful retention practices. The research emphasized coping behavioral theory, including the students' sense of belief in their ability to achieve, attribution, and locus of control among other factors (Bean, 1980). Non-cognitive or psychosocial factors pertaining to adjustment, commitment, perseverance, self-concept, self-efficacy, motivation, and/or

student perceptions among other personality traits are included in the non-cognitive and psychosocial realm (Sedlacek, 2011). A debate is raging in the literature, viewed as conceptual confusion, on the use of the term non-cognitive in educational literature versus psychosocial found in the psychological literature. The cognitive psychological literature refers to these factors as psychosocial variables and suggests they fit within the realm of cognition (Kyllonen & Sedlacek; Robbins et al., 2004). The conceptual challenge is one of clarity or consistency on what constitutes a college outcome. Researchers view some psychosocial factors as determinants of outcomes while others view the same factors as the outcomes, that is “well-being” (Robbins et al., 2004). These perceptions contextualize and underscore the malleable or fixed perspectives for student learning.

Bean and Eaton purport that locus of control leads to academic and social integration. Academic integration represents student acceptance of academic expectations and measures of academic success such as passing grades, academic goal commitment, and normative structures. These elements are also reflected in the earlier work of Astin (Astin, 1999). The 1980s were influenced by a shift in student demographics creating the need to refine and expand the theoretical constructs (Berger, Ramirez, & Lyons, 2012). The empirical studies over the past 30 years have been focused on testing the theoretical frameworks for degree attainment (Astin & Osequera, 2012).

The Input-Environment-Outcomes (I-E-O) model of Astin (1993) considered the importance of student characteristics brought to the learning environment, student learning, the campus experiences that influence student outcomes, and the influence these

variables had on persistence and retention. Alexander Astin (1993) documented the complexity of factors that contributed to students' decisions to stay or leave. These decisions represented a dynamic process, which involved the students' mental models and characteristics as well as numerous interactions between students and the institution over time.

Astin (1997) contended that research designed to measure institutional effectiveness by retention rates based on standardized tests, raw data, and outcome measures were flawed. He based this assessment on his 1993 data, which revealed that these measures do not take into account the significant impact of student inputs—the characteristics, experiences, and expectations students brought to the learning environment. With this study, Astin added to the knowledge of the field and expanded the lens to focus more intentionally on the characteristics and experiences that students bring to the institution. This also focused research more pointedly on underrepresented student populations. His findings revealed the positive perceptions of institutional success assigned to colleges with higher retention rates as compared to the negative perceptions of institutional success assigned to colleges with low retention rates as in the case of community colleges and placed an emphasis on the importance of recognizing the “inextricably linked” variables of access and completion (Astin, 1993; Bragg & Durham, 2012, p. 107). Astin's (1993) data demonstrated how retention rates can be misleading indicators of institutional effectiveness by not factoring in the disparity among differences in the types of students who are initially enrolled, rather than varying institutional impact. Astin's findings helped to focus future researchers on the predictive

rather than the descriptive, the practical rather than just the conceptual elements contributing to student persistence.

There were a wide range of psychological, social, and behavioral constructs found in the work of Bean and Astin predicting student persistence and retention by incorporating pre-college characteristics, institutional commitment, institutional context, and academic and social integration. The psychological constructs have behavior as their underpinning with a direct relationship to the outcomes of student persistence and academic performance (Robbins et al, 2004).

Bean (1980) was one of the earliest theorists and researchers to build his work on models of organizational turnover to test a causal and predictive model of attrition. Bean's student attrition model recognized attitude and behavior interactions as contributors to students' decisions to stay or leave, which, he purported, is shaped by factors outside of the institution (Cabrera, Castaneda, & Nora, 1993). Bean posited that there exists a strong relationship among beliefs, attitudes, behaviors, and intentions. His research found students' attitudes about the institution influence their behavior and decisions to leave, and behavior has a strong association with attrition and, conversely, persistence. The researcher further postulated that there were social and psychological factors as well as external environmental influences, which contributed to student persistence and retention (Eaton & Bean, 1995). Bean is cited as saying beliefs shape attitudes, attitudes shape behavior, and behavior signals intent (Kuh, Kinzie, Buckley, Bridges, & Hayck, 2006).

Bean and associates tested varying adaptations of the student attrition model and the outcomes were largely supportive of the accepted role of organizational, personal, and

environmental variables in both attitudes and interest as well as the role of intent to persist on the dropout criterion. Bean's work was credited with making the argument that student attrition is comparable to turnover in work organizations and the significance of student intentions as predictors of persistence behavior (Cabrera, Castaneda, & Nora, 1993).

Cabrera et al. (1993) identified the theoretical frameworks of Tinto's Integration and Bean's Student Attrition models as providing a comprehensive framework with several commonalities on student departure and persistence. The researchers cited the significant amount of theory expansion over the past 10 years and the proven validation of both models across different types of institutions with diverse student populations. The gap identified in the literature was the two theories' frameworks that addressed the same phenomenon, with no attempt to merge the two in an effort to improve the understanding of students' decisions to remain in college.

The commonalities of the two theories are the high level of overlap regarding the organizational factors and institutional commitments. The researchers found the theories to differ on the roles of attitudes, behavior, and intent. Bean's model stressed the external institutional factors and the effect on attitudes, behaviors, and decisions (Cabrera, Castaneda, & Nora 1993). The researchers used a quantitative methodological approach, a two-step structural equation modeling strategy to estimate parameters. Tinto's model of college persistence was tested as a dichotomous variable, although persistence has been specified as a continuous variable in earlier research, employing PRELIS (Cabrera, Castaneda, & Nora 1993). A baseline model was identified that incorporated both theoretical frameworks. Courses and academic integration reflected a single construct

and merged. Grade point average (GPA) and academic integration were viewed as two separate and interdependent constructs. Institutional fit and quality were combined with institutional commitment. The baseline-integrated model reflected propositions from the Student Attrition model. The researchers noted the propositions as environmental factors in the form of finance, attitudes, and encouragement from family and friends were found to have the capacity to exert significant effects upon academic integration, commitments to the institution, and on intent to persist (Cabrera, Castaneda, & Nora 1993).

Cabrera et al. (1993) findings indicated that a better understanding of persistence could be achieved by combining the two major theories of college persistence. The researchers cited Bean's acknowledgement that at the core of competing student persistence theories are the role of the relevant factors. The merging of the two theories into one integrated model provided a more comprehensive understanding of the complexity and relationship of individual, environmental, and institutional factors on student persistence.

The findings suggested the effect of environmental factors played a significantly greater role than what Tinto initially theorized. Tinto theorized that environmental factors shaped commitments, but the study found that these factors exert influence on the social and academic integration of students. The findings supported Bean's proposition that environmental factors should be part of the equation when explaining student persistence. Although not examined as part of this theory integration study, the environmental factors' finding would support the work of Astin's (1993) Input-Environment-Outcome model. The findings also supported incorporating the encouragement and support from significant others and other environmental factors into

the conceptual frameworks for examining student persistence. The results of this study strongly suggested that college administrators focus on variables that are highly predictive of students' commitment to persist (Cabrera, Castaneda, & Nora, 1993).

Student commitment. Often taking place through group interaction and in non-classroom settings, learning and holistic development, including psychosocial factors, such as commitment, time on task, and motivation, emerges from a complex interplay of social, emotional, cognitive, and developmental dimensions (Bean, 2003; Keeling et al., 2006). Student persistence and retention constructs are grounded in a sophisticated and holistic understanding of psychosocial development and learning. Understanding the complexity of student persistence emerged from cognitive research; learning theory; and sociological, psychological, cultural, organizational, and economic models that focused on student engagement and institutional practices that lead to increased academic and social integration.

The theoretical framework for these domains is articulated and synthesized by scholars such as Richard Keeling, Alexander Astin, John Braxton, Pierre Bourdieu, George Kuh, Vincent Tinto, Ernest Pascarella, John Bean, Shevawn Eaton, Patrick Terenzini, and others. This research has persuasively demonstrated that student persistence and retention involves understanding how students develop and what colleges do to shape that development (Pascarella & Terenzini, 2005).

Strauss and Volkwein's (2004) research findings on predictors of student commitment at two-year and four-year institutions support the Cabrera et al. (1993) findings that environmental factors play a significant role in institutional commitment and student persistence. Strauss and Volkwein (2004) posited that institutional

commitment is a predictor or precursor of student persistence. They also highlighted the value added for understanding the relationship of what happened to students and why, as a way to address the retention performance indicator used by accrediting bodies in higher education.

The researchers identified seven retention constructs as the independent variables and institutional commitment as the dependent variable. The constructs included: (a) organizational characteristics defined as mission, size, wealth, productivity, and selectivity, (b) pre-college characteristics defined as aptitude, personality, ethnicity, age, pre-college experiences, (c) encouragement from significant others, (d) financial aid and attitudes referring to the students' ability to pay and student perceptions, (e) social integration and social growth referring to student connection to the institution and relationships formed, and (f) academic integration and grade point average defined as the students' abiding by the normative structure of the institution. The constructs grounded in the literature of retention and persistence reflect the combined theoretical frameworks of Bean 1980, Astin 1991, Pascarella & Terenzini 1991 (Strauss & Volkwein, 2004).

Strauss and Volkwein (2004) used a quantitative methodological approach. They conducted a multivariate analysis using hierarchical modeling. The study uses a cross-sectional research design and draws from 51 public institutions of which 28 were two-year institutions and 23 were four-year institutions. Three pre-college characteristics were found to be statistically significant. Student age was found to be a significant predictor of institutional commitment at $p < 0.05$ level. Older students on average have a higher institutional commitment. Underrepresented student group members and institutional commitment were found significant at the $p < 0.01$ with a -0.08 slope

indicating that their institutional commitment level is lower than that of their white counterparts. It was also found that first-year students at two-year colleges had slightly higher institutional commitment than four-year college students had. Student satisfaction, sense of belonging, and willingness to attend were found to influence student institutional commitment (Strauss & Volkwein, 2004). This finding is supported by the 2007 work of Hausmann, Schofield, and Woods. The research study by Hausmann et al. (2007) was conducted at a large public institution with full-time first-time students. The population represented all 254 of the institution's African American students and a random sample of 291 of their white counterparts. The study found a positive relationship among a sense of belonging, institutional commitment, and intentions to persist at the start of the academic year.

Hossler et al. (2008) reiterate the research findings that student commitment at the end of the first year is a strong predictor of intent and actual persistence (Bean, 1980; Strauss & Volkwein, 2004). These findings collaborate the results of Hausmann et al. (2007), which found a positive relationship among sense of belonging, institutional commitment, and intentions to persist at the start of the academic year for first-year students. The findings further suggest that institutions need to harness and sustain student commitment throughout the first year. Strauss and Volkwein postulate that the strongest influence on institutional commitment stemmed from organizational characteristics from student-level variables and subsequent campus experiences. The researchers state “if the relationship between institutional commitment and persistence holds for most two-year and four-year students, we gained an important tool at predicting persistence as a result of this investigation” (Strauss & Volkwein, 2004, p. 221). Robbins

et al. (2004) cites the 2001 findings of Khan and Nauta revealing that self-efficacy beliefs and performance goals are significant predictors of return to the second semester.

The work of Strauss & Volkwein (2004) supported institutional practice level mitigation and mediation of institutional commitment and gave credence to this study and the use of Hogan's adapted organizational commitment model.

The work of Hogan (2012) supported the underpinnings of Bean's earlier work on organizational turnover by aligning student persistence with organizational commitment and defining intent as being analogous to the organizational behavior literature's withdrawal cognitions. Hogan proposed using an organizational employees' intent to leave model to predict student persistence. The researcher postulated that there were three types of commitments. Affective, normative, and continuance commitment resulted from different causes and resulted in different attitudes and behaviors (Hogan, 2012). Commitment refers to the students' attachment to the institution for various reasons; it further defines the students' academic goal or purpose and the students' behavior in response to their levels of commitment resulting in the outcome of persistence or withdrawal (Bean, 2003; Hogan, 2012;).

The research study by Hogan (2012) adapted measures of organizational commitment and withdrawal cognitions from the organizational behavior literature to college students' persistence. Using the literature on student persistence (Le et al., 2005; Rendon, 1994; Robbins, 2004; Tinto, 1993), Hogan (2012) posited an integrated model where she adapted the theory of individual attachment to an organization, developed from research on turnover in work organizations, as the basis to develop measures of student commitment to persist.

