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SHORT-TERM FINANCIAL CONFIDENCE
AS A PREDICTOR OF
ACADEMIC ACHIEVEMENT AND
SIX-YEAR GRADUATION SUCCESS
OF FIRST-YEAR STUDENTS

By

Shawna M. Clark
B.A. Miami University, Oxford, 2009
M.Ed. Grand Valley State University, 2011

A Dissertation
Submitted to the Faculty of the
College of Education and Human Development of the
University of Louisville
in Partial Fulfillment of the Requirements
for the Degree of

Doctor of Philosophy
in Counseling and Personnel Services

Department of Education and Counseling Psychology
University of Louisville
Louisville, Kentucky

May 2020

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A Dissertation Approved on

March 27, 2020

by the following Dissertation Committee

Dissertation Chair
Dr. Amy Hirschy

Dr. Namok Choi Petrosko

Dr. Kathy Pendleton

Dr. Susan Longerbeam

DEDICATION

I would like to dedicate this dissertation to my family and friends for continuing to support me through draft after draft after tears after draft.

And to all of the mental health professionals out there assisting individuals struggling with mental illness; you may never know the impact you truly have.

ACKNOWLEDGMENTS

I would like to thank my dissertation chair, Dr. Amy Hirschy for her time and guidance throughout this process. I also want to thank Dr. Kathy Pendleton, and Dr. Susan Longerbeam, for their dedication, thoughtful feedback, and assistance. Specifically, for the efforts spent reading and improving my statistics writing, I want to thank Dr. Namok Choi Petrosko for her outstanding knowledge and compassion. My family has been an incredible pillar of strength as I've worked on this piece and I am grateful to my many friends and chosen family for their constant encouragement.

ABSTRACT

SHORT-TERM FINANCIAL CONFIDENCE AS A PREDICTOR OF ACADEMIC ACHIEVEMENT AND SIX-YEAR GRADUATION SUCCESS OF FIRST-YEAR STUDENTS

Shawna M. Clark

March 27, 2020

This dissertation explores the relationships among short-term financial confidence, academic achievement, six-year graduation success, and pre-college demographic characteristics for first-time, full-time, traditionally aged first-year students. The sample population was from a mid-sized Midwestern four-year degree granting university. These students were enrolled for the first time in Fall 2013 and participated in the survey used for data collection during that term.

Examining the role of socioeconomic status and its relationship with short-term financial confidence was first addressed to provide a context for the other research questions. From this, the research question examined the predictive nature of pre-college demographic characteristics on short-term financial confidence. The findings from this

question help to illuminate both the similarities and the differences in the various arenas of finances for college students.

Two key performance indicators were then examined, both controlling for pre-college demographic characteristics to best highlight the influence of short-term financial confidence as a predictor variable. To answer the question of academic achievement as measured by first-year college GPA, a standard multiple regression analysis was performed and examined. Regarding persistence to graduation six years from the initial enrollment semester, a multiple binary logistic regression analysis was conducted.

The results of this study indicated that four of the five included pre-college demographic characteristics are significant predictors of short-term financial confidence. With respect to academic achievement, short-term financial confidence was a statistically significant predictor ($\alpha = .05$). Finally, controlling for pre-college demographic characteristics, short-term financial confidence was a significant predictor of six-year graduation success.

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CHAPTER I

INTRODUCTION

The cost of higher education in the United States has been steadily increasing over the past few decades to reach an unprecedented high. The total price for attending college, including tuition, room, and board, has increased 42% at public institutions between 2000 and 2010; this average accounts for inflation during the same period (Aud et al., 2012). As the price of higher education increases, students must make increasingly complex financial decisions to cope with the burden of funding the choice to further their education.

Almost half of all undergraduate students choose to take out student loans, either federal or private, to pay for their postsecondary education at some point during their time enrolled (Wei & Horn, 2013). While these financial burdens are placed on individual students, they affect the nation as well. In 2013, the United States student loan debt topped 1.2 trillion dollars, in part because more students are taking out loans now than have historically (McFarland et al., 2017).

The choice to go to college has only become more popular over time, as college degrees often equate to higher paying jobs in today's society. This means that these concerns affect more of the population than ever before. Former President Barack Obama described the importance of college education, stating that college is an "economic

imperative that every family in America has to be able to afford” (Obama, 2012, p. 1). He also set the goal for the U.S. to have the highest proportion of college graduates of any nation by 2020 (Oreopoulos & Petronijevic, 2013). Earning a higher education degree is part of the United States’ “American Dream” whereby someone from lesser means can change their future with hard work and education. That dream is often accomplished with further education after high school graduation to help an individual climb the socioeconomic ladder (Cornelius & Frank, 2015).

College education influences more than just the individual graduate, but rather society as a whole. As our world has become more globalized, it is our responsibility as a nation to provide more access to higher education and better enable those college learners to graduate in a timely fashion (Lotkowski, Robbins, & Noeth, 2004). The globalized society speaks to a desire for an increasingly educated populace. Although this recent push is attributed to globalization, calls for an educated society have a history back to the early years of democracy. De Tocqueville (1835) discussed the importance of an educated population for an optimally functioning democratic society.

Lotkowski et al. (2004) also examine the difficulties and barriers to employment and success that one faces in today’s society without a college education. The majority of careers today (six out of ten) require postsecondary education or training. The cost of higher education is unlike public high school education in that public high school education is entirely state funded. However, college graduates in 2015 earn an average of 56% more in lifetime salaries than their non-college educated peers (Rugaber, 2017). This 56% lifetime salary disparity is the highest comparative gap that has been recorded since 1973 (Rugaber, 2017). The growth in the salary gap based on education could

arguably make the return on the investment of higher education worthwhile for many students. Unfortunately, not every student who is admitted to college will be successful in earning a degree.

Much of the higher education research to date targets retention and how enrollment numbers affect the institution and individual student success (McFarland et al., 2017; Sullivan, 2010). In research conducted on retention and student achievement, however, little focus has been on finances. This study attempts to correct that oversight by focusing on the short-term financial confidence of first-year college students and how this variable is related to their academic achievement and six-year graduation success at a given institution.

The primary variable within this study is identified as short-term financial confidence. There are a number of financial terms used within consumer research, but few of them address the college demographic. In an attempt to specify this issue for college students, the study aims to identify information meeting certain criteria. As college students are only in this stage of their life for a short period, the variable needed to have a sense of immediacy lending itself to the short-term aspect of the variable. Considering the financial nature of the study, adding the term itself made logical sense. Finally, as the data are to be self-reported, the variable would not be an objective measure of finances, but rather a subjective opinion on financial strength leading to the term confidence.

Students today face different economic challenges than past generations during and after college (Chen & Volpe, 1998; Mimura, Koonce, Plunkett, & Pleskus, 2015). Nearly half of undergraduates take out student loans to pay for college; it is important to

better understand these decisions. Student loans can be a worthwhile investment in one's future (Aud et al., 2012), yet there are many facets to consider. Oreopoulos and Petronijevic (2013) discuss the return on investment when students attend college. They argue that by carefully examining the financial benefits and prospects after earning a degree, a student can make the best decisions regarding a responsible amount of debt to accrue. One consideration is the type of degree a student chooses to pursue. A bachelor's degree will incur more student loan debt than that of an associate's degree (Wei & Horn, 2013). Previous research has not closely examined the financial burden incurred by a student based on the major they choose at each degree level. For instance, a degree in engineering may take longer to earn than a sociology degree, but they are both completed at the bachelor's level. For this study, the research examines only bachelor's degree-seeking students. These undergraduate students will accrue more debt than an associate's degree seeker on average but will also have more career opportunities post-graduation (Wei & Horn, 2013).