The researcher adopted the organizational commitment literature's findings that workers experience three independent types of commitment to an organization. The three types of commitments were identified as affective commitment, which refers to the workers' emotional attachment to the organization; normative commitment, which refers to the workers' sense of obligation to the employer; and continuance commitment, which refers to the workers' judgment that the costs of leaving the job are too high. The organizational literature research suggests that the three types of commitments result from different causes and lead to different behaviors and attitudes in response. The researcher also explored a possible contributing factor to commitment that is not addressed in the organizational behavior literature and that is the feelings of obligation to family (Hogan, 2012). The researcher postulated that many students pursue college and persist because of family pressure and/or obligation and may feel that they owe it to their families to persist.

The methodological design created close analogies among the three levels of organizational commitment with items that were determined to be meaningful to students. The measurement qualities were assessed in a database of student responses with the additional item to explore family obligation. Additionally, items were added to assess students' intentions to persist in college and were made similar to withdrawal cognitions in the literature on work organizations.

Exploratory factor analysis was employed to observe the structure of commitment, family obligation, and withdrawal cognition items, and assess the similarity of the obtained structure to those obtained from work organizations. If needed, composite scales were created to assess the relationships between commitment and

withdrawal cognitions. Psychosocial variables were measured on a seven-point Likert scale. A stepwise multiple regression was used to assess the degree to which demographic and commitment variables predict withdrawal cognitions. A convenience sample was administered a paper survey of all class levels at a mid-sized 4-year public university. The participants included 215 female students and 143 male students ages 18 to 49 with a mean age of 20.9. Ninety one percent of the respondents were white, 110 freshmen, 26 sophomores, 73 juniors, and 148 seniors. The population and profile were generally representative of the general student population.

The findings supported the idea that institutional commitment is a multidimensional construct. Only partial support for the three levels of commitment was found; affective commitment showed to be a relevant dimension for students. No clear distinction between normative and continuance commitment was found. The researcher postulated that this outcome might be a result of the wording of the items constructed to address these variables. Student persistence due to family obligation was supported. The researcher purported that these findings suggest a blending of this construct with that of the normative and continuance commitments.

Counter intuitively, feelings of family obligation correlated highly with withdrawal cognitions. Withdrawal cognitions measure the students' frequency of thoughts about withdrawing. The researcher suggested that future studies explore the adaptation of organizational commitment and withdrawal cognitions with consideration to issues around measurement and items that would more pointedly address the constructs of normative and continuance commitment as well as alternate wording (Hogan, 2012). The researcher also noted that a student might be committed to earn a degree, but not

attached to the first institution. Hausmann et al. (2007) found that parental support was statistically significant for predicting changes in intentions to persist. The researchers also found that the relationship among parental support, sense of belonging, and peer interactions existed at the start of the academic year as opposed to developing overtime. This suggested that understanding the students' commitment level at the start of their first year has implications for institutional practice. The relationship between parental support and sense of belonging at the start of the academic year was particularly strong for African American students. Peer interactions were associated with an increase in sense of belonging for African American students compared to a faster decline in sense of belonging for their white counterparts. These findings also have direct implications for institutional practice. The researchers found there was statistically significant variability in the rate of change for intentions to persist but found that the absolute change over the course of the academic year was small, and most students evidenced very strong intentions to persist.

Contrary to Tinto's theory, the research of Hausmann et al. (2007) found that students' background characteristics, including socio-economic status, race, gender, and academic preparation levels had "relatively little impact on the variables included" in the study. This research suggested that institutional practices that intentionally target interventions early in the students' engagement with the institution, during the pre-term, at the point of admission, or during the first semester are important (Hausmann, Schofield, & Woods, 2007, p. 833).

Institutional practices. It is what institutions do (their culture, values, beliefs) rather than what institutions are that has the most profound impact on student persistence

(Terenzini, Ro, & Yin, 2012). Extending the bridge to connect theory and effective practice is a necessary antecedent to improving student persistence (Hossler, Moore III, Ziskin, & Wakhungu, 2008). Implications for practice focused the conversation less on the right theory and more pointedly on the action of how theory can help guide institutions to address the complex challenges of persistence and retention for underrepresented students (Tinto, 2012).

The research presented strong implications for the identification and implementation of institutional practices in support of student commitment. Institutional practices were also referred to as policy levers in the literature, a term coined by the 2001 work of Braxton and McClendon (Hossler, Moore III, Ziskin, & Wakhungu, 2008).

The research of Hossler et al. (2008) investigated the role of institutional practices, structures, and student behaviors and their persistence to the second year at the same institution. Primary data on full-time, first-time, first-year students at three four-year colleges in three states was collected. Two colleges were identified as commuter campuses and one residential campus was also designated as a historically black college.

Students completed a written questionnaire in their classes at all three institutions. The survey contained items on students' attitudes and beliefs related to college, the behaviors, and experiences of students in their first year at the institutions as well as information on institutional data pertaining to student background characteristics, precollege academic experience, and enrollment were combined with student questionnaire data. The response rates for the commuter campuses were 60% and 43%, respectively, and the residential campus had a response rate of slightly over 45%. It is important to note that the researchers do not identify the actual number of student

participants. A logistic regression analysis was also used to examine the research question “How do students’ experiences with institutional policy levers (such as orientation, advising, etc.) affect student persistence?” (Hossler, Moore III, Ziskin, & Wakhungu, 2008).

The finding that family encouragement was the strongest predictor and the only statistically significant variable across all three institutions reinforced the findings of both Hausmann et al. (2007) and Hogan (2012). Hausmann et al. (2007) found that parental support was statistically significant for predicting changes in intentions to persist. The researchers also found that the relationship among parental support, sense of belonging, and peer interactions existed at the start of the academic year as opposed to developing overtime. Hogan (2012) found that affective commitment showed to be a relevant dimension for students. Student persistence due to family obligation was also supported by the findings.

Further, Bailey and Alfonso (2005) posited that research on institutional practices in general, and specifically on counseling and advising was limited for community colleges. Identifying measurable constructs that inform the institution of the students’ intent and afford opportunities for institutions to create concrete and actionable strategies for practice is the defining mark for the evolution of persistence and retention studies in the 21st century (Hagedorn , 2012).

Roos’s (2012) research examined the institutional practice of advising and the non-cognitive risk factors that are not identified by academic or demographic data using the Student Strengths Inventory (SSI) survey instrument. The SSI’s psychosocial variables include self-efficacy, academic engagement, campus engagement, resiliency,

social comfort, and educational commitment. His research addressed the relationship between first-year student retention and the use of the SSI information by students and advisors. He found that the use of the SSI survey for first generation students to be statistically significant for retention. This subgroup had the highest retention rate of all groups studied. The two factors of self-efficacy and resiliency were found to be statistically significant as well.

Chapter Summary

The chapter facilitated an understanding of the empirical research completed over the past 30 years that has pointed to the value added by shaping the scholarship with theoretical framework integration and the clear attribution of 75–80% variance benefit to other than academic indicators. It further provided a summary review of the literature, strengthening the reader’s contextual knowledge on community colleges, underrepresented first-year students, and the historic context on persistence and retention. This chapter demonstrated gaps in the literature and provided support for keen opportunities for future research on the influence of psychosocial or non-cognitive factors, in particular commitment, and its predictability of student persistence, a required antecedent to degree attainment (Astin & Osequera, 2012).

Further, Hogan’s (2012) work has documented retention researchers’ support for the use of the organizational business model and its ability to predict employees’ intent to quit and its potential for predicting student persistence intent. This analysis is keen in further advancing the field’s understanding of the relationship between first-year underrepresented students’ commitment and other psychosocial factors as predictors of their intent to persist and their actual persistence. Being a successful student demands the

development of academic skills, but also requires commitment and persistence. Roos and Hogan's (2012) research served as the foundational support for this study. Chapter 3 describes how the prior research and literature informed the present study and outlines the research design methodology.

Chapter 3: Research Design Methodology

Introduction

This chapter discusses the methodology of the study in detail. This study examined an organizational behavior model of employee work commitment as applied to the context of community college student commitment and persistence (Hogan, 2012; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). The study modeled the research integration of Hogan (2012) and Roos (2012) using a quantitative approach. Specifically, this study examined the relationships among first-year underrepresented community college student persistence (as measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment), the predictor variables of the Freeman-Butler student commitment subscales, and the Student Strengths Inventory (SSI) psychosocial variables.

The purpose of this research was to understand the contributing psychosocial factors to the achievement and persistence of first-year underrepresented community college students. It was the intent of this research to determine the percentage of the variance commitment and other psychosocial factors had on persistence and if those factors could predict underrepresented community college student persistence.

Specifically, this study sought to determine the predictability of the relationship among the predictor variables of the Freeman-Butler subscales of commitment (normative, continuance, affective, and intent); the SSI psychosocial factors (educational commitment, academic self-efficacy, academic engagement, resiliency, campus

engagement, and social comfort); and the dependent variables of persistence (as measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment).

Alternative models for explaining persistence were built on the “process models of organizational turnover and attitude–behavior interaction” (Cabrera, Castaneda, & Nora 1993, p. 125). Hogan’s (2012) work on adapting measures of organizational commitment to college student persistence supported the fundamental premise of Bean’s (1980, 1985) earlier works on attrition. Roos’s (2012) work on the relationship among first-year student retention, non-cognitive risk factors, and advising was built on the premise that the use of data on educational commitment, among other factors, played an instrumental role for informing practice. The research of Roos and Hogan (2012) research served as the impetus for this study. The following research questions guided this study.

1. What are the relationships between underrepresented community college student commitment (defined as affective, continuance, normative, educational, and intent to commit) and their persistence (measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment)?

2. What are the relationship associations among underrepresented community college student commitment (defined as affective, continuance, normative, educational, and intent to commit), psychosocial behaviors/non-cognitive factors (defined as educational commitment, academic self-efficacy, academic engagement, resiliency, campus engagement, and social comfort), and persistence (measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment)?

For the purposes of this study, students passing 67% of credits attempted with a GPA of 1.50 or greater and second semester re-enrollment operationalized persistence. Persistence referred to the student's decision to re-enroll, making measurable satisfactory academic progress throughout the educational pipeline (Mortenson, 2012). Satisfactory progress was defined as students earning 67% of credits attempted and achieving a minimum cumulative GPA of 1.50 or higher depending on level of remediation, and the number of credits earned in their first semester (LaGuardia Community College Enrollment Services, 2013).

The non-experimental design of this study used a logistic regression analysis. Logistic regression statistics are appropriate for understanding relationships and predicting the presence or absence of a characteristic or outcome based on the values of predictive variables used in the study. For this study, it was used to predict students passing 67% of credits attempted (or not), with a GPA of 1.50 or greater (or not), and second semester re-enrollment (or not) (Sweet & Grace-Martin, 2008).

The independent variables were measured by quantitative, self-report surveys. Two of three constructs and the items from Hogan's (2012) research were adapted and reworded. Fourteen revised items were added to the customized section of the Campus Labs Student Strengths Inventory (SSI). The SSI has educational commitment as one of its inventory's six variables and defines educational commitment as the student's dedication to college and the value placed on a college degree (Leuwerke & Dervisevic, 2008).

As part of Hogan's recommendations for future studies, she suggested that items be added to refine the organizational behavior literature's definition and her redefinition

of the constructs of normative and continuance commitment. Normative commitment was defined in the organizational behavior literature as a sense of the employees' obligation to the employer or to remain in the organization; the construct of continuance commitment was defined as the employees' sense that the costs for leaving the job were too high (Hogan, 2012; Meyer et al., 2002). For the purposes of her study, Hogan (2012) defined normative commitment as a student feeling a sense of obligation because administrators, staff, and instructors had given the student so much. The researcher defined continuance commitment as the student's sense that the financial and emotional costs of leaving the institution to pursue other opportunities compared to the costs of staying is greater (Hogan, 2012).

The operational definitions of the key constructs for the purposes of this study were:

Normative commitment was redefined to include the students' feelings of obligation to family. Students may persist or not because of family expectations and/or pressure from their parents or those who have influence in their lives. Hogan (2012) examined this aspect of family commitment as a separate variable. Continuance commitment was redefined to include the weight that students give the socio-economic, emotional, and quality of life impact of leaving the institution and not obtaining their academic goal compared to staying and persisting. Hogan's study used a convenience sample of 362 students with variables that parallel Myer and Allen's measures of organizational commitment (Hogan, 2012). The organizational commitment variables were affective, normative, and continuance. She also adapted the withdrawal cognition variable, which referred to individuals thinking about quitting or leaving prior to the actual act of

quitting. Hogan suggested that withdrawal cognitions served as an opportunity to mediate versus predicting student dropouts. For the purposes of this study, withdrawal cognition was renamed intent to commit. Intent to commit referred to students having doubts about attending college or thinking about leaving college.

The research by Roos (2012) research examined non-cognitive risk factors that were not identified by academic or demographic data using the Student Strengths Inventory (SSI) survey instrument. The SSI's non-cognitive variables included self-efficacy, academic engagement, campus engagement, resiliency, social comfort, and educational commitment. Table 1.1 outlines the scale, definitions, and sample items. The researcher administered the 48-item survey to 1,054 students registered in a United States Midwestern four-year college, first-year experience course during a one-week period in October 2009. Roos randomly selected 200 students and asked advisors to use the SSI information to help students create an individualized action plan. Leuwerke and Dervisevic (2008) report that both rational and factor analyses were used to measure the SSI's six factors.

The six-factor structure was also found to converge in 11 iterations, accounting for 45% of variance among items. Cronbach's alphas ranged from 0.81 to 0.90. The SSI retention probability for first- to second-year students not retained had a mean of 59.41 with an SD of 24.71. The SSI predictive validity accurately identified 65.5% of student academic outcomes when using the high school GPA and the SSI indices (Roos, 2012). The researcher recommended that future research replicate the study using other student demographics and a larger sample size among other recommendations related to institutional practice.

Research Context

This study took place in an urban community college located in Queens, New York. The college offered degree and non-degree programs to more than 18,000 degree-seeking students and 30,000 non-credit students. The college was part of a larger public university system and one of seven community colleges within a system of 24 colleges including four-year institutions, graduate programs, and professional study programs. The college had a diverse student population with a degree-seeking student demographic population that is 58% female and 42% male. The student ethnic population breakdown was 21% Asian, 19% Black (non-Hispanic), 44% Hispanic, 13% White (non-Hispanic), and 3% other. Fifty percent of students were born outside the U.S. and from 161 countries, speaking 124 languages.

Seventy percent of the incoming students for the fall 2011 semester tested into one or more remedial courses. Fifty-six percent of degree-seeking students were full-time and 44% were part-time, with 60% of students receiving financial aid. The past three academic years showed a downward first-year retention trend moving from 68% in 2009 to 65% in 2011 for first-time, full-time students and from 48% in 2009 to 45% in 2010 for first-time, part-time students with a slight uptick in 2011 to 50%. The college was losing 34% of all first-time, full-time students and 50% of first-time part-time students (LaGuardia Community College Office of Institutional Research, 2012).

Research Participants

The total population of incoming students during the fall 2013 semester was 2,993 first-year students. A random sample of the college's 2,993 incoming first-year students was conducted. Two hundred fifty students were randomly selected to capture the

required minimum of 1% or 30 members of the 2,993 population for the purposes of administering the alpha Cronbach split half reliability test before rolling out the survey to the entire population. Random numbers were generated in Excel using the RANDBETWEEN function. This function specified the range of numbers to choose from (Sweet & Grace-Martin, 2008). For the purposes of this study, every twelfth student was identified as part of the systematic random sample. The college’s annual incoming student enrollment is approximately 12,000. Table 3.1 outlines the semester enrollment and the incoming students’ enrollment status (LaGuardia Community College Office of Institutional Research, 2012).

Table 3.1

Study Site 2013–2014 Annual Enrollment

Semesters	College Annual Enrollment		
	Semester Enrollment	Enrollment by Status	
		First time In	Transfer Non-degree
Fall 2013	7167	2993	1568 2606
Spring 2014	5349	1806	864 2976

Note: LaGuardia Community College Office of Institutional Research 2013 and 2014.

Instruments Used in Data Collection

The Student Strengths Inventory (SSI) instrument was used for this study (Campus Labs, 2012). This research used institutional data from the 48-item Student Strengths Inventory (SSI) with 14 new items, known as the Freeman-Butler Commitment Subscale, added to the customized section as its research survey instrument. The purpose of the SSI was to predict student performance and retention by measuring student non-

cognitive or psychosocial skills (Roos, 2012). The 14 revised items were added to the customized section of the Student Strengths Inventory. The SSI including the customized section, for the purposes of this study, was known as the modified SSI survey instrument. The modified SSI survey instrument was administered to the population. The survey used a six point Likert scale response format ranging from strongly disagree to strongly agree. The purpose of the modified SSI instrument was to add the five subscales of commitment to the instrument and predict persistence outcomes. The study also explored the predictive relationship among the Freeman-Butler subscales of commitment, adapted from Hogan's (2012) findings, the SSI psychosocial variables (Figure 1.1), and the dependent variables of persistence (as measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment). The four subscales of commitment were identified with definitions and 14 corresponding items. Table 3.2 outlines the Freeman-Butler Subscale.

Table 3.2

Freeman-Butler Commitment Subscale

Scale	Definitions	Item
Normative Commitment	The students' feelings of obligation to family and others who have influence in their lives. Students persist because of the expectations of and/or family, parents and others who have influence in their lives	I feel pressured by my family and others who have influence in my life to finish college.
		I feel I owe it to my family to finish college.
		My family would be disappointed if I dropped out of college.
Continuance Commitment	Students' weighting the socio-economic, emotional and quality of life impact of leaving the institution and not obtaining their academic goal compared to staying and persisting	I would disappoint myself if I did not attend college or dropped out.
		I came to college because it is a once in a lifetime opportunity.
		It was my own decision to come to college.
		Leaving college would create more challenges for me than remaining.
Affective Commitment	The students' sense of belonging, their overall satisfaction, and perception of educational quality and their intent to re-enroll in the institution This variable is also referred to as institutional commitment.	I have a strong desire to attend this college.
		I chose this college as my first choice.
		I feel more strongly about coming to college than my family does.
Intent to Commit	Students thinking about not attending college	I have had doubts about attending this college.
		I have had doubts about attending College in general.
		I have frequently thought about not attending College.
		When I think about not attending college, I feel very strongly that college is not for me.

The fifth subscale of commitment, educational commitment, was part of the SSI's six-scale, 48-item instrument. SSI defined educational commitment as the student's dedication to college and the value placed on a college degree (Leuwerke & Dervisevic, 2008). Using survey research, the study examined the characteristics of the sample and the relationship between the independent variables of the Freeman-Butler subscales of commitment stand-alone and combined with the SSI psychosocial factors, and the dependent variables of persistence.

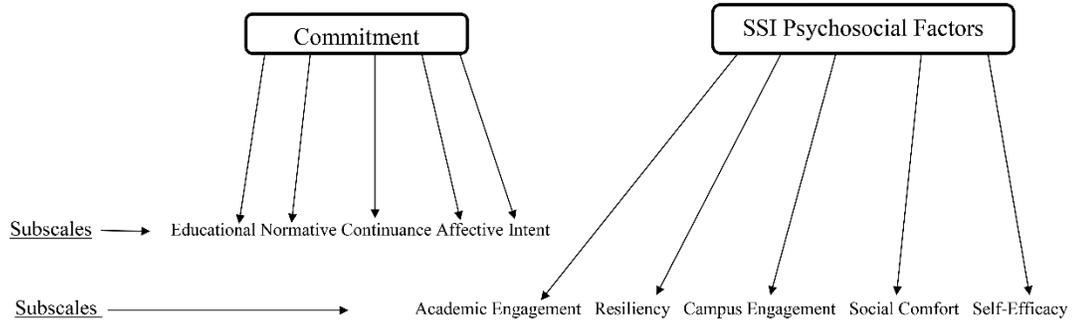
The SSI including the additional 14 items using the re-defined constructs were reviewed to determine its validity by a panel of experts. Dr. John Gardener and Dr. Betsy Barefoot were both authors and scholars of the first-year college experience, retention, and students in transition and served as the panel of experts for this study. The SSI including the additional 14 items was launched as a pilot in the Survey Monkey instrument to a randomly selected sample of 250 students to capture 1% of the 2,993 or 30 first-year students. The RANDBETWEEN function in Excel was used to identify the 250 sample. An email was sent to the sample with the survey link.

A structural model for the modified SSI was outlined in Figure 3.1. The structural model was tested against the obtained measurement data to determine how well the model fits the data. The structural model was used because of its capacity to construct underlying variables that are not measured directly but are estimated based on the measured variables (Sweet & Grace-Martin, 2008). The measurement for the grade point average (GPA of 1.50 or greater) was organized as discrete instead of scale and was recoded as a dichotomous variable, which allowed it to meet the requirements for binary logistic regression.

The discrete measurement for GPA was used to allow for comparative analyses of the three persistence variables measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment. Data was collected during the student's first semester. The population was invited to participate by e-mail and they received an electronic link on their college-customized page. Reminder e-mails were sent weekly. The email content included the following script: Your help is needed! We only need 10-15 minutes of your time. We value your opinion and it will help us learn more about what we can do to help you succeed. Please take the time to share your thoughts. Starting with today (list date) through (list date) you have the opportunity to complete this survey. The survey is voluntary and by taking the survey, you give permission to use your anonymous responses to understand the needs of students. Thank you for taking time to complete the survey.

The customized web page was the student portal component of the college's web site that the institution used to communicate with students through targeted messaging. The link provided direct access to the survey and began with a welcome header, which included the following welcome message: We are asking you to complete the Student Strengths Inventory. It is important that you answer these questions honestly. The information that you provide in this survey will help us to assist you in being the best you can be. Please fill out the survey to the best of your ability. Many of the questions require reflection and self-assessment. After completing the survey students received a scripted thank you message that said we appreciate the answers you provided and will put the information to good use in providing the appropriate resources to support your success. Completed survey results were immediately available to the researcher.

Commitment & SSI Psychosocial Structural Model



Level of Measurement: Continuous

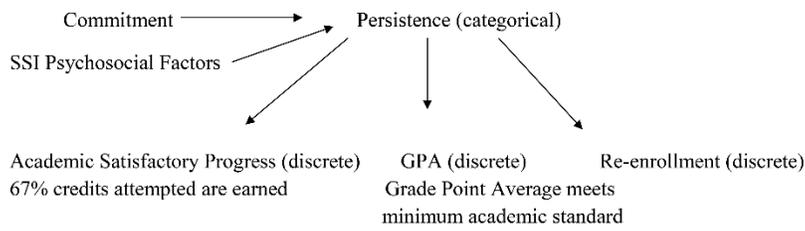


Figure 3.1. Model constructs for the commitment and psychosocial structural models. The commitment subscales and psychosocial factors are shown at the base of the rectangles, and the persistence variables are shown at the base of the arrows.

Data Analysis

Preliminary data analyses preparation included data entry and data cleaning that identified and captured those who met the first-year underrepresented student criteria. The alpha Cronbach Guttman split half reliability test was used to measure internal consistency among the Freeman-Butler commitment subscale items as well as between the items of the SSI and the Freeman-Butler commitment subscale. The Guttman split half reliability correlation addressed the need of this study by more directly measuring how the items were related to the constructs (Phelan & Wren, 2005–2006).

The analyses included frequencies and descriptive statistics. The descriptive statistics provided summaries about the sample and the data observations made. The summaries are both quantitative in the form of summary statistics and displayed visually in the form of graphs and charts. These summaries formed the basis of the initial description of data and were part of more extensive statistical analyses.

The relationship among the predictor variables of the Freeman-Butler Commitment subscales, the SSI psychosocial factors, and the outcome variables of persistence (PASS 67% of credits attempted, GPA of 1.50 and greater, and Spring 2014 re-enrollment) was established by using the Statistical Procedures for Social Science (SPSS) version 22. Specifically, binary logistic regression analysis was used to predict the likelihood of the predictor variables, the Freeman-Butler subscales, and the SSI psychosocial factors as measured by probability and odds (Sweet & Grace-Martin, 2008).