This research is important to better serve our students and institutions because of several elements surrounding the affordability and financial decisions college students are required to make. The first consideration is the economic environment in which students are attending college today. In 2008 the United States saw the most prominent financial crisis in recent decades, and this national economic decline affected higher education as well. Rosacker, Ragothaman, and Gillispie (2009) evaluated these economic environmental complexities and noted that the consequences and repercussions for people without adequate financial knowledge were more severe. The second element is the growing cost of college and the associated student debt. Over a single decade, students'

financial responsibility for the cost of college tuition, room, and board has grown by almost half to attend a public institution (Aud et al., 2012). The third consideration is the financial “coming of age” experienced by students as they shift to monetary independence. Hung, Parker, and Yoong (2009) observed the increased number of financial decisions for which individuals must take responsibility. Researchers agree that college is a critical time for young adults to become financially literate, because they are transitioning from financial dependence to independence (Mimura et al., 2015). The final aspect is that of the federal financial aid system, whose policies and offerings deeply relate to a student’s ability to afford college.

Economic Environment

Higher education is not separate from but rather a piece of the national economic environment and was affected by the U.S. financial decline in 2008. Lindsey-Taliefero, Kelly, Brent, and Price (2011) make the connection that an individual’s financial fate is likewise tied to national financial stability, as demonstrated in the Great Recession. Huston (2010) notes the smaller-scale repercussions that a person may face when they make poor financial decisions or errors. She explains that these mistakes are not only negative for the individuals but can often create a negative ripple-effect to all economic partners.

The interconnected nature of financial success has become more apparent following the recent economic downturn, but the landscape of the financial services industry has also become increasingly complicated. Penalties associated with inadequate financial knowledge and financial missteps have always existed, but today individuals face more critical consequences that affect their everyday lives for years or decades

(Rosacker et al., 2009). Yates and Ward (2011) note the importance of money management at all levels; from the government and the growing national debt to the poor credit card knowledge and behaviors of young adults, everyone at every level should reassess spending, saving, and financial decisions. Time has progressed beyond a forgiving response to financial misappropriation. Technology has allowed us, better than ever before, to track money while simultaneously enforcing consequences.

College Cost

The early days of higher education in the U.S. served a different purpose than today's career preparation-focused paradigm. The historic purpose was an educated and informed populace in a democratic society (de Tocqueville, 1835). Therefore, higher education was a public good and costs were kept reasonably low. However, in recent times, the opinion on higher education has shifted to that of a private good serving only the individual receiving the education. This change to the "purpose" of attaining a degree from a university has increased the cost of attendance for many students in the United States.

This concept of higher education as a private good has decreased the willingness of the public and governments to subsidize the cost. With individual students identified as the primary beneficiaries of higher education, more policies have been enacted that reduce the financial contributions of both federal and state governments (Heller & Rogers, 2004). Johnson, Oliff, and Koulish (2009) discuss the makeup and expenditures included in state budgets. They identify education as the largest component; nearly half of all state expenditures is spent on education, higher education included. The majority of the states, Kentucky among them, are required to balance expenditures, and with the large budget deficits seen with the recession, the budget for education is most often cut

(Johnson et al., 2009). In a national report, Johnson et al. (2009) recognized at least 28 states with budget cuts for public colleges and/or large increases in the tuition burden for students to compensate for insufficient state funding.

Specifically, Kentucky saw state budget cuts of about 3% at the start of the 2009 fiscal year, leading to tuition increases of 5.2% to 9% as well as the elimination of faculty and staff positions; 188 positions were eliminated from a single institution (Johnson et al., 2009). Heller and Rogers (2004) agree that these state cuts are directly linked to massive increases in the tuition and fees paid by students and their families. The cost of attending a four-year public institution increased 14% from 2010 to 2015 (McFarland et al., 2017). McPherson and Shapiro (2002) examined the budget changes from 1980 to 1996 and found university revenues from tuition increased from 26% to 36% of the total. Additionally, federal government support decreased from 19% to 15% of total college revenues, and state government support decreased from 43% to 31%, down more than 10%.

One of the primary reasons this paradigm shift has caused a drastic increase in cost to the individual student is because of the modification to state funding. Although colleges have seen decreases in state funding over the years and throughout the nation, the Commonwealth of Kentucky has recently put forth legislation cutting base appropriations to public universities by over 6% (Wyllie, 2018). This budget cut means a loss of millions in state funding for public Kentucky colleges that will be made up by cost savings done by the institution or increases in tuition cost, borne by the students themselves (Wyllie, 2018). Lyons and Hunt (2003) remarked that not only had the cost of

college risen at record levels, but also that students have had to borrow more to finance their education.

While more students may be accepting financial aid, the federal financial aid offered per student has not matched the rise in cost (McFarland et al., 2017). The cost of attending a four-year public institution increased 14% from 2010 to 2015 (McFarland et al., 2017). However, the average federal student loan amount offered to undergraduate students fell 2% during that same five-year period (McFarland et al., 2017). The unmatched cost and aid shifts mean that although students are being asked to pay more for their education, the low-interest federal student loans and federally available college grant programs have not kept pace. A student may be forced to examine alternatives to help with the rising cost of higher education, including working while in school or even taking out personal or private student loans with steeper interest rates. All of these factors can lead to students suffering academically and/or leaving school with more debt than ever before (Wei & Horn, 2013).

Student Financial Independence

While U.S. citizens become legal adults at the age of 18, there are several other milestones in the maturation process. For instance, an “adult” is still not legally permitted to consume alcohol until the age of 21. Additionally, a person under the age of 26 can still be claimed as a dependent on their parents’ health insurance plan under certain circumstances. These and many more factors contribute to the “adult” growth experience college students face. College-aged adults must make decisions with further-ranging effects than at any previous time in their lives. Hung et al. (2009) remark specifically on the increased number of financial decisions which they must make, such as credit card

use, loans, and budgeting. College is a critical time for young adults to become financially literate, because they are transitioning from financial dependence to independence (Mimura et al., 2015).

In addition to many other consequence-bearing choices, college students will face challenges regarding financial commitments in college, the likes of which they had previously deferred to parents or guardians. Financial decisions, good, bad, and neutral, made by college students can impact them far into their lives after graduation (Cude et al., 2006). The most prevalent example is student loans. These loans are designed to support the cost of college for young adults, but too often they are not used responsibly and can lead to crippling and long-term debt for college graduates, debt which is even more pronounced for those who do not complete college (Wei & Horn, 2013).

While taking on student loans is the most publicly recognized financial decision a college student will make, Kezar and Yang (2010) explore a number of other financial choices a college-aged student will encounter. In addition to applying for student loans, young adults must also choose a financial lender, learn about interest rates, budget their money for tuition, fees, living expenses, and social activities, make decisions about whether and how much to work while balancing school responsibilities, and whether or not they choose to obtain and use a credit card. Each of these decisions would likely benefit from expert financial advice and consideration to land on the “best” option, but an 18-year-old will often make these decisions on a much more casual basis, generally without adequate information or deliberation.

Not only is inadequate financial literacy an issue that is widespread in the U.S., but it is noticeably more problematic in certain demographics such as among women,

racial minorities, and those with low educational levels (Lusardi, Mitchell, & Curto, 2009). These researchers attribute disparate levels of financial literacy to the fact that financial knowledge is most often passed on from parents to children. Sallie Mae (2009) conducted a survey on financial literacy among young adults. The results showed that nearly 85% of college students admitted to needing more financial education; 64% would have preferred to learn more about finances while in high school, and 40% would have wanted financial education in their first year of college (Sallie Mae, 2009). These numbers help to demonstrate not only the lack of financial knowledge among college students, but the extent to which they would appreciate financial education. This sense of being poorly informed about such an important and pervasive topic may contribute to stress and relate to the short-term financial confidence of college students.

Rational economic theory dictates that an individual will act in their own best interest using the information available to them. This informs the financial struggles faced by many college students due to a lack of fundamental understanding of the financial world. LaManque (2009) explains that college students' lack of financial information and therefore confidence in their decisions may lead to less financial aid awarded to support their academic endeavors and, ultimately, to lower student persistence. A technique used by many ill-informed individuals is that of avoidance; Fernandes, Lynch, and Netemeyer (2014) found that many financial mistakes are the direct result of either inaction or avoidance. Fernandes et al. (2014) go on to say that financial literacy interventions are one of the most common-sense responses to the increasingly complex financial world. Students with higher levels of financial confidence

may be more likely to actively engage in the learning that leads to more financial knowledge (Fernandes et al., 2014).

Students are not the only ones failing to understand the financial implications of their decisions in college; families and parents often hope for the best without a solid understanding of future college debt (Stegmeir, 2015). These issues are compounded not only by the lack of general knowledge but also by inefficient and complex federal and institutional financial aid systems (Stegmeir, 2015). Programs such as Higher Edge's College Access and College Visions help students prepare for college in many ways; one of the primary objectives is support through the financial aid application and understanding of financial awards (Burke, 2017, 2018).

In 2012, Dynarski and Wiederspan researched the complexities of the federal financial aid program and how these affect students, noting that the government recognized these issues as early as 1975 with the foundation of the National Task Force on Student Aid Programs, also known as the Keppel Task Force. The authors concluded that confusion and a lack of confidence often interferes with accessing any benefits available through the federal aid system (Dynarski & Wiederspan, 2012). Arguably the most prominent facet of the federal financial aid system is that of the application itself: the Free Application for Federal Student Aid (FAFSA). However, when comparing this application meant to increase access to higher education, Dynarski and Wiederspan (2012) found that it rivals IRS tax forms in terms of length and complexity. During the same five-year interval during which 24 questions were removed from the FAFSA to try and simplify it, an additional dozen was added, resulting in a less dramatic change to benefit those completing the forms. Another source of confusion about the FAFSA is the

complex timeline surrounding the filing of the FAFSA. Students must file the FAFSA early in the year if they expect to be eligible for state and financial aid but must first have completed their taxes (often not due for months) before filing the FAFSA (Dynarski & Wiederspan, 2012). The overlapping timeline between taxes and the FAFSA results in a catch-22 of when to complete which federal financial form to try and increase the benefit to the individual. There is no constant rule; timing depends on the precise scenario of the individual, and these decisions require the highest levels of financial acumen and confidence to be made in time to reap the rewards of the system.

Federal Financial Aid

While the federal financial aid system is well-known among students, this familiarity does not equate to thorough understanding. The system is designed to support students with or without financial means to provide an equitable opportunity for each U.S. citizen to further their education. As long as a student is enrolled at least half-time, they qualify for Federal Direct Loans (“Who Gets Aid,” n.d.). The first step is understanding the types of financial aid available through the federal system: grants, loans, and work-study. Grants are a category of aid that does not need to be paid back by the student, similar to scholarships and tuition waivers (Radwin et al., 2016). Loans must be paid back or forgiven; these include federal Direct Subsidized Loans (limited to students demonstrating financial need), federal Direct Unsubsidized Loans (not need-based), and private or alternative loans (Radwin et al., 2016). Parents of dependent undergraduate students may borrow money using Direct PLUS Loans. While these loans do not count against the total loan amount for a student because the parent is responsible for repayment, they are included in the student’s institutional financial aid package

(Radwin et al., 2016). Work-study allows a student to work on campus (or with partner organizations) part-time while in school if they have demonstrated financial need (Radwin et al., 2016). The student's salary is partially underwritten by federal subsidies, making the candidates more attractive to on-campus employers.

Three primary factors are used to determine how much and what kind of federal aid is available to each student. The first is the cost of attendance, including tuition, fees, housing, and books; these are combined to estimate the total cost to an individual attending a specific institution. Second, the number of enrolled credit hours is used to establish their enrollment status; categories include less than half-time, between half-time and full-time, or full-time and beyond. Finally, the FAFSA establishes an Expected Family Contribution (EFC) based on a number of factors including family income and the Federal Methodology calculation (Expected Family Contribution, n.d.). Family income is based on the dependency status of the student. Students are considered dependent if they are under 24, unmarried, do not have children, and are not active or veteran military. Dependent students are counted as part of their parents'/guardians' household. If a student qualifies as independent, only their income (or that of a partner) as head of household is considered for family income (Radwin et al., 2016).

The majority of undergraduate students (72%) receive at least some form of financial aid to help pay for college (Radwin et al., 2016). More specifically, 63% receive grants which are given to students demonstrating financial need (Radwin et al., 2016). These high percentages support the premise that students often cannot afford to attend college through their own means, or even those of their families, but must learn to understand and manage finances as a part of the educational transition.

Institutions often have additional procedures in place to ensure that students receiving award money make progress towards a degree. As such, many institutions call these Satisfactory Academic Progress policies, or SAP. There are three main policy areas: qualitative progress, quantitative progress, and maximum time frame for degree completion (Fastweb Team, 2018). The first is measured by the student's overall cumulative Grade Point Average and must remain above a 2.0 for a student to keep receiving federal aid. The second is "pace of completion," which is measured by the ratio of earned credit hours over attempted credit hours, demonstrating forward progress. Finally, a student is typically granted 150% of the allotted hours needed to earn a degree. For a bachelor's degree of 120 hours, this means that a student will cease to receive funds if they surpass 180 hours while trying to complete a bachelor's degree (Fastweb Team, 2018).

Conceptual Framework

Two student development theories provide the conceptual framework for this study. As this research examines first-year college students and the relationships between short-term financial confidence, academic achievement, and six-year graduation success, these are lenses that provide the most meaningful observation and understanding of the results. First, Schlossberg's transition model (2012) is used to introduce the topic of transitions and how the first year in college is a time of many complicated transitions. Secondly, Baxter Magolda and King (2004) elaborate on an individual's ability to understand, interpret, and construct data as part of the self-authorship identity development theory. Each of these theories will help to form a basis for understanding the student experience and the results of this research study.

Schlossberg

Nancy Schlossberg is one of the leading theorists around the concept of transition in an adult's life. She offers the following definition: "a transition is any event or nonevent that results in changed relationships, routines, assumptions, and roles" (Schlossberg, Goodman, & Anderson, 2012, p. 39). As college students, young adults experience several transitions. In fact, she explains how complex and uncomfortable life can feel with changes of more prominence and frequency (Schlossberg et al., 2012). We, as humans, do not cope well with change and transition because the rote schedule is a known, whereas change introduces a world of unsettling and at times, terrifying, unknowns. Young adults are not only experiencing a change in their academic and social lives, but they experience a shift in financial responsibility along with entering college. The shift for some may be subtle, the necessity of buying their own groceries for late-night snacking; for others it may be life-altering. Many students take on student loan debt, begin working, and manage several other requirements that come with affording college. Each of these relates to short-term financial confidence, the primary variable explored in this study. Short-term financial confidence refers to the confidence an individual student has in their financial capacity to afford living expenses, tuition, and social engagements within the upcoming months.

Schlossberg et al. (2012) examine a number of domain-specific developmental theorists such as Levinson, Kohlberg, and Gilligan. This review led to a conclusion that development usually encompasses the shift from lesser to greater complexity and movement generally changes from primarily external to internal (regarding authority and responsibility). For example, the external encompasses the concept of others knowing

what is best versus the internal locus of control in knowing that a person knows what is best for themselves. The shift college students experience regarding their financial knowledge and confidence is similar to moving from external to internal reliance.

Schlossberg postulates on the “four Ss” that impact an individual’s experience of a transition: situation, self, support, and strategies. The situation is the event or nonevent in a person’s life to “change” something. Schlossberg et al. (2012) explore how each individual experiences a situation differently based on the following factors:

triggers—what set off the transition; timing—how does the transition relate to one’s social clock; control—what aspects of the transition can one control; role change—does the transition involve role change; duration—is the transition seen as permanent or temporary; previous experience with a similar transition—how has the individual met similar transitions; concurrent stress—what and how great are the stresses facing the individual now; assessment—does the individual view the situation positively, negative, or as benign. (p. 68)

Many of these factors are similar for college students transitioning to more financial independence. However, there are factors unique to each individual that are covered under the next “S,” self.