A binary logistic regression analysis approach was performed to understand the presence or absence of the variables of passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment and to investigate predictability. Binary

logistic regression analysis uses the independent variables to approximate the odds of occurrence of one of the categorical dependent variables. For example, in this study, the binary logistic regression model gave the likelihood of a student exhibiting commitment and/or other psychosocial behaviors to their persistence in the first year. The binary logistic regression process produced a set of regression formulas with logistic regression coefficients that indicated the strength of the relationship between the independent and dependent variables. The odds ratio told the researcher how many times higher the odds of occurrence were for each incremental change in the independent variable. The -2 Log likelihood, the Cox & Snell R square, and the Nagelkerke R square tests are included in the logistic regression output. The 2 R² statistics, Cox & Snell, and Nagelkerke are pseudo R² and have the same interpretation as R² in a regular linear regression percent of variability of the dependent variable as explained by the independent variables. For the purposes of this study, the Cox & Snell test will be used to explain the variance. Lastly, the sig. column of the logistic regression output shows the significance of the relationship (Sweet & Grace-Martin, 2008).

There were two research questions examined in this study. Research Question 1 examined the relationships between underrepresented community college student commitment (defined as affective, continuance, normative, educational, and intent to commit) and persistence. Binary logistic regression was used to analyze the data for this question (measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment). The significance between and among the predictor and outcome variables, and the percent of variability of persistence (measured by the three

dichotomous variables of passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment) were documented and analyzed.

Research Question 2 examined the relationships among underrepresented community college student commitment (defined as affective, continuance, normative, educational and intent to commit), psychosocial factors (defined as educational commitment, academic self-efficacy, academic engagement, resiliency, campus engagement, and social comfort), and persistence (measured by the three dichotomous variables of passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment). Binary logistic regression was used to analyze the data for this question. The significance between and among the predictor and outcome variables, and the percent of variability of persistence (measured by the three dichotomous variables of passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment) were documented and analyzed.

Chapter Summary

This chapter summarized the process for creating a survey tool that blended the theoretical frameworks of education, psychology, and organizational behavior literatures. It further outlined the data collection and analyses processes.

Chapter 4: Results

The relationship between student commitment and persistence for first-year underrepresented community college students was analyzed by using the Statistical Procedures for Social Science (SPSS). The study was conducted as part of the institution's rollout of its First Year Initiative in the fall 2013 semester and focused on the fall to spring persistence of the 204 underrepresented student population. The quantitative research design included a pilot survey created in Survey Monkey for the purposes of conducting the Cronbach alpha split half reliability test (Finley, 2014). This research used institutional data from the 48-item Student Strengths Inventory (SSI) with 14 new items, known as the Freeman-Butler Commitment Subscale, added to the customized section as its research survey instrument.

The research survey instrument was administered to the population of 2,993 first-year students new to the research site in the fall 2013 semester from September 16, 2013, through November 29, 2013. The data yielded 277 respondents with 204 underrepresented students. The underrepresented students self-identified as Hispanic, Black, Native Hawaiian, and Native American. The 277 respondents' demographic data is presented in Table 4.1. Demographic data was self-reported by the student respondents with missing age demographic responses retrieved from institutional archival data. Descriptive statistics with frequency distributions were used to provide a profile of the sample. This chapter outlines the results of the study starting with descriptive statistics and moving to inferential statistics.

Table 4.1

Summary of Respondents' Demographics

Population Ages							
N	Valid	276					
	Missing	1					
Mean	23.24						
Median	21.00						
Percentiles	25	19.00					
	50	21.00					
	75	26.00					
Population Gender							
Valid	1	.4					
Female	182	65.7					
Male	92	33.2					
Not Specified	2	.7					
Total	277	100.0					
Race & Ethnicity							
		White	American Indian	Asian	Black	Native Hawaiian	Latino
N	Valid	29	4	40	66	2	132
	Missing	248	273	237	211	275	145
Total		277	277	277	277	277	277

Note: The fall 2013 total enrollment for the study site was 18,836 students.

Research Questions

There were two research questions examined in this study. Research Question 1 examined the relationships between underrepresented community college student commitment (defined as affective, continuance, normative, educational, and intent to commit) and persistence (measured by the three dichotomous variables of passing 67% of

credits attempted, GPA of 1.50 or greater, and second semester re-enrollment). Research Question 2 examined the relationships among underrepresented community college student commitment (defined as affective, continuance, normative, educational, and intent to commit), psychosocial factors (defined as educational commitment, academic self-efficacy, academic engagement, resiliency, campus engagement, and social comfort), and persistence (measured by the three dichotomous variables of passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment). Binary logistic regression was used to analyze the data for this question.

Data Analysis and Findings

Preliminary data analyses included data mining, screening, and reliability of measures. Descriptive statistics and binary logistic regression were utilized in the study to present and analyze the data. The data was organized and prepared by mapping the 62 items to the appropriate constructs, coding participants by gender, age, and by those who identified as meeting the underrepresented.

Reliability Statistics

Cronbach's alpha Guttman split half reliability test was used to ensure the reliability of the Freeman-Butler Commitment Subscale conjoined with the SSI instrument. The Subscale constructs and items were added to the customized section of the 48-item Student Strength Inventory instrument. The Freeman-Butler Commitment Subscale consisted of 14 items with a six-point Likert scale. The fifth subscale of commitment, educational commitment, is part of the SSI's six-scale 48-item instrument. The SSI's educational commitment construct consists of eight items. As shown in Table 4.2, the Cronbach alpha Guttman split half reliability statistic was used to determine

whether the items in the Freeman-Butler Commitment Subscale combined with the 48-item SSI survey, including the eight-item educational commitment construct, accurately measures what it asserts to measure.

Table 4.2

Statistical Data of the Cronbach Alpha Reliability Test for the Respondents to the Survey Pilot

Reliability Statistics			
Cronbach's Alpha	Part 1	Value	.637
		N of Items	31a
	Part 2	Value	.563
		N of Items	31b
		Total N of Items	62
Correlation Between Forms			.562
Spearman-Brown Coefficient	Equal Length		.720
	Unequal Length		.720
Guttman Split-Half Coefficient			.719

Note: The Cronbach alpha Guttman split half statistics for the 62 items was 0.719 and demonstrated a reasonably good degree of internal consistency.

A Cronbach alpha equal to 0.70 or higher on an index with four or more indicators suggests reasonably good reliability and confirms the internal consistency of a scale (Sweet & Grace-Martin, 2008). The next section reviews the sample demographics of 204 respondents. Gender, age, race, and ethnicity data are outlined in Tables 4.3 and 4.4, and Figure 4.1. The ages range from 17–62 with a mean age of 23. The race and ethnic demographics are similar to the general enrollment of 18,836 students.

Table 4.3

Gender Frequencies and Percentages of the Underrepresented Student Sample

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Female	134	65.7	65.7	65.7
Male	69	33.8	33.8	99.5
Not Specified	1	.5	.5	100.0
Total	204	100.0	100.0	

Note: The frequency distribution of 65.7% females and 33.8% males was consistent with the general student population.

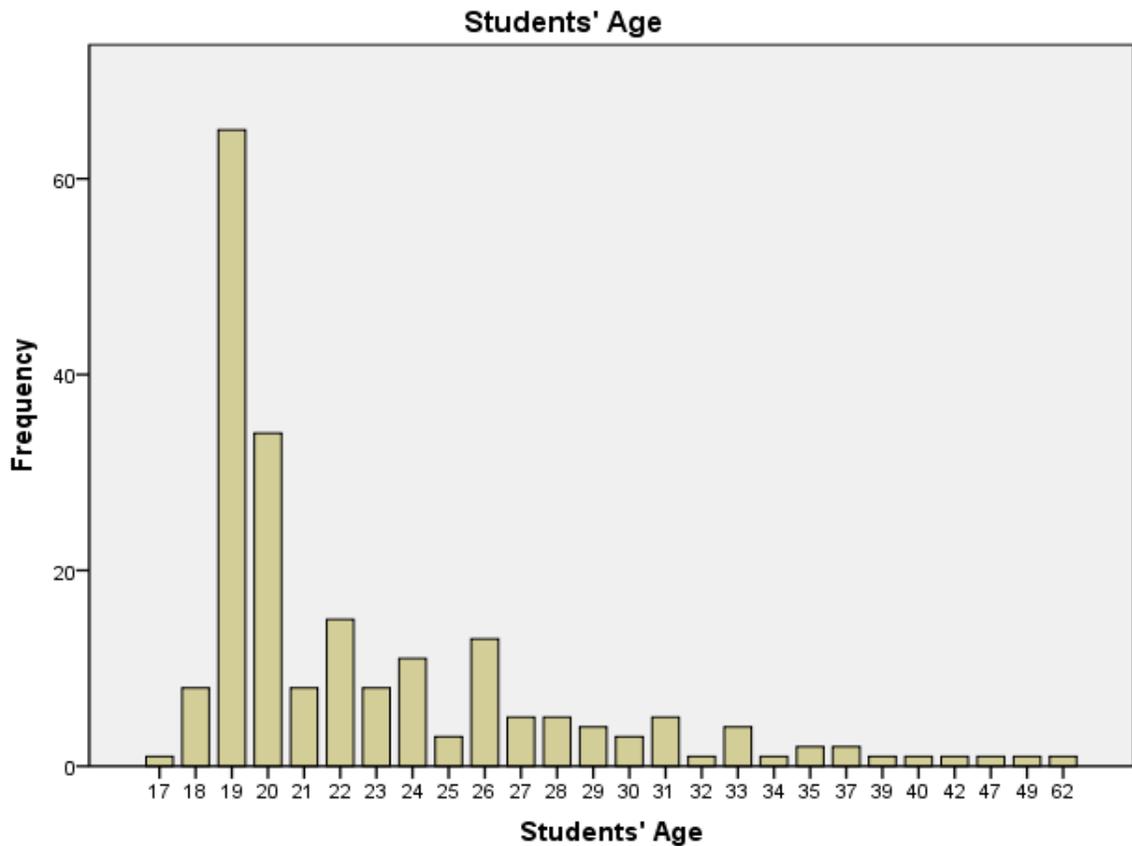


Figure 4.1. The age distribution of respondents. N = 204 with a mean age of 23.

Table 4.4

Race and Ethnic Sample Demographics

Race and Ethnicity of Sample				
	Frequency	Percent	Valid Percent	Cumulative Percent
American Indian/Alaska				
Native				
Valid	2	.7	100.0	100.0
1	275	99.3		
No Response	277	100.0		
Total	2	.7	100.0	100.0
Black/African American				
Valid	66	23.8	100.0	100.0
1	211	76.2		
No Response	277	100.0		
Total	66	23.8	100.0	100.0
Latino/Hispanic				
Valid	132	47.7	100.0	100.0
1	145	52.3		
No Response	277	100.0		
Total	132	47.7	100.0	100.0
Native Hawaiian/Pacific				
Islander				
Valid	4	1.4	100.0	100.0
1	273	98.6		
No Response	277	100.0		
Total	4	1.4	100.0	100.0

Note: N = 204 and represents 73.6% of the respondents. Almost half of the population are Hispanic (47.7%), 23.8% are Black, 1.4% are Native Hawaiian/Pacific Islander, and 0.7% are American Indian.

Research Questions

Research Question 1 examined the relationships between underrepresented community college student commitment (defined as affective, continuance, normative, educational and intent to commit) and persistence (measured by the three dichotomous variables of passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment). Specifically question 1 asked what are the relationship associations between underrepresented community college student commitment (defined as affective, continuance, normative, educational and intent to commit) and persistence (measured by the three dichotomous variables of passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment). A sample 204 underrepresented students was evaluated to determine whether the students who exhibited positive responses to commitment showed an increase in persistence. The sample included 204 underrepresented students identified by race and ethnicity and is listed in Table 4.4. Three binary logistic regressions were run to analyze the data for the three dependent variables of persistence to answer this question.

The binary logistic regression analysis required that the three dependent variables (measured by the three dichotomous variables of passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment) of persistence be dichotomous. The GPA variable was re-coded as a dichotomous variable to meet the conditions for logistic regression. As part of the recoding process, data from the institutional student record was used to verify the GPA. All students meeting the conditions for underrepresented status were categorized and labeled as underrepresented. Their

underrepresented status was qualified by racial or ethnic descriptors to distinguish among the groups.