Self is one of the more difficult areas to define because it is so personal. Many of the contributing characteristics to a person’s sense of self are related to their demographic information such as socioeconomic status, gender expression, age, health and abilities, ethnicity and race, religious or spiritual expression, and many others. This list is by no

means exhaustive and what may count as part of “self” for one person may not carry the same weight with regard to another and their individual perspective on transition.

The third “S,” support, is vitally important to how a student may choose to, or indeed, be able to cope with transition. Support comes in a number of forms and can be either beneficial or detrimental; it is important to denote the type of support per transition (Schlossberg et al., 2012). The focus of support in this study is on the financial. Support in terms of the financial transition that a student experiences when entering and funding their college education is based on short-term financial confidence and family financial support available. This connection matters in how we target financial programming on university campuses and provide that meaningful support to students in financial transition.

Strategies (the final “S”) refers to the coping strategies an individual might use to process through or alleviate discomfort from the transition. In this case, students often use the “if I am unaware of it, it is not a problem” method. While avoidance and intentional ignorance are certainly options, they do not best serve the student long-term. As discussed earlier in this chapter, the financial decisions a young adult makes in college frequently have consequences far beyond that of the current transition. Focusing on this research, university leaders and staff members can help to provide useful strategies as first-year students begin to shift and understand their role in their levels of current and future financial strength. Schlossberg is helpful as a frame of reference regarding the financial transitions college students experience.

Baxter Magolda

In addition to considering the transition that college students experience with regard to their finances as they mature, it is important to understand the concurrent internal shift in their identity and the concept of knowing. Baxter Magolda and King (2004) further explored the concept of self-authorship from Kegan's work (1994) in their longitudinal work studying the epistemological growth and development of college students at Miami University. It is this additional lens that allows the research to not only consider the external factors but also the internal metamorphosis that a college student experiences. They define self-authorship as the "capacity to internally define a coherent belief system and identity that coordinates mutual relations with others" (Baxter Magolda & King, 2004, p. 8).

Self-authorship and internal identity development include every aspect of a student's life, from academic to social to financial. Each belief system and identity must be developed, tested, experienced, and coordinated based on relationships. Therefore, a student's short-term financial confidence and knowing becomes the basis for their development throughout and beyond college. One of the study participants noted that she experienced a shift in her 20s. Similar to the development of self that Schlossberg discusses, the participant talks about moving from accepting knowledge from whomsoever was deemed an authority to beginning to develop and construct knowledge herself (Baxter Magolda & King, 2004).

Many research participants in Baxter Magolda and King's study persevere on their internal sense of self and extol the value of taking the time (often several years) to discover and build confidence in that identity (Baxter Magolda & King, 2004). Again,

many of the participants in the study discussed the crossroads they found themselves at while authoring their own experiences and distinguishing their true values (Baxter Magolda & King, 2004). The idea of crossroads dovetails nicely with the understanding of transition that Schlossberg allows in the previous theory. Both transition and developing identity are of importance for students starting college and beginning a new “adult” experience with regard to taking out loans and adding more financial responsibility and confidence to their lives.

The concept of knowledge as external and definite is often where a student starts the journey of identity development and increased global societal understanding. An external perspective then shifts over time and with experience to a much less clear and yet empowering approach to knowledge and life as malleable and constructed. Baxter Magolda and King (2004) remark on the external reliance as helpful in attaining college success but inhibiting growth outside of the college structure and ultimately insufficient for a healthy life after leaving college.

Ideally, there exists a balance between challenge and support as a student progresses through the proposed epistemological growth of the Learning Partnerships Model. This model has three tenets, each of which includes an assumption and a principle. The first pair: “knowledge as complex and socially constructed *and* validate learners’ capacity to know. [The second pair:] self is central to knowledge construction *and* situate learning in learner’s experience. [The third pair:] share authority and expertise *and* define learning as mutually constructing meaning” (Baxter Magolda & King, 2004, p. 41). These are each important in their turn as a student develops an understanding and identity as it relates to money and short-term financial confidence. The first pair of the

Learning Partnerships Model in this situation may refer to the fact that financial knowledge is complex, but each student has the tools to understand and develop confidence in their knowledge. Second, the student must approach financial understanding from their experience, as anything outside of that approach will be beyond the realm of reality for that student and therefore less meaningful. Finally, the student must be given the opportunity to demonstrate their financial knowledge and prove an understanding of the consequences of their financial decisions to continue growing their understanding of the topic as a whole.

Significance and Rationale of the Study

College students face numerous challenges today, including the increased cost of a college education (Lyons & Hunt, 2003), the financial independence expected with college financing (Hung et al., 2009), and the increased and long-term consequences for uninformed financial decision making (Rosacker et al., 2009). This study will allow higher education professionals to better understand how short-term financial confidence is connected to the success of their students. While previous research has addressed the concerns of specific sub-populations, such as inequity in academic preparation and retention and graduation disparities (Boyratz, Horne, Owens, & Armstrong, 2016; Mimura et al., 2015; Rosacker et al., 2009), the current study targets all incoming first-year students and accounts for the differences in pre-college demographic characteristics.

First-time, full-time, first-year students are entering higher education for a plethora of reasons; foremost among them is often the betterment of their lives and increased employment opportunities after graduation (Wei & Horn, 2013). The increased cost of attending college is a reasonable risk to take on with student loans when a student

believes they will graduate with employment and be able to pay off their loan debt. On average, however, only one out of two students will persist to graduation (Kemp, 2016). Wei and Horn (2013) established that non-completers, those who did not persist to graduation, were less likely to find gainful employment across all types of higher education institutions, from two-year private to four-year public. It is this devastating combination of financial risk and insufficient reward that requires institutions to better understand how short-term financial confidence relates to student academic achievement and six-year graduation success.

Term Definitions

There are several terms used in this study which are not solidly defined in the literature due to infancy of financial confidence and literacy research as a topic in higher education. Here, terms are clearly defined for use within the parameters of this research.

Academic Achievement: Measured by the cumulative Grade Point Average earned by a first-time, full-time, traditionally aged, bachelor's degree-seeking college (FTFT B-Cohort) first-year students at the conclusion of their first academic year (fall, winter, and spring semesters) on a 4.0 scale.

Debt Burden: The debt burden of an individual is measured as the ratio of federal debt to annual income measured six years after a student first enrolled in higher education (Wei & Horn, 2013).

Expected Family Contribution (EFC): Indicates the family's financial strength as calculated by a legal formula from the family's taxed and untaxed income, assets, and benefits recorded on the FAFSA. This EFC is used by institutions to establish federal student aid eligibility and financial aid award ("Expected Family Contribution," n.d.).

Federal Pell Grant: This is a federal program available to undergraduate students demonstrating high levels of financial need. It provides students money to pay for college and college-associated costs without the expectation of repayment. A student is eligible for 600% of their Pell Grant funds, or 12 full academic semesters of college financial support (Federal Student Aid, n.d., p. 1).

First-Generation Status: First-generation status is indicated by parents' educational attainment on a student's application, reflecting the highest degree earned by either parent. If neither parent has earned a bachelor's degree or higher, the student is considered a first-generation college student (Cataldi, Bennett, & Chen, 2018).

First-Time, Full-Time Student: A student enrolling in college who has never enrolled in college prior to that fall semester is considered first-time. They must also be taking a minimum of 12 academic credit hours to be considered full-time.

Free Application for Federal Student Aid (FAFSA): A free application asking students about their family income and tax information. It is used to calculate and determine eligibility for federal and institutional financial aid ("What is the FAFSA?", n.d.).

Gender: The concept of gender is one varied from person to person; however, for the purposes of this study, one will presume the socially constructed dichotomy of male and female. While there are people who may fall into neither of these categories, the dataset does not allow for students to respond in any way that does not fit the binary.

Grade Point Average (GPA): The quantifiable average of the letter grades a student earns as averaged across the number of academic credit hours taken during a semester or cumulatively.

Mapworks: A “research-based, comprehensive, student retention and success platform” designed to identify students at risk of leaving the institution for reasons ranging from academic struggles to homesickness (“Mapworks,” n.d., p. 1).

Nonresident Alien: “A person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely” (“Definitions for New Race and Ethnicity Categories,” n.d., p. 1).

Race: Collected using the Integrated Postsecondary Education Data System (IPEDS) categories. Students first report ethnicity as either Hispanic/Latino or not and then report race as one or more of the following: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White (“Collecting Race,” n.d.). The research then collapses these into two categories, White and students of color, for the study sample. Due to the lack of racial diversity of the institution, only these two racial categories were included. Although race is a valuable variable and research has shown its importance in research, it is not statistically reasonable to include further classifications because of the limited sample diversity.

Retention: The institutional measure by which students are retained and continue enrollment with the college or university (Hagedorn, 2005).

Short-Term Financial Confidence: Measured as the average of three Mapworks survey questions (Q011, Q012, and Q013) administered in the fifth week of college for first-time, first-year students in the Fall of 2013. The questions ask to what degree the student is confident that they can pay for: 1. next term’s tuition and fees, 2. monthly living expenses, and 3. social activities.

Persistence: The student measure indicating a student's continuous enrollment in higher education (Hagedorn, 2005).

Poverty Guidelines: These are a federal measure of poverty in the U.S. "They are issued each year in the Federal Register by the Department of Health and Human Services (HHS). The guidelines are a simplification of the poverty thresholds for use for administrative purposes—for instance, determining financial eligibility for certain federal programs" (2013 Poverty Guidelines, 2013, p. 1).

Research Questions and Hypotheses

RQ1: Is there a statistically significant difference in the short-term financial confidence score based on a participant's Pell Grant eligibility for first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen?

H₀₁: There is no difference in short-term financial confidence score based on a participant's Pell Grant eligibility for first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen.

RQ2: Which pre-college demographic variables are significant predictors of short-term financial confidence for first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen?

H₀₂: Pre-college demographic variables are not significant predictors of short-term financial confidence for first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen.

RQ3: Is short-term financial confidence a significant predictor of academic achievement controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA?

H₀3: Short-term financial confidence is not a significant predictor of academic achievement when controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA.

RQ4: Is short-term financial confidence a significant predictor of six-year graduation success controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA?

H₀4: Short-term financial confidence is not a significant predictor of six-year graduation success when controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA.

Figure 1. Visual Research Model

Summary

Higher education is a vital part of the United States' "American dream" wherein people are able to enhance their socioeconomic status by working hard and earning a college degree (Oreopoulos & Petronijevic, 2013). Former President Barack Obama (2012) referred to broadening higher education access as an "economic imperative." On the other hand, the cost of higher education has steadily increased over the decades with federal financial aid offerings decreasing during those same years (Aud et al., 2012; McFarland et al., 2017). To help offset these increased costs, students are asked to make financial decisions as young adults that can carry long-term detriment for underinformed individuals. These decisions are unlike the challenges faced by previous generations because the economic environment itself has shifted (Chen & Volpe, 1998; Mimura et al., 2015). Approximately half of undergraduate students make the decision to take out student loans to pay for furthering their education in the hopes of improving their lives (McFarland et al., 2017).

This study focuses on the self-reported short-term financial confidence of first-time, full-time, traditionally aged, bachelor's degree-seeking (FTFT B-Cohort) first-year students and its relationship with pre-college demographic characteristics, academic achievement, and six-year graduation success. This study is important because of the economic duality of colleges and universities in the Commonwealth of Kentucky with decreases in state funding (Wyllie, 2018) and increases in the total price for attending college (Aud et al., 2012). Further, this study addresses the critical transition young college-aged adults experience as financial dependence shifts to independence and

external reliance becomes the burden taken on by individual students to afford furthering their education (Hung et al., 2009; Mimura et al., 2015).

The research examines college first-year students at a public four-year college in Kentucky and the relationships among short-term financial confidence, academic achievement, and six-year graduation success. The lenses most useful for understanding these variables are provided by Nancy Schlossberg (2012) and Baxter Magolda and King (2004). Each of these researchers addresses the student development aspects vital to understanding how a student's transition to financial independence and authoring of their own experience relates to academic achievement and six-year graduation success.

Understanding the importance of this issue and the lenses through which it will be viewed, the next step is to explore what already exists on these and adjacent topics. Chapter Two will examine the existing literature on the pre-college demographic characteristics, including first-generation status, Pell Grant eligibility, gender, race, and high school GPA. Additionally, the focal variable of short-term financial confidence will be further clarified along with the dependent variables of academic achievement and six-year graduation success.

CHAPTER II

LITERATURE REVIEW

The national student loan debt has risen steadily over the past few decades, topping 1.2 trillion U.S. dollars in 2013 (McFarland et al., 2017). Additionally, the percentage of high school seniors choosing to take out federal student loans has grown from 51% in 1989–1990 to 68% in 2013–2014 (McFarland et al., 2017). These statistics set an alarming tone for students today, who are paying higher tuition and textbook costs amidst the overall inflation in the cost of living over the decades. As the rapidly rising cost of education is a remarkably pertinent issue for college students, this study will review the relationship between short-term financial confidence and student performance indicators, academic achievement and six-year graduation success.

Rosacker et al. (2009) describe the enhanced complexity of personal finance and the increased penalties for individuals who do not have adequate financial knowledge backing their decisions. Such consequences emphasize the value of conducting research to help college students avoid negative financial ramifications during and after their college experience. This research may help to develop meaningful interventions affecting both short-term financial confidence in students and the subsequent student success outcomes to the benefit of the institution.

This study attempts to clarify the connections between short-term financial confidence, academic achievement, and six-year graduation success. It will examine the relationships that pre-college demographic characteristics have regarding short-term financial confidence and ultimately with student success. Positioning success as the outcome variable is necessary for informing practices conducted by the institution to serve the students. Retention is among the leading factors in the success for an institution and persistence among the leading factors for student success. Low retention rates (the rate at which institutions continue to enroll students semester after semester) are a detriment to the institution and a waste of human talent, while also jeopardizing our nation's larger economic welfare (Lotkowski et al., 2004).

ACT records the annual number of U.S. college graduates and recently showed an increase of 8.6% from 2015 to 2016 (Kemp, 2016). While these numbers climb, this does not negate the overwhelming number of students who do not persist to graduation. In fact, ACT in 2015 “reported a 32% overall attrition rate across the nation for 2143 colleges and universities with a persistence to degree rate of 45.3%” (Kemp, 2016, p. 133). While these are national averages, it can be said that they mirror many campuses (Jean, 2017). The institution examined in this study had a recent graduation rate just under 40% (“Graduation Rates”, 2018). With fewer than half of undergraduates completing their degree, the exploration of what may increase these rates is vital to the health of institutions and the education of the United States as a society..

Pre-College Demographic Characteristics

Each transition that a college student experiences is marked by the self (referring here to the self introduced by Schlossberg) that a student carries with them into the ivory

tower. Due to the fact that several of these characteristics affect a student's experience with the financial transition in college, those pre-college demographic variables will be used to control for the results of the analyses. For this study, first-generation status, Pell Grant eligibility, gender, race, and high school grade point average (GPA) will be examined to account for additional variance in the student's academic achievement and six-year graduation success.

First-Generation Status

First-generation students, even those with the same level of academic preparedness, often do not achieve and persist at the same rates as their non-first-generation peers (Bui, 2002; Gibbons & Borders, 2010). The achievement disparity between students could be due to several factors, including familial support, institutional understanding, educational commitment, and financial stress and confidence. When examining the number of students leaving college after the first year, Eitel and Martin (2009) noted that first-generation students were overrepresented. Yates and Ward (2011) examined the financial literacy scores (from a 31-question survey) of students based on the educational achievement of their parents and found that there was nearly an 8-point gap between students whose parents did not complete high school when compared to students who had at least one parent complete college (from 44.2% to 51.8%). Therefore, one might presume a connection between first-generation status and a sense of short-term financial confidence and commitment to college success.