Q1 dependent variable spring attend regression analysis. The null hypothesis model is generated by SPSS in step zero of logistic regression and has no predictor variables. Table 4.9 summarizes the cases and hypothesized that commitment has no influence on spring 2014 attendance. The Classification Table 4.5 showed the model predicted 88.4% of students to attend for the spring 2014 semester and 12% not to attend regardless of their commitment level. The data in the table represents the null hypothesis, which states that the commitment subscales do not influence persistence, specifically spring attend.

Table 4.5

The Null Hypothesis Prediction for Persistence (Spring Attend) for Underrepresented Community College Students

		Classification Table			
		Predicted			
Observed		SPRING 14 ATTEND Semester Re-enrollment			
		1	2		
Step 0	SPRING 14	1	160	0	100.0
	ATTEND	2	21	0	.0
Overall Percentage					100.0
					.0
					88.4

Note: Constant is included in the model. The cut value is 0.500; 21 students did not re-enroll

Table 4.6 indicated no statistical significance for the covariants of the commitment subscale and the dependent co variable of spring attend. There is no statistically significant relationship between the commitment subscale covariants and Spring Attend of the dependent variable, persistence. The null hypothesis is retained.

Table 4.6

Summary of Logistic Regression Analysis Predicting Persistence (Spring Attend) for Underrepresented Community College Students

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1a	EDCOMMIT	-.008	.066	.016	1	.899	.992
	CONTINUA	-.092	.080	1.312	1	.252	.912
	AFFECT	.024	.075	.102	1	.749	1.024
	INTENT	-.022	.055	.155	1	.694	.978
	NORMATIVE	.034	.056	.366	1	.545	1.034
	Constant	-.292	2.710	.012	1	.914	.747

Q1 dependent variable PASS 67% regression analysis. The data in the table represents the null hypothesis model generated by SPSS in step zero of logistic regression and includes no predictor variables. The data in the table represents the null hypothesis, which states that the commitment subscales has no influence on persistence, specifically 67% PASS. The Classification Table 4.7 showed the model predicted 93.3% of students will pass a minimum of 67% of credits attempted in the fall 2013 and 7% will not pass regardless of commitment levels. The table summarizes the cases and hypothesized that commitment has no influence on students passing 67% of credits attempted.

Table 4.7

The Null Hypothesis Prediction for Persistence (PASS 67%) for Underrepresented

Community College Students

		Classification Table			Predicted
Observed		PASS 67% of credits attempted were earned			
			Yes	No	
Step 1	PASS 67% of credits attempted were earned	Yes	168	0	100.0
		No	12	0	.0
Overall Percentage					93.3

Table 4.8 shows no statistical significance for the covariants of the commitment subscale and the dependent co variable of students passing 67% or more of credits attempted. There was no statistically significant relationship between the commitment subscale covariants and the dependent variable, persistence specifically PASS 67%. The null hypothesis is retained.

Table 4.8

Summary of Logistic Regression Analysis Predicting Persistence (PASS 67%) for

Underrepresented Community College Students

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1a						
EDCOMMIT	.216	.141	2.341	1	.126	1.242
CONTINUA	-.140	.108	1.666	1	.197	.869
AFFECT	-.051	.102	.252	1	.616	.950
INTENT	.027	.072	.138	1	.710	1.027

NORMATIVE	-.029	.076	.145	1	.704	.971
Constant	-	5.650	2.115	1	.146	.000
		8.217				

Q1 dependent variable grade point average (GPA). The null hypothesis model is generated by SPSS in step zero stage of logistic regression and includes no predictor variables. The table summarizes the cases and hypothesized that commitment has no influence on the students' GPA of 1.50 and greater. The Classification Table 4.9 showed the model predicted 71.3% of students who achieved a GPA of 1.50 and greater meeting the academic standard. The data in the table represents the null hypothesis, which states that the commitment subscales have no influence on persistence as measured by GPA of 1.50 meeting the academic standard.

Table 4.9

The Null Hypothesis Prediction for Persistence (GPA) for Underrepresented Community College Students

Classification Table					
			Predicted		
			GPA		Percentage Correct
Observed			Yes	No	
Step 0	GPA Grade	Yes	129	0	100.0
	Point Average	No	52	0	.0
Overall Percentage					71.3

The table summarizes the logistic regression analysis predicting GPA of 1.50 and greater. The null hypothesis in this equation hypothesized that commitment has no influence on the students' GPA of 1.50 and greater. Table 4.10 shows no statistical significance for the covariants of the commitment subscale and the dependent co variable

of students who achieved a GPA of 1.50 or greater. There is no statistically significant relationship between the commitment subscale covariants and GPA of 1.50 or greater of the dependent variable, persistence (measured by the three dichotomous variables of passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment). The null hypothesis is retained.

Table 4.10

Summary of Logistic Regression Analysis Predicting for Persistence (GPA) for Underrepresented Community College Students

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	.060	.063	.907	1	.341	1.061
EDCOMMIT	.008	.063	.017	1	.895	1.008
CONTINUA						
AFFECT	-.088	.057	2.363	1	.124	.916
INTENT	-.006	.041	.023	1	.881	.994
NORMATIVE	-.013	.042	.100	1	.751	.987
Constant	-	2.562	.774	1	.379	.105
	2.253					

Research Question 2 examined the relationships among underrepresented community college student commitment (defined as affective, continuance, normative, educational, and intent to commit), psychosocial factors (defined as educational commitment, academic self-efficacy, academic engagement, resiliency, campus engagement, and social comfort), and persistence (measured by the three dichotomous variables of passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment). Specifically, question 2 asked what are the relationships among underrepresented community college student commitment (defined as affective,

continuance, normative, educational and intent to commit), psychosocial factors (defined as academic self-efficacy, academic engagement, resiliency, campus engagement, and social comfort), and persistence. Three binary logistic regressions were run to analyze the data for this question and the three dichotomous variables of persistence. The binary logistic regression analysis required that the three dependent variables (measured by the three dichotomous variables of passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment) of persistence be dichotomous.

Q2 dependent variable grade point average (GPA). The data in the table represented the null hypothesis, which stated that the commitment subscales and SSI psychosocial factors have no relationship with persistence, measured by a GPA of 1.50 and greater. The null hypothesis model is generated by SPSS in step zero of logistic regression, repeated in step one, and includes no predictor variables. The logistic regression classification table with the dependent variable of GPA of 1.50 or greater included 181 student cases, 88.9% of the total 204 sample, in the analysis; 23 student cases were excluded because of missing academic data. The results of the analysis shown in Table 4.11 demonstrated that the model predicted 70.2% of students achieved a GPA of 1.50 or greater meeting the academic minimum standard. The table summarized the cases and hypothesized that the commitment subscales and psychosocial factors have no relationship association with the students' GPA.

Table 4.11

The Null Hypothesis Prediction for Persistence (GPA) for Underrepresented Community College Students

		Classification Table			Predicted
Observed		GPA Grade Point Average - the student's academic standing			
			Yes	No	
Step 0	GPA Grade	Yes	122	7	100.0
	Point Average - the student's academic standing	No	47	5	.0
Overall Percentage					70.2

The results of the analysis shown in Table 4.12 demonstrated statistical significance for the covariant, academic engagement, and the dependent variable persistence measured by Academic engagement $p = 0.038$. The results indicated that students' academic engagement is a significant predictor of a GPA of 1.50 and greater meeting academic satisfactory. The predictor variables of resiliency and campus engagement are trending toward statistical significance $p = 0.061$ and $p = 0.070$ respectively. There was no statistical significance among the remaining predictor variables. The null hypothesis was rejected.

Table 4.12

Summary of logistic Regression Analysis Predicting Persistence (GPA) for

Underrepresented Community College Students

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	EDCOMMIT	.084	.076	1.240	1	.265	1.088
	CONTINUA	.020	.065	.091	1	.762	1.020
	AFFECT	-.063	.061	1.067	1	.302	.939
	INTENT	-.009	.046	.038	1	.846	.991
	NORMATIVE	-.008	.045	.029	1	.864	.992
	ACADEMIC SELF	-.007	.009	.561	1	.454	.993
	EFFICACY						
	ACADEMIC	.017					
	ENGAGEMENT		.008	4.312	1	.038	1.017
	RESILIENCY	-.013	.007	3.508	1	.061	.987
	CAMPUS	-.013	.007	3.292	1	.070	.987
	ENGAGEMENT						
	SOCIAL COMFORT	.005	.008	.415	1	.519	1.005
	CONSTANT	-3.501	2.938	1.419	1	.233	.030

Q2 dependent variable spring attend. The table summarized the cases and hypothesized that the commitment subscales and psychosocial factors have no influence on the students' semester re-enrollment. The null hypothesis model is generated by SPSS in step zero of logistic regression, repeated in step one and includes no predictor variables. The logistic regression summary with the dependent variable of spring attend included 184 student cases, 90.2% of the total 204 sample, in the analysis; 20 student cases were excluded because of missing data. The results of the analysis shown in Table 4.13 demonstrated the model predicted 88% of students' second semester re-enrollment for the spring 2014 semester.

Table 4.13

Null Hypothesis Prediction for Prediction for Persistence (Spring Attend) for

Underrepresented Community College Students

		Classification Table			Predicted
Observed		SPRING ATTEND			
		Semester Re-enrollment			Percentage Correct
			Yes	No	
Step 0	SPRING 14	Yes	162	0	100.0
	ATTEND	No	22	0	.0
	Semester Re-enrollment				
	Overall Percentage				88.0

Table 4.14

Summary of Logistic Regression Analysis Predicting Persistence (Spring Attend) for

Underrepresented Community College Students

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	-.003	.090	.001	1	.976	.997
EDCOMMIT						
CONTINUA	-.094	.087	1.182	1	.277	.910
AFFECT	.085	.083	1.049	1	.306	1.089
INTENT	-.070	.068	1.063	1	.302	.933
NORMATIVE	.009	.064	.018	1	.894	1.009
ACADEMIC SELF	.009	.011	.638	1	.424	1.009
EFFICACY						
ACADEMIC	-.011	.010	1.197	1	.274	.990
ENGAGEMENT						
RESILIENCY	-.015	.010	2.232	1	.135	.985
CAMPUS	.009	.010	.762	1	.383	1.009
ENGAGEMENT						
SOCIAL COMFORT	-.004	.011	.163	1	.687	.996

CONSTANT	.047	3.731	.000	1	.990	1.048
----------	------	-------	------	---	------	-------

The results of the analysis shown in Table 4.14 demonstrated no statistical significance for the covariants and the dependent variable, persistence, measured by Spring Attend. The null hypothesis was retained.

Q2 dependent variable PASS 67% regression analysis. The data in Table 4.15 below represented the null hypothesis, which stated that the commitment subscales and SSI psychosocial factors have no influence on persistence as measured by students passing 67% or more of credits attempted. The logistic regression classification table with the dependent variable PASS 67% included 179 student cases in the analysis, 87.7% of the total 204 sample; 25 student cases were excluded because of missing academic and survey data. The results of the analysis shown in Table 4.15 demonstrated the model predicted 93.3% of students passing 67% or more of credits attempted. The null hypothesis model was generated by SPSS in step 0 of logistic regression, repeated in step one, and includes no predictor variables. The table summarized the cases and hypothesized that the commitment subscales and psychosocial factors have no influence on students passing 67% or more of credits attempted.

Table 4.15

Null Hypothesis Prediction for Persistence (67% PASS) for Underrepresented

Community College Students

		Classification Table			Predicted
Observed		PASS 67% of credits attempted were earned			
			Yes	No	
Step 1	PASS 67% of credits attempted were earned	Yes	168	0	100.0
		No	12	0	.0
Overall Percentage					93.3

The results of the analysis shown in Table 4.16 demonstrated no statistical significance for the covariants and the dependent variable, persistence, as measured by passing 67% of credits attempted. The predictor variable educational commitment is trending toward statistical significance $p = 0.084$. The null hypothesis was retained.