First-generation students may not be as likely to achieve as students with a college role-model in the household. Soria and Stebleton (2012) postulate on the value of a college role-model. They argue that first-generation students have lower levels of social

capital (the personal connections to seek help and guidance). Due to the lack of connection and social capital, first-generation students often face more challenges when navigating the college experience. Soria and Stebleton (2012) further comment on the intersection of these struggles during a student's first year and how that detriment can become so insurmountable as to hinder their transition into the academy. First-generation students are inherently disadvantaged due to a lack of familiarity with terms, procedures, and overall support in transitioning to college.

These features have a decidedly negative effect on the success and retention of first-generation college students. As Schlossberg et al. (2012) discuss transitions, they emphasize the support and community one relies on for a positive experience. First-generation college students often have no peer connections with which to weather the storm of the college transition. Soria and Stebleton (2012) explore the lack of social connection further by emphasizing the lost opportunities to engage with mentors and faculty, leading to overall less engagement in their academic studies and campus life.

Astin (1984) writes about the value of connecting with the college experience as a whole, including social, to buoy academic success. A lack of engagement shows up in a number of areas across the academic experience: fewer contributions to class discussion, not asking questions in classroom settings, not mentioning intersecting ideas from one class to another, and even avoiding interactions with faculty during lectures (Soria & Stebleton, 2012). Avoidance is markedly notable during a student's first year of college, impacting their academic achievement as measured in this study by first-year GPA (Soria & Stebleton, 2012). Not engaging, due to time, responsibility, commitment, or any other reason, affects the students' ability to complete their degree. Soria and Stebleton (2012)

found that first-generation students have an average of 45% less likelihood of returning to college for a second year while holding other variables constant.

First-generation students may benefit even more than other students from higher education because of the social and economic mobility it will provide them, but the perceived cost will be higher for many low-income and first-generation students with regard to the portion of their family income required to pay for college. The combination of proportional cost and benefit then raises the question of “value.” Another perspective focuses on the increasing economic value of the college degree and how the value of a degree emphasizes the importance of completion rather than only attempting (Baum & Payea 2005; Goan & Cunningham 2006; Kot, 2014). Students coming from homes where neither parent has completed a bachelor’s degree are more likely to be considered of low socioeconomic status, as family income and first-generation status are key contributors to the measure of socioeconomic status (Wells & Lynch, 2012).

Part of the decrease in retention is related to academic preparation, but it is internalized for many of these first-generation students. Researchers (Gibbons & Woodside, 2014; Horn & Nuñez, 2000) have found that first-generation students believe themselves to have lower academic abilities, remark on more barriers to attending college, and have less math and science academic experience than their non-first-generation peers. Bandura (1982) discusses the concept of self-efficacy where self-perception impacts decisions and future behaviors. Therefore, the consequences of first-generation students’ beliefs about their lower academic abilities carries real weight in terms of their performance and trust that they are able to improve and outperform their own expectations.

The achievement concerns noted by Gibbons and Woodside (2014), Horn and Nuñez (2000), Wells and Lynch (2012), and other researchers mentioned above have been focused outside of finances. However, the short-term financial confidence of a student may also affect their academic experience. Studies have found that the increase in work hours and responsibilities that many first-generation students face has a negative impact on their academic success. The negative impacts observed specifically included earning fewer credit hours over a three-year period than other non-first-generation students (Pascarella, Pierson, Wolniak, & Terenzini, 2004; Eitel & Martin, 2009). Earning fewer credit hours demonstrates the distinct challenge set for them financially as well as academically and socially. While work hours have an established relationship with academic success, it is not included as a viable variable in this study due to data limitations.

First-generation college students typically have less access to familial financial support in times of need (Eitel & Martin, 2009; Hogarth & Hilgert, 2002; Kasworm, 2003). A student who is the first in their family to attend college may also experience higher pressure to financially provide for their family. This type of financial pressure is the case not only for adult learners, but also for traditionally aged students attending college as first-generation (Eitel & Martin, 2009). The responsibility as provider leads to the addition of financial stress beyond the academic rigors of any college experience. As first-generation students are quite vulnerable to financial stress, they frequently struggle to manage the scarce resources available to them and the struggle can mean they drop out or complete degrees at a slower pace (Lyons, 2004).

Resource management involves students supporting themselves financially and taking the necessary means to earn a stable income while also attending school (Rodriguez, 2003). Due to an expectation of providing for a family or the cost of attending college and living, many first-generation students work while enrolled (Eitel & Martin, 2009). Mimura et al. (2015) found that first-generation students typically carried credit card balances and had higher balances than their counterparts. The likelihood of a revolving credit balance is indirectly proportionate to the education level of a student's parents; meaning that first-generation students are more likely to carry a higher revolving balance (Robb & Sharpe, 2009).

First-generation students experience financial stress, explaining the exploration of a connection between these financial stressors, academic achievement, and six-year graduation success. Multiple researchers (Bui, 2002; Kasworm, 2003; Eitel & Martin, 2009) found that more than half of the first-generation students they studied cited lack of financial resources as the reason they would likely withdraw from class or college altogether. Tucker (2014) expands on the support programs in existence for first-generation students, citing attempts to better identify, recruit, retain, and graduate students whose parents did not complete bachelor's degrees. These programs are designed as support, because as Tucker (2014) notes, focusing on first-generation students not only benefits the economy in the U.S., but can help to improve its international standing. This study will help to better describe how a student's short-term financial confidence connects with a variety of backgrounds to better support their college transition and ultimately graduation from college.

Pell Grant Eligibility

Pell Grant eligibility is determined by a series of calculations based on the reported family income, family size, number of family members enrolled in college, and current poverty regulations (Federal Student Aid). A student completes a Free Application for Federal Student Aid (FAFSA); the Federal Government then uses a calculation referred to as the Federal Methodology to establish the expected family contribution (The Institute for College Access and Success, n.d.). The level of EFC, or expected family contribution, then helps to determine a student's eligibility for the federal Pell Grant program. Federal Pell Grants are traditionally only awarded "to undergraduate students who display exceptional financial need and have not earned a bachelor's, graduate, or professional degree" (Federal Student Aid, n.d., p. 1).

There have not been any studies exclusively on Pell Grant eligibility and short-term financial confidence, but researchers have examined how family income is related to financial literacy. Heckman and Grable (2011) address the misuse of student loans, directly noting that students from lower socioeconomic backgrounds tend to misunderstand student loans and use them for purposes beyond the direct cost of college, including use as supplemental income. This misappropriation of student loans can lead to unmanageable and avoidable debt. Robb and Sharpe (2009) concluded that student's family income also contributes to the standard of living experienced and expected by a student. Students also learn about money management from parents and those from a lower socioeconomic status may have fewer opportunities to learn about proper and responsible financial management (Robb & Sharpe, 2009). The concept of learning money management from parents reinforces the "learned" money management from

parents. As students learn these behaviors at home before college, family income is therefore directly connected to the financial literacy and success of the student. Research has shown over and over again that students coming from more affluent families have outperformed their peers in numerous categories from financial knowledge to academic performance (Yates & Ward, 2011).

The connection between short-term financial confidence and six-year graduation success is likely related to Pell Grant eligibility, which accounts for its inclusion in the study. As studies have explored lower socioeconomic status, the indicator for this research on that point is Pell Grant eligibility. One of the reasons that low-income students do not perform well may be isolation (Tucker, 2014). Several researchers addressed isolation and at-risk characterization as they present for first-generation and low-income students, informing the inclusion of these both as covariates (Tucker, 2014; Hurford, Ivy, Winters, & Eckstein, 2017; Jean, 2017). Lotkowski et al. (2004) examined the relationships between variables such as socioeconomic status, high school GPA, academic motivation, and college GPA. For their study, they defined socioeconomic status as the combination of the highest level of education achieved by parents and family income. While their work showed a stronger relationship to academic factors than the economic factors, they found that a combination of both academic and economic factors suited the research best in completing the picture of student needs for success.

Gender

The concept of gender varies from person to person; however, for the purposes of this study, one will presume the socially constructed dichotomy of male or female. While there are people who may fall into neither or both of these categories, the nature of the

data examined in this study allows for each respondent to be considered one or the other without exception. The literature reviewed here will establish why gender is a factor at all concerning short-term financial confidence and six-year graduation success.

General research has led to the conclusion that college-age women perform worse than college-age men on measures of personal financial knowledge (Chen & Volpe, 1998, 2002; Borden, Lee, Serido, & Collins, 2008; Robb & Sharpe, 2009). Specifically, Mimura et al. (2015) found that first-generation female college students showed demonstrably less financial literacy than their male counterparts. Indeed, this finding is not unique to financial knowledge, but often applies to success on the whole. Lohfink, Paulsen, and Paulsen (2005) concluded women were less likely to persist than their male counterparts. On the other hand, Stewart, Lim, and Kim (2015) found that gender did not provide statistical significance in terms of academic persistence. One may argue a shift in the ten-year gap from 2005 to 2015, but either way, research findings confirm differences between genders in areas of knowledge and expertise. The authors go on to explain the contradictions they found in the research:

Varying results about the effects of gender differences on persistence are reflected in the literature. Corbett, Hill, and Rose (2008) revealed that women attend and graduate from college at higher rates than their male peers. Results from a study by Hagedorn (2005) revealed that graduation rates for female students were 20% higher than male students. In contrast, findings from other researchers revealed that gender did not influence persistence (Stewart et al., 2015, p. 13).

It stands to reason that gender can affect a student's transition and path to determining short-term financial confidence.

Race

Race and ethnicity affect many aspects of a student's life. Their short-term financial confidence, academic achievement, and graduation are not exceptions. Higher education is a challenging setting for many students, but research has shown that there are additional hurdles in persistence and graduation for students from traditionally minoritized populations (Witkow, Huynh, & Fuligni, 2015). The findings have been fairly consistent with regard to the benefits and obstacles of certain races. There are two considerations with the variable of race: its correlation with academic achievement and that of short-term financial confidence.

As with many aspects of the self for a student, it is beyond one's control. In this case, race is most likely linked to one's personal history. A number of studies have found racial differences in high school GPA. High school grades are one obvious explanation for differences in college persistence (Witkow et al., 2015). Stewart et al. (2015) found that there was a statistically significant main effect for race on persistence. Farmer, Hilton, and Reneau (2016) specifically studied women of color because they noted that while much of the retention and graduation research was done on race, it focused on Black American males. They go further in stating that society has attributed the poor academic preparation and lower higher education retention rates of women of color to their individual circumstances rather than examining the system as a whole in its inequity (Farmer et al., 2016). While this research is in effect attempting to explain the individual experience of short-term financial confidence in the context of these pre-college

demographic characteristics, the hope is that the systems will change to better serve these students over time as individuals.

Caucasian students had higher levels of financial literacy and financial knowledge (Mimura et al., 2015). Researchers Pong and Landale (2012) found that immigrant and ethnic minoritized students face additional challenges on the path to attaining higher education because they often come from a lower socioeconomic status than their majority peers (Witkow et al., 2015). These backgrounds and the race and ethnicity of a student often create stressors beyond that of other students attending college. Stressors are often more prevalent for racially minoritized populations and first-generation college students. These stressors include systemic and social racial discrimination, financial pressure, and lack of familial support (McGonagle et al., 2014, p. 53).

Individual undergraduate students bring with them a wide variety of experiential influences. The variable of race is one of import for this research as it lends additional context to the results. However, it is important to understand that the examination of race is not founded on a deficit but rather highlights the relationship found among the total of pre-college demographic characteristics and the variables of short-term financial confidence, academic achievement, and graduation. As enquiries have been completed on financial aspects of undergraduate students within the last decade, some researchers found significant differences between Caucasian students and traditionally minoritized racial populations including Black or African American and Latinx (Peach & Yuan, 2017), while others found no real statistically significant difference on financial factors based on race and ethnicity (Stewart et al., 2015). For the purposes of this study and considering the racial variance in the available population, race will be nominally coded

at two levels: White or students of color. Understanding that “students of color” represents many varied races, future research would benefit from further exploration of these differences. However, due to the predominance of White representation within this study population, any further classification of race beyond the two would provide such small sample sizes as to eliminate the opportunity for statistically significant findings. This limitation is in no way to diminish the importance of racial representation and the value of exploring diversity in racial and ethnic populations.

High School Grade Point Average

Another contemplation based on the academic and student success literature is naturally connected to previous academic performance, specifically high school GPA. There has been ample research connecting higher high school GPAs with higher college persistence. Enikő and Szamoskozi (2017) examined this phenomenon and found that high school GPA was one of the highest predictors of college success, concluding that the academic development in high school and the skills acquired during this time provide a foundation for future academic performance. Kemp (2016) agrees that better academically prepared students perform better in college. Hurford et al. (2017) explained that the connection may go beyond simple academic ability and speak more to the type of individual student; the sole variable of a lower high school GPA does not in itself indicate a decreased likeliness to succeed but may point to the fact that student was less engaged in their academic pursuits while in high school.

Hurford et al. (2017) also examined predictor variables to identify underprepared students. While the academic level achieved before college may do a better job of ensuring success once enrolled, it does nothing to remedy the larger issue of a demanding

economic environment focused on higher education for more people. Even in the abundance of research done on academic achievement from high school to college, few researchers have compiled data with financial confidence as well. Witkow et al. (2015) studied persistence as it relates to high school GPA and found that students persisted at higher rates when entering college with higher high school GPAs. This study will take a broader approach to the question of academic achievement, including short-term financial confidence.

Short-Term Financial Confidence

The individual financial experience includes myriad aspects including knowledge, action, financial strength, and confidence. While previous research has examined financial knowledge and literacy (Chen & Volpe, 1998; Huston, 2010), this study focuses on short-term financial confidence. Self-efficacy as defined by Bandura (1982) focuses on one's knowledge and the perceived ability to use that knowledge; simply put, the belief in his or her capacity to execute behaviors. Short-term financial confidence as self-reported data incorporates both an internal perception and one's confidence of being able to afford upcoming expenses. Short-term financial confidence is not simply a measure of a student's financial knowledge and ability to budget, but also their financial situation and that of their supporting family.

One of the common concerns related to finances for many college students is that of confidence. Students having to pay for college tuition, room and board, textbooks, and other living expenses can be increasingly overwhelmed with the responsibility and immensity of the role they have. This overwhelming sense of responsibility impacts students with regard to student loans, both federal and private. Brown, Taylor, and Price

(2005) found that individuals with higher levels of debt experienced higher levels of psychological distress as well; this concept is also supported by Heckman and Grable (2011). Even if the student makes no payments on a student loan while enrolled, the burden of debt that they carry can affect their mental wellbeing and ability to focus on academic endeavors. On the other side of the coin, responsible use of student loans can help to alleviate some of the immediate pressure to pay for college out-of-pocket. Students taking out student loans to help with tuition may be better able to attend school full-time, may not have to work as many hours outside of their education and can spend more time on schoolwork, benefiting both persistence and graduation (King 1999; Saunders, 1997; Eitel & Martin, 2009).

Academic Achievement

Academic achievement is herein defined as the cumulative GPA a student earns at the conclusion of their first year in college. First-year cumulative GPA is used as a proxy measure to confirm the findings between short-term financial confidence and, later, graduation. Witkow et al. (2015) used first-year GPA as a basis for their research on the topic, finding that it was a partial predictor of persistence. Daugherty and Lane (1999) found that a student's high school performance and academic preparation is one of the best variables to determine a student's ability to persist in college. Performance during the first year of college has also been shown to be a strong indicator for future academic success and continued persistence (Witkow et al., 2015).