Table 4.16

Summary of Logistic Regression Analysis Predicting Persistence (67% PASS) for

Underrepresented Community College Students

	B	S.E.	Wald	df	Sig.	Exp (B)
Step 1 ^a						
EDCOMMIT	.274	.159	2.984	1	.084	1.315
CONTINUA	-.115	.110	1.087	1	.297	.891
AFFECT	-.056	.108	.265	1	.607	.946
INTENT	-.004	.081	.003	1	.956	.996
NORMATIVE	-.049	.085	.332	1	.565	.952
ACADEMIC SELF EFFICACY	-.010	.016	.375	1	.541	.990
ACADEMIC ENGAGEMENT	-.010	.013	.628	1	.428	.990
RESILIENCY	-.006	.013	.242	1	.623	.994
CAMPUS ENGAGEMENT	-.002	.014	.021	1	.886	.998
SOCIAL COMFORT	.011	.014	.613	1	.434	1.011
CONSTANT	-9.289	6.136	2.292	1	.130	.000

Table 4.17 presents the data for the logistic regression -2 log likelihood, Cox & Snell R^2 , and the Nagelkerke R^2 tests. The -2-log likelihood is used to compare models that have the same terms and one model has one or more additional terms (nested models). The Nagelkerke and Cox & Snell R^2 have the same interpretation, but the Nagelkerke R^2 has an adjusted Cox & Snell. The present study's analysis will focus on the Cox & Snell R^2 data. The Cox & Snell R^2 test has the same interpretation as R^2 in a regular linear regression percent of variability of the dependent variable explained by the independent variables (G. Cohen, personal communication, July 6, 2014). Table 4.17 demonstrated that 14.3% of the variability in persistence (measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-

enrollment) is explained by psychosocial skills (defined as affective, continuance, normative, educational, and intent to commit, academic self-efficacy, academic engagement, resiliency, campus engagement, and social comfort).

Table 4.17

Summary of Logistic Regression Variance Explained for Underrepresented Community College Students

Step 1	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
Spring Attend–second semester re-enrollment	128.177 ^a	.035	.067
PASS 67% of credits attempted	82.055 ^a	.033	.085
GPA–grade point average	202.971 ^a	.075	.107
Cox & Snell aggregate variance		.143	

Note: Cox and Snell data for the dependent variables on all 10 independent variables.

Summary of Results

This study examined the relationships among underrepresented community college student commitment (defined as affective, continuance, normative, educational, and intent to commit), psychosocial factors (defined as, academic self-efficacy, academic engagement, resiliency, campus engagement, and social comfort), and persistence (measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment). The findings showed: (a) no statistically significant relationships among the Freeman-Butler commitment subscales commitment (defined as affective, continuance, normative, educational, and intent to commit); or nine of the psychosocial factors (defined as academic self-efficacy, resiliency, campus engagement, and social comfort); and the dichotomous dependent variable of persistence (as measured

by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment), (b) student academic engagement is a significant predictor for GPA of 1.50 or greater, (c) educational commitment trending toward statistical significance $p=0.084$, and (d) 14.3% of the variability in persistence is explained by psychosocial skills. A detailed summary and discussion are presented in Chapter 5.

Chapter 5: Discussion

Introduction

This chapter provides an overview of the research problem, the specific objectives of the study, organized by the research questions, and the significance of the findings for informing institutional policy, practice, and scholarship. Additionally, the chapter addresses limitations of the study, makes recommendations for future research, and offers a summary based on the analysis and findings relevant to the research questions and documented literature in the dissertation.

Retention and student persistence continue to challenge higher education institutions, specifically community colleges. A first-year attrition rate of 50% for students in two-year public higher education institutions is particularly detrimental because it affects individuals' long-term social mobility (Complete College America, 2011). Community colleges are praised for being accessible to students who do not have outstanding academic preparation and for their ability to work flexibly with industry, the community, and potential employers (Bragg & Durham, 2012). Viewed as the ideal vehicle for retooling America by preparing students for the many technical and specialized jobs in a 21st century economy requires students to persist beyond the first year (Bragg & Durham, 2012; Obama, 2009). Moreover, it requires community colleges to understand and embrace the value that commitment and other psychosocial factors contribute to the 80% non-academic predictors of student success, particularly persistence and job placement (Robbins et al., 2004). Weel (2008) highlights the

importance of psychosocial factors as “determinants of labor and behavioral outcomes” (Weel, 2008, p. 736).

The present study adds to the literature in its approach to the problem of first-year college student persistence by focusing on community college students, specifically, and using the research lens of theory integration across the educational, psychological, and/organizational behavior literatures. The present study asserts that there are relationships among the psychosocial behaviors of the Freeman-Butler commitment subscale (normative, affective, continuance, intent, and educational commitment) conjoined with academic engagement, academic self-efficacy, social comfort, and resiliency with the dichotomous dependent variable of student persistence (as measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment). The study further asserts that these associations identify predictive relationships and produce a percentage of variability that the 10 psychosocial behaviors contribute to persistence.

Implications of Findings

Retention and persistence are complex and multicausal (Morrison & Silverman, 2012). The search to uncover a remedy for attrition in college has kept the literature focused on persistence for many decades. Studies and their findings in the literature recognize and substantiate the value and contribution of a holistic approach to persistence. Researchers are expanding the research lens to embrace an interdisciplinary theoretical and holistic approach to seeking conceptual clarity to the elusive phenomenon of college student persistence.

Bean and Metzner's (1983, 1985) theoretical models on attrition, attitude, and behavior; Astin's (1993) Input-Environmental-Output (IEO) model, and Tinto's (1993) Academic and Social Integration theory all point to the interdependence of attributes and level of academic preparation that students bring to the learning environment, and the interaction of those characteristics with the institutional culture. The value and significance of an interdisciplinary approach to theory practice and model adaptation to understand the contributing psychosocial behaviors to student persistence are well documented in the literature. The importance of an integrated interdisciplinary approach is further explained in the work of Robbins et al. (2004, 2009) meta-analysis and integrated meta-analytic path analysis research, Hogan's (2012) work on the adaptation of employee retention to college student persistence; and Roos's (2012) findings on the implication of psychosocial behaviors for advising. The interdependence of student characteristics, institutional culture and expectations, and the institution's ability to meet students where they are academically and psychosocially is further explained by the work of Hrabowski III (2005) on the value and impact of expectations, cultural and social capital; and Hossler et al. (2008) on institutional factors that contribute to student persistence.

Moreover, the researchers are questioning the gaps across discipline domains in an intentional effort to move toward conceptual clarity on the multicausal factors contributing to student persistence. The present study adds to the body of knowledge an interdisciplinary and integrative conceptual framework. Further, this study contributes the finding that 14.3% of the variability for persistence can be attributed to the 10 psychosocial factors that this study examined. The 14.3% variability finding explains a

portion of the 80% non-academic contribution to first-year student persistence. The 20–25% of the variance that the literature attributes to cognitive skills’ influence on first-year academic performance success and, subsequently, success in the labor market, refers to academic abilities as measures of cognitive skills including standardized tests. Findings of Robbins (2004) and Bowles (2001) suggest the 75–80% variance not explained by cognitive skills is explained by psychosocial factors or non-cognitive skills.

The present study found academic engagement to be a significant predictor of persistence as measured by GPA. Posteriori, academic engagement requires students to understand and value the expectations and rigors of coursework by responding with behaviors that support their academic success—behaviors that will require students to effectively balance their time and to make hard decisions on substituting and/or sacrificing other activities for study time, tutorials, homework, and cultivating social and cultural capital. Many of the characteristics described above as academic engagement are labeled academic-related skills and academic goals in Robbins’s (2004) Psychosocial and Study Skill Factor Constructs and Their Representative Measures (Figure 1.1).

Researchers including Astin (1999), Bean (1980, 2003), Hrabowski III (2005), Sedlack (2011), and Hogan (2012) have studied college persistence in varying degrees from the lens of student characteristics including commitment, attitude, behavior, psychosocial, and emotional intelligence as mediating factors. The present study’s findings support the influence and impact of student characteristics and behavior. This study found resiliency $p = 0.061$ and campus engagement $p = 0.070$ trending toward statistical significance for students achieving a GPA of 1.50 or greater. Further, this

study found educational commitment trending toward statistical significance $p = 0.084$ for students passing 67% of credits attempted.

In surprising contrast to the findings of Hausmann et al. (2007), this study did not find statistical significance for the Freeman-Butler Commitment Subscale or with the remaining four psychosocial factors (defined as academic self-efficacy, resiliency, campus engagement, and social comfort). Hausmann et al. (2007), found that a positive relationship among sense of belonging, institutional commitment, and intentions to persist at the start of the academic year for first-year students; and Bean (1980) and Strauss & Volkwein (2004) found that student commitment at the end of the first year is a strong predictor of intent and actual persistence. The findings in the present study offer implications for practice and policy that suggest strengthening institutional partnerships within the college community using an appreciative, integrative, and holistic student development lens to move the needle on student persistence.

Limitations

The study provides information on the influence and impact of psychosocial factors, specifically five types of commitment including normative, continuance, affective, intent, and educational as well as the psychosocial factors of academic self-efficacy, resiliency, campus engagement, and social comfort on first-year community college underrepresented student persistence.

There are two limitations to this study. The first limitation is the small sample size of 204 underrepresented students. This sample size may have created limits on the statistical importance due to a lack of power enabling the model to reject a false null hypothesis. For example, in Table 4.5, the null hypothesis prediction for Spring Attend

and the Freeman-Butler Commitment Subscale (FBCS) was retained, indicating that the FBCS does not help to predict a student's second semester re-enrollment. One reason for this result is the distribution of Spring Attend with 21 No and 160 Yes. If the independent variables of the FBCS have any variation among the Yes, significance would not be found unless there is a much larger sample. A larger sample size offers an increased opportunity for a balance of the distribution of outcomes, meaning the proportion of the sample with or without Spring Attend second-semester re-enrollment.

Second, the timing for the administration of the survey contributed to the small number of respondents and their perceptions of their experiences and college engagement at the point in time that they responded to the instrument. The intent of this study was to explore self-reported psychosocial behaviors of first-year underrepresented community college students and their relationship to persistence. Administering the survey on September 16, 2013, approximately two weeks after the start of classes, created competing priorities for student time, and did not allow the respondents to respond without the influence of their first interactions with the institution, possibly shaping impressions and, subsequently, their responses. As a result of the timing for the survey administration, it is not clear if the students' pre-semester engagement responses might have been different or what the effect of the students' institutional engagement over the weeks prior to responding to the survey had on the respondents' response outcomes.

Recommendations

Student persistence, particularly for community colleges, presents a diversity of complexities that are analogous to solving a puzzle. No one single factor can be attributed to predicting persistence. This study's findings and analysis suggests a specific

and intentional focus on policy, practice, and future research. Institutions must understand, recognize, and value the intersection of academic abilities and psychosocial behaviors, the crossroads of student learning and development to move the needle on persistence. “Noncognitive skills increase until late adulthood and for some personality traits, it peaks after age 50. The expression and development of these traits seems to be more context related than the development of cognitive traits” (Weel, 2008, p. 736).

One size does not fit all. This understanding requires institutional culture to embrace the varying student characteristics and life experiences, particularly for underrepresented students, to be transparent about expectations and create educational plans that place first-year students on a more tailored and intentional path to persistence and completion. Policymakers have to question the underlying assumptions of what constitutes institutional effectiveness and the return that parents and students can expect on their investment. Researchers should continue to expand the conceptual framework, taking an integrated, holistic, and interdisciplinary approach that informs the discourse, offers concrete practical solutions to student persistence with an emphasis on unpacking commitment, and addresses community colleges.

Recommendations for future research. The findings of this study offer many opportunities for future research. Researchers should explore an in-depth study of first-year students’ psychosocial factors prior to their first semester (pre-term) with a focus on commitment and the relationship of those factors to behaviors that facilitate academic engagement, resiliency, campus engagement, and educational commitment as antecedents to persistence. It is also suggested that the recommended study include a comparative analysis across specific student groups, including first-generation, underrepresented

students, white students, and Asian students, to expand the body of knowledge on the influence of socio-cultural experiences and specific characteristics (i.e., age > 24, income, employment status) on behaviors that predict and contribute to persistence. Educational literature is experiencing an urgent need for retention research to broaden its approach by expanding its measures and perspectives to allow for a more accurate measure of student progress or persistence (Hagedorn L., 2012).