Lotkowski et al. (2004) found a significant relationship between a higher first-year GPA and lower likelihood of dropping out of college. Additional researchers found that poor academic performance, such as low first-year GPA, is one of the strongest

predictors for attrition in the second year (Boyratz et al., 2016). Gayles (2012) complements their work, summarizing that the first-year GPA continues to have a strong correlation with cumulative GPA, graduation within six years, and graduating with honors. This academic achievement in the first year of college translates into long-term success within the institution with regards to persistence and, perhaps more importantly, graduation. When accounting for other signifiers of academic preparation and accomplishment such as ACT scores, Farmer et al. (2016) found that college first-year students who continued in college to graduation had much higher first-year GPAs than their peers who did not graduate.

Many researchers agree that a college student's financial situation can directly affect their academic health (Cude et al., 2006). Part of the financial stress that students experience may be due to a lack of knowledge and confidence around the topic. Few institutions offer excellent guidance regarding preparing college students to author their own financial futures while attending college. Kezar and Yang (2010) recommend the increase of financial literacy interventions for college students, as their research shows financial literacy is, beyond an intellectual skill, a benefit to the student in terms of remaining enrolled and succeeding at higher education goals.

Six-Year Graduation Success

One of the most well agreed-upon goals of higher education is that of degree attainment. Most markers of graduation include either a four-year or six-year mark; four years because a student taking 30 credit hours a year will earn 120 (the required amount for a bachelor's degree) after four years, and six years because they will allow for 150% of the original expected timeframe (IPEDS Survey Components, n.d.). American College

Testing (ACT) produces an annual report on various college measurements. In 2014, ACT reported that only 40–56% of college students attending a four-year public institution (as is the one in this study) complete their bachelor's degree in under six years (Boyratz et al., 2016). Additionally, colleges report four- and six-year graduation rates to both state and federal agencies such as the Integrated Postsecondary Education Data System (IPEDS) for institutional funding metrics.

Retention and graduation are, in part, so important because of the negative effect on not only the institution if students are not retained, but also on the economy and society itself with a less educated populace over time. In 2015, ACT “reported a 32% overall attrition rate across the nation for 2143 colleges and universities with a persistence to degree rate of 45.3%” (Kemp, 2016, p. 133), meaning that fewer than one out of every two students attending college completes a degree, arguably making higher education a “risky proposition.” The cost of not completing a degree goes beyond the personal to the financial. Wei and Horn (2013) establish that non-completers are less likely to find gainful employment, resulting in lower incomes. Therefore, the individual's debt burden (federal debt to income ratio) is likely higher, putting them even further behind in achieving financial success in life. The goal of this study is to help elucidate these concerns and help to strategize sufficient interventions to keep these students in college and on track towards their degrees.

The reasons that a student returns to the same institution of higher education goes beyond the simple academic experience inside the classroom. “Retention is dynamic and involves a complex interplay between academic and non-academic factors” (Lotkowski et al., 2004, p. 3). Many other factors influence this choice, finances among them.

Researchers agree that there can be a significant impact on student persistence based on their financial skills and the ability to manage their financial resources well (Joo, Grable, & Bagwell, 2003; Yorke & Thomas, 2003; Eitel & Martin, 2009). Cabrera, Nora, and Castaneda (1992) found a significant direct effect of financial aid on the student's college GPA and their reported intention to persist to graduation. Two approaches to the financial question surrounding college students exist; one is that financial aid helps to keep students enrolled, while the other suggests the stress placed on students to pay for school on their own decreases their persistence. The perspectives on financial aid may be two sides of the same argument, but each perspective requires examination.

Students who experience financial need beyond the financial aid package provided may choose to work to make up the difference. However, studies have shown that students who work more hours often have lower persistence and/or choose to attend part-time at a higher rate than their peers without so many hours of work (Witkow et al., 2015). Students required to work while in college due to their financial demands may be less likely to persist than their peers with more financial resources and stability (Lotkowski et al., 2004). Witkow et al. (2015) also noted that a student's financial situation and experiences while attending college were significant predictors beyond the simple measure of socioeconomic status to help identify likelihood of persistence. Essentially, the experience a student has in college as it relates to their short-term financial confidence affects them beyond the pre-college demographic characteristics like Pell Grant eligibility.

Stewart et al. (2015) found "a statistically significant main effect was obtained for financial aid status... Students who received financial aid were more likely to persist than

students who were not awarded financial aid” (p. 16). Authors studying the impact of financial aid agree that, generally, financial aid recipients have lower dropout rates (Ishitani & DesJardins, 2002; Lotkowski et al., 2004). However, as mentioned above, if the financial aid provided is not sufficient to cover the cost of attending college, many students must supplement their federal financial aid packages by working part-time or even full-time jobs.

Summary

With the national student loan debt topping 1.2 trillion U.S. dollars in 2013 (McFarland et al., 2017), it has become evident that more research is needed on how college students understand, experience, and act regarding their financial decisions and futures. As the total cost of attending college, including tuition, room, and board, has increased, so has the percentage of students taking out student loans to reach approximately one half of the college-going population (McFarland et al., 2017). As the rising cost of education is a real and common obstacle for incoming college first-year students, this research will explore at least in part some of these concerns.

Variables explored in this study include short-term financial confidence as measured by the Mapworks survey conducted five weeks into a student’s first year of college, academic achievement as measured by the student’s cumulative GPA at the conclusion of their first academic year, and six-year graduation success. To provide the most useful and comprehensive perspective on these variable relationships, several mitigating variables have been added based on the recommendations found in previous literature and research. Pre-college demographic characteristics will be used to control for variance in the population that might skew the results. These pre-college demographic

characteristics include first-generation status (Yates & Ward, 2011), Pell Grant eligibility (Robb & Sharpe, 2009), gender (Chen & Volpe, 1998, 2002), race (Stewart et al., 2015), and high school GPA (Daugherty & Lane, 1999).

Short-term financial confidence has not been previously explored in depth but is something that may be affected by a meaningful intervention conducted by the institution and is therefore the focal point of this study. The Mapworks survey has three questions addressing the individual student's short-term financial confidence, and these will be averaged to provide a mean score representing this factor for analysis. Academic achievement is measured by the student's cumulative GPA after their first academic year, and six-year graduation success is dichotomous based on the student either graduating or not.

The following chapter will outline the details of the research setting, design, population, and procedure providing the groundwork for best understanding the research. The Mapworks instrument will be detailed further and plans to establish internal consistency reliability will be made known. The variables and research questions will also be discussed in terms of coding and statistical analyses. Finally, the limitations of the study will be reviewed to inform the reader of considerations that were made while constructing this study.

CHAPTER III

METHODOLOGY

Study Purpose

College students face challenges today including the vast increase in college financial cost than in previous decades (Hung et al., 2009; Lyons & Hunt, 2003) and the increased and long-term consequences for uninformed financial decision making (Rosacker et al., 2009). While previous research has addressed the concerns of specific sub-populations (Boyras et al., 2016; Mimura et al., 2015; Rosacker et al., 2009), the current study targeted a broader swath of the incoming first-year students and uses the differences in pre-college demographic characteristics to examine the data instead of limiting the population. This study used previously collected data and examined pre-college demographic characteristics, short-term financial confidence, academic achievement, and six-year graduation success. A detailed description of the research setting, research design, study participants, and instruments used follows. The conclusion of this chapter outlines the statistical analyses conducted to answer each of the research questions.

Research Setting

The institution used for this study is a comprehensive master's level institution as indicated by Carnegie Classification ("Institution Lookup," n.d.). The institution

currently enrolls around 15,000 students, making it a mid-sized institution and a benchmark for similar institutional sizes across the United States of America. It is a 4-year public, non-profit institution and is located in the Commonwealth of Kentucky. For the purposes of understanding the institutional perspective, it is important to note that the university is a Predominantly White Institution (PWI).

It is important to note that the economic region of the research setting plays a specific