Shaping and changing behavior and mental models occurs over time; this study offers a snapshot of the first semester. A longitudinal study over a minimum of the first three semesters would provide deeper insight and contribute to closing the knowledge gap on effecting change in student persistence. Future researchers should administer the psychosocial instrument, pre and post, and analyze the data to understand any differences among the pre and post responses, identify implications for student behaviors, and complete comparative outcome analysis for persistence and, ultimately, completion.

Further, it is recommended that a multi-institutional approach be undertaken to examine psychosocial factors, specifically commitment, identify behaviors that predict persistence, determine the strength of the psychosocial factors' relationship to persistence measured by students passing 67% or more of credits attempted, GPA, and subsequent semester(s) reenrollment, and the percentage of variability of persistence as explained by the specific factors.

Recommendations for policy. Community colleges are praised for their ability to work flexibly with industry, the community, and potential employers (Bragg & Durham, 2012). Community colleges are viewed as the ideal vehicle for retooling America by preparing students for the many technical and specialized jobs a 21st century

economy requires (Bragg & Durham, 2012; Obama, 2009). Moreover, a better understanding of how the wealth of psychosocial behaviors contributes to student success, particularly persistence, can inform the discussion on behavioral and labor market outcomes with an intended purpose of guiding and promoting student holistic development, practice, and associated career placement (Weel, 2008).

It is recommended that the Federal and State Departments of Education establish policies and provide incentives that encourage intentional partnerships among businesses and higher education institutions, particularly public colleges, and specifically community colleges. The intended purpose of these partnerships is to model best practice collaborations, improve the return on investment for students and families, aid in the development of innovative curriculum and research, as well as provide service learning and internship opportunities for students. The Departments of Education should consider leveraging economic and policy support for community colleges to put in place real time assessment technologies that integrate student academic and psychosocial profiles with the intent of understanding the “whole” student, influencing behaviors, providing engagement guidance and managing student and institutional intervention expectations, and needs. Further, establishing mandatory pre-term programs for first-year students, specifically underrepresented students is recommended. The preterm mandatory program objectives are twofold. The first is to provide students and institutions with the opportunity to engage earlier in the academic process, understand expectations, and build social and cultural capital. Second, it offers institutions opportunities for scalability of proven student persistence practices, and the administration of a psychosocial inventory to gather data, which provides insightful and important information on student

characteristics that, coupled with academic placement levels, will make possible the creation of individualized education plans and facilitate persistence by targeting academic engagement, educational commitment, resiliency, and campus engagement. ACT (2010) labels the need for institutions to focus on student success and determine predictors of first-year community college student retention as a national imperative.

Recommendations for practice. It is recommended that colleges undertake an institution-wide introspection with the goal of gathering actionable data and information. The intent is to foster a more profound understanding of the characteristics and needs of first-year students, particularly underrepresented students, and the institutional investment required to commit to strategic initiatives that shape institutional policies/practices with a focus on accountability and outcomes assessment. As part of the introspection, colleges should consider pushing the traditional boundaries that define Academic and Student Affairs in an effort to integrate the classroom and experiential learning paradigms. Further, it is recommended that institutional policies and practices be assessed and compared to determine their contribution to or hindrance of the behaviors identified to predict persistence.

Beliefs shape attitudes, attitudes shape behavior, and behavior signals intent (Kuh, Kinzie, Buckley, Bridges, & Hayck, 2006). The results of the present study suggest that institutions focus efforts on influencing student behaviors that foster the development and strengthening of psychosocial skills, particularly academic engagement, resiliency, educational commitment, and campus engagement to facilitate persistence. Specifically, community colleges should consider engaging students earlier in the academic process through a mandatory preterm program. The objectives of the preterm program are to help

students understand college expectations, including academic rigor and major-to-career options, and build social and cultural capital. It also offers institutions the opportunity to become familiar with student expectation and goals, while simultaneously gathering insightful and important information on student characteristics through the administration of a psychosocial inventory. The inventory makes possible the creation of individualized student education plans in an effort to facilitate persistence by influencing predictive and contributing behaviors, particularly academic engagement, resiliency, campus engagement, and educational commitment. Roos (2012) administered the SSI survey to first-generation students and found it statistically significant for retention. This subgroup had the highest retention rate of all groups in his study. The two factors of self-efficacy and resiliency were also found to be statistically significant.

Similarly, the delivery of programs and services is an important consideration for student engagement and persistence. Online hybrids and/or in-person options should be made available to students. Technology is critical in aiding institutional effectiveness, and institutions must be cognizant that today's students represent an intergenerational composition. An intentional and targeted student engagement approach focused on influencing behaviors that predict and contribute to persistence. Skilled advisors, peer programs, career coaches, credit-bearing first-year success courses, service learning, cocurricular, and internship opportunities, as well as effective student communication and messaging, are among the practices recommended.

Further, it is recommended that institutions complete a gap analysis to assess policy impact and to ensure congruence of policies and practices. The retention equation includes contextual institutional factors. The type of institution (its size, culture, values,

and normative structure) and the way the institution engages its students academically and socially influence student persistence (Kuh, Kinzie, Buckley, Bridges, & Hayck, 2006).

Conclusion

Finding meaningful ways to influence community college student persistence and the contribution that psychosocial skills play in achieving that goal is limited in the empirical literature, particularly for community colleges. Robbins's (2004) meta-analysis study addresses the value and complexities of conceptual integration across educational and psychological literatures. He acknowledges the discourse and debate on the use of the term non-cognitive, highlighting that psychological literature refers to "non-cognitive" skills as part of the cognitive domain.

The researcher further acknowledges the gaps in the educational and psychological domains' approach to research. He cites that educational literature is rich in constructing comprehensive theories using longitudinal designs; however, it is weakened by producing atheoretical constructs and single-item surveys. Moreover, Robbins states that psychological literature is rich in theoretical constructs, with strong validity and reliability consistency, but falls short of informing programs on practical applications for implementation, making the case for the need and value of theory integration across research domains. The present study adds to the literature in its approach to the problem of first-year community college student persistence by focusing on community college students specifically and using the research lens of theory integration across the educational, psychological, and/organizational behavior literatures. The theoretical frames and research studies used to inform the underpinnings of this

study were: (a) Hogan's (2012) study on adapting measures of organizational commitment and withdrawal cognitions to college students' persistence, (b) Bean's (1980) attrition model, and (c) Roos's (2012) study on the relationship among first-year retention, non-cognitive skills, and student advising.

The overall purpose of this study was to identify relationships and potential predictors of student persistence to gain an understanding of the extent to which community colleges can identify, articulate, and influence the characteristics of the institution and student behaviors that are central to persistence and ultimately degree attainment, with, moreover, a better understanding of how the wealth of psychosocial skills contributes to student success, particularly persistence. The present study found that academic engagement is a significant predictor of persistence, with resiliency and campus engagement trending toward significance, specifically, GPA of 1.50 or greater. The results of the present study found educational commitment trending toward a significant predictor of persistence, specifically students passing 67% or more of credits attempted.

Further, the 75% variance in predicting academic performance in the first year, and attributed to other than academic predictors, substantiates Bowles' (2001) study that attributes an 80% benefit of education and labor market outcomes to non-cognitive/psychosocial skills with cognitive skills accounting for 20%. The present study found 14.3% of the variability in persistence (measured by passing 67% of credits attempted, GPA of 1.50 or greater, and second semester re-enrollment) is explained by the Freeman-Butler Commitment Subscale and the remaining psychosocial factors (defined as affective, continuance, normative, educational, and intent to commit,

academic self-efficacy, academic engagement, resiliency, campus engagement, and social comfort).

The work of Hossler et al. (2008) reiterates research findings that student commitment at the end of the first year is a strong predictor of intent and actual persistence (Bean, 1980; Strauss & Volkwein, 2004). What students bring to the environment is important for institutions to understand, and the first year is a critical juncture for creating and strengthening the student-college relationship, building social and cultural capital, and influencing behaviors. Pushing the traditional boundaries of Academic and Student Affairs to integrate the classroom, and experiential learning paradigms, providing service and program delivery options, real time assessment technologies with the intent of understanding the “whole” student, and intentional institutional policies and practices that contribute to behaviors predictive of persistence will improve student outcomes and increase institutional transparency and effectiveness. “The need to create powerful learning experiences so more students can succeed in college has never been greater” (Kinzie, 2012, p. 1).

References

ACT. (2010). *National collegiate retention and persistence to degree rates*. Retrieved from ACT: http://www.act.org/research/policymakers/pdf/retain_2010.pdf

Advisory Committee on Student Financial Assistance. (2012). *Pathways to success: Integrating learning with life to increase national college completion*. Washington DC: U.S. Department of Education.

Alexander, A. W. (1997, December). How "good" is your institution's retention rate? *Research in Higher Education*, 38(6), 647-658.

Almlund, M., Duckworth, A. L., Heckman, J., & Kautz, T. (2011). *Personality psychology and economics*. Germany: Institute for the Study of Labor.

American Psychological Association Inc. (2014, April 28). *APA Copyright and Permissions Information*. Retrieved from American Psychological Association: <https://www.apa.org/about/contact/copyright/index.aspx#required>

Arnold, A. (1999). *Retention and persistence in post secondary education: A summation of research studies*. Texas: Texas Guaranteed Student Loan Corporation.

Arum, R., & Roksa, J. (2011). *Academically adrift: Limited learning on college campuses*. Chicago: University of Chicago Press.

Astin, A. W. (1993). *What matters in college: Four critical years revisited*. San Francisco: Jossey-Bass.

Astin, A. W. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development*, 518-529.

Astin, A. W., & Osequera, L. (2012). Pre-college and institutional influences on degree attainment. In A. Seidman, *College student retention* (pp. 119-146). Estover Road, Plymouth, United Kingdom: Rowman and Littlefield Publisher Inc.

Astin, A., & Osequera, L. (2012). Pre college and institutional influences on degree attainment. In A. Seidman, *College Student Retention Formula for Student Success* (pp. 119-146). Lanham, MD: Rowman & Littlefield Publishers, Inc.

- Bailey, T. R., & Alfonso, M. (2005). *Paths to persistence: An analysis of research on program effectiveness at community colleges*. New York, NY: Lumina foundation for Education.
- Barefoot, B. O. (1998). *Exploring the evidence: Reporting outcomes of first-year seminars*. Columbia, SC: National Resource Center for the First-Year Experience, University of South Carolina.
- Bean, J. P. (1980). Dropouts and turnover: The synthesis and test of a causal model of attrition. *Research in Higher Education*, 12(2), 155-187.
- Bean, J. P. (2003, January 3). *College student retention*. Retrieved from Encyclopedia of Education: <http://www.encyclopedia.com/doc/1G2-3403200135.html>
- Bean, J. P., & Eaton, S. B. (2002). The psychology underlying successful retention practices. *Journal of College Retention :Research, Theory and Practice*, 73-79.
- Bean, J. P., & Metzner, B. S. (1985). Conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research*, 485-540.
- Bean, J. P., & Vesper, N. (1990). *Quantitative approaches to grounding theory in data: Using lisrel to develop a local model and theory of student attrition*. Boston: Educational Research Association.
- Bean, J., & Eaton, S. B. (2001-2002). The psychology of underlying successful retention practices. *Journal of College Student Retention*, 73-89.
- Berger, J. B., & Milem, J. F. (1999). The role of student involvement and perceptions of integration in a causal model of student persistence. *Research in Higher Education*, 641-664.
- Berger, J., Ramirez, G. B., & Lyons, S. (2012). Past to present: A historical look at retention. In A. Seidman, *College student retention* (pp. 7-34). Estover Road, Plymouth, UK: Rowman and Littlefield Publisher Inc.
- Borden, V. M. (2012). *Problem solving, collaborative organizational learning and the community college*. New York, NY: The City University of New York.
- Borghans, Lex, Bas ter Weel, and Bruce A. Weinberg. 2006. *People People: Social Capital and the Labor-Market Outcomes of Underrepresented Groups*. Cambridge, MA: National Bureau of Economic Research, Inc., NBER Working Papers: 11985.
- Bowles, S., Gintis, H., & Osborne, M. (2001). The determinants of earnings: A behavioral approach. *Journal of Economic Literature*, 39(4), 137-1176.

Bragg, D. D., & Durham, B. (2012). Perspectives on access and equity in the era of community college completion. *Community College Review*, 40(2), 106-125.

Braxton, J. M. (2003). Student success. In S. R. Komives, & D. B. Woodard Jr, *In student services: A handbook for the profession* (pp. 317-338). San Francisco, CA: Jossey-Bass.

Braxton, J. M., Milem, J. F., & Sullivan, S. (2000). The influence of active learning on the college student departure process toward a revision of Tinto's theory. *The Journal of Higher Education*, 71(5), 569-590.

Cabrera, A. F., Nora, A., & Castaneda, M. B. (1993). College persistence: Structural equations modeling test of an integrated model of student retention. *The Journal of Higher Education*, 123-139.

Campus Labs. (2012). *Beacon: Student strengths inventory*. Buffalo, NY: Campus Labs Inc.

Carey, K. (2010, December 2). *U.S. college graduation rates stays pretty much exactly the same*. Retrieved from The Quick and the EdA Publication of Education Sector: www.quickanded.com/2010/12/u-s-college-graduation-rate-stays-pretty-much-exactly

Carter, D. F. (2006, Summer). Key issues in the persistence of underrepresented minority students. *New Directions for Institutional Research*, pp. 33-46.

Center for Community College Student Engagement. (2012). *A matter of degrees: Promising practices for community college student success (a first look)*. . . Austin, TX: The University of Texas at Austin, Community College Leadership Program.

Complete College America. (2011). *Time is the enemy*. Washington, DC: Complete College America.

Dowd, A. C. (2005). *Data don't drive: Building a practitioner-driven culture of inquiry to assess community college performance*. Boston, MA: Lumina Foundation for Excellence.

Dowd, A. C. (2005). *Datsa don't drive: Building a practitioner-driven culture of inquiry to assess community college performance*. Boston, MA: Lumina Foundation for Excellence.

Eaton, S. B., & Bean, J. P. (1995). An approach/avoidance behavioral model of college student attrition. *Research in Higher Education*, 617-644.

Elkins, S. A., Braxton, J. M., & James, G. W. (2000). Tinto's separation stage and its influences on first-semester college student persistence. *Research in Higher Education*, 251-268.

Finley, R. (2014, May 23). *Survey Monkey Pro*. Retrieved from Survey monkey: <https://www.surveymonkey.com>

Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, 26-34.

Hadel, J. A. (2011, December). William g. spady, agent of change: An oral history . *Loyola University Chicago Dissertation* . Chicago, IL, USA: Loyola eCommons.

Hagedorn, L. (2012). How to define retention: A new look at an old problem. In A. Seidman, *College Student Retention Formula for Student Success* (pp. 81-100). Lanham, MD: Rowman & Littlefield Publishers, Inc.

Hagedorn, L. (2012). How to define retention: A new look at an old problem. In A. Seidman, *College student retention formula for student success* (pp. 81-100). Lanham, MD: Rowman & Littlefield Publishers, Inc.

Hagedorn, L. S. (2012). How to define retention. Lanham, Maryland: Rowman and Littlefield Publishers Inc.

Hausmann, L. R., Schofield, J. W., & Woods, R. L. (2007). Sense of belonging as a predictor of intentions to persist among african american and white first year college students. *Research in Higher Education*, 803-839.

Heckman, J. J., & Rubinstein, Y. (2011). The importance of non-cognitive skills: lessons from the GED testing program. *The American Economic Review*, 145-149.

Hogan, E. A. (2012). Adapting measures of organizational commitment and withdrawal cognitions to college students' persistence. *Review of Business Research*, 70-79.

Hoover, E. (2013, January 10). Minority applicants to colleges will rise significantly by 2020. *The Chronicle of Higher Education*. Washington, D.C., USA.

Hossler, D., Moore III, J. V., Ziskin, M., & Wakhungu, P. K. (2008). Institutional factors that contribute to student persistence:view from three campuses. *Annual Conference of the Association for the Study of Higher Education* (pp. 1-43). Jacksonville, FL: Indiana University.

Hrabowski III, F. A. (2005). Fostering first year success of underrepresented minorities. In L. M. Uprcraft, J. N. Gardner, B. O. Barefoot, & Associates, *Challenging & supporting the first-year student* (pp. 125-140). San Francisco, CA: Jossey-Bass.

Kane, T. J., & Rouse, C. E. (1999). The community college: Educating students at the margin between college and work . *Journal of Economic Perspectives*, 13(1), 63 - 84.

- Kinzie, J. (2012). *Fostering student learning and success: The value of high impact practices*. Bloomington, IN: Indiana University Center for Postsecondary Research.
- Kuh, G. (2008, December 12). Diagnosing why students don't succeed. *The Chronicle of Higher Education*, 55(16), p. A72.
- Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008, September). Unmasking the Effects of Student Engagement on First-Year College Grades and Persistence. *Journal of Higher Education*, 79, 5, 540-563.
- Kuh, G., Kinzie, J., Buckley, J., Bridges, B. K., & Hayck, J. C. (2006). *What matters to student success: A review of the literature*. Washington, DC: National Post Secondary Education Cooperative.
- Kuh, G., Kinzie, J., Schuh, J. H., & Whitt, E. J. (2010). *Student success in college: Creating conditions that matter*. John Wiley & Sons Inc.
- Kuther, T. (2012, May 21). *Time Management Tips for Graduate Students*. Retrieved from About.com Graduate School: <http://gradschool.about.com/cs/timemanagement/a/tme.htm>
- Kyllonen, P., & Sedlacek, W. (n.d.). *Noncognitive assessment in adult basic education: Full discussion transcripts*. Retrieved from Literacy Information and Communication System: http://lincs.ed.gov/lincs/discussions/assessment/09noncognitive_full.html#01
- LaGuardia Community College Enrollment Services. (2013). *Satisfactory Academic Progress*. Retrieved from Financial Aid: <https://www.laguardia.edu/.../Main.../SAP%20BROCHURE-13-14.pdf>
- LaGuardia Community College Office of Institutional Research. (2012). *Institutional profile 2012*. New York: LaGuardia Community College.
- LaGuardia Office of Institutional Research & Assessment. (2012, November 18). *LaGuardia facts and figures*. Retrieved from LaGuardia Community College: <http://www.lagcc.cuny.edu/IR/IR-facts/>
- Leuwerke, W., & Dervisevic, E. (2008). *Development and initial validation of the student strengths inventory: A measure of non-cognitive variables that impact student performance and retention*. Des Moines, IA: Drake University.
- Leuwerke, W., & Dervisevic, E. (n.d.). *Development and initial validation of the student strengths inventory: A measure of non-cognitive variables that impact student performance and retention*. Des Moines: Drake University.
- Malveaux, J. (2003). *What's at stake*. Washington, D.C.: U.S. Department of Education Office of Educational Research and Improvement.

Maraboli, S. (2007). *Why not you ?* Retrieved from Steve Maraboli Why not you?: <http://www.appleseeds.org/PDF%20Files/06-07/Why-Not-You.pdf>

Mellow, G. O. (2009). Minding the dream: The practice of the American community college opening keynote address. *Innovations 2009 Conference. Opening Keynote Address*, pp. 1-18. Reno-Tahoe, Nevada: LaGuardia Community College.

Mellow, G. O., & Heelan, C. (2008). *Minding the dream: The process and practice of the American Community College*. Lanham, MD: Rowman and Littlefield.

Metz, G. W. (2004-2005). Challenges and changes to Tinto's persistence theory: A historical review. *J. College Student Retention*, 191-207.

Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnysky. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, 20-52.

Obama, B. (2009, July 14). *Building American Skills Through Community Colleges*. Retrieved from White House: [Obama100326-community-college-fact-sheet.pdf](http://www.whitehouse.gov/the-press-office/2009/07/14/obama100326-community-college-fact-sheet.pdf)

Obama, B. (2009, July 14). *Office of the Press Secretary*. Retrieved from The White House: http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-on-the-American-Graduation-Initiative-in-Warren-MI/

Pascarella, E. T., & Chapman, D. W. (1983). A multi-institutional path analytic validation of Tinto's model of college withdrawal. *American Educational Research Journal*, 20(1), 87-102.

Pascarella, E. T., & Terenzini, P. T. (1983). Predicting voluntary freshman year retention/withdrawal behavior in a residential university: A path analytic validation of Tinto's model. *Journal of Educational Psychology*, 75(2), 215-226.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students (2nd ed.)*. San Francisco: Jossey-Bass.

Pekrun, R., Daniels, L., Stupnisky, R. H., Haynes, T. L., Perry, R. P., & Newell, N. (2009). A longitudinal analysis of achievement goals: From affective antecedents to emotional effects and achievement outcomes. *Journal of Educational Psychology*, 101, 948-963.

Phelan, C., & Wren, J. (2005-2006). *EXPLORING RELIABILITY IN ACADEMIC ASSESSMENT*. Retrieved from UNI: <http://www.uni.edu/chfasoa/reliabilityandvalidity.htm>

- Provasnik, S., & Planty, M. (2008). *Community colleges: Specials supplement to the condition of education 2008*. Washington, DC: National Education Center for Statistics.
- Read, D. (2004). *Utility theory from Jeremy Bentham to Daniel Kahneman*. London: The London School of Economics and Political Science.
- Robbins, S. B., Le, H., Davis, D., Lauver, K., Langley, R., & Carlstrom, A. (2004). Do psychological and study skill factors predict college outcomes? a meta-analysis. *Psychological Bulletin*, 261-288.
- Roos, D. R. (2012, January 1). Relationship between first-year retention, non-cognitive, and student advising. *All graduate theses and dissertations paper 1167*. Logan, Utah, USA: Digital Commons.
- Sandberg, J., & Wielinga, B. (1991). How situated is cognition? *Cognitive Modeling* (pp. 341-346). Amsterdam, The Netherlands: IJCAI.
- Satterfield, J. (2011). *Minding the body: Cognitive behavioral stress reduction*. San Francisco, CA, USA: University of California Television.
- Sedlacek, W. E. (2011). Using noncognitive variables in assessing readiness for higher education, *Readings on Equal Education*, 25, 187-205.
- Steven B. Robbins, I. S. O. (2009). Intervention effects on college performance and retention as mediated by motivational, emotional, and social control factors: Integrated meta-analytic path analyses. *Journal of Applied Psychology*, 94,5, 1163-1184.
- Stokes, P. J. (n.d.). *Hidden in plain sight: Adult learners forge a new tradition in higher education*. Washington, DC: A national dialogue: The secretary of education's commission on the future of higher education.
- Strauss, L., & Volkwein, J. F. (2004). Predictors of student commitment at two-year and four-year institutions. *The Journal of Higher Education*, 203-227.
- Swail, W. S. (2003). *Retaining minority students in higher education: A framework for success*. San Francisco, CA: Jossey-Bass Higher Education Series.
- Sweet, S. A., & Grace-Martin, K. (2008). *Data analysis with SPSS*. Boston, MA: Pearson Education Inc.
- Terenzini, P. T., Ro, H. K., & Yin, A. C. (2012). *Between-college effects on students reconsidered*. Indianapolis: Association for the Study of Higher Education.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45, 89-125.

Tinto, V. (2005, May 1). *Taking student success seriously: Rethinking the first year experience*. Retrieved from Fullerton.edj: <http://fdc.fullerton.edu/events/archives/2005/05-01/acadforum/Taking%20Success%20Seriously.pdf>

Tinto, V. (2006-2007). Research and practice of student retention: What next? *J. College Student Retention*, 8(1), 1-19.

Tinto, V. (2012). A model of institutional action for student success. In A. Seidman (Ed.), *College student retention* (pp. 251-266). Lanham, MD: Rowman and Littlefield Publishers Inc.

Trostel, P. A. (2010). The fiscal impacts of college attainment. *Research in Higher Education*, 220-247.

U.S. Department of Education IPEDS. (2011). *Complete college america: New york 2011*. Washington, DC: National Center for Education Statistics.

Upcraft, M. L., Gardner, I. N., Barefoot, B., & Associates. (2005). *Challenging and supporting the first year student. A handbook for improving the first year of college*. San Francisco, CA: John Wiley & Sons, Inc.

Weel, B. T. (2008). The noncognitive determinants of labor market and behavioral outcomes: Introduction to the Symposium. *The Journal of Human Resources*, 729-737.

Zhu, J., & Dickmeyer, N. (2011). *Higher education "outputting costs" IR&A Working Paper*. Long Island City, NY: Office of Institutional Research & Assessment LaGuardia Community College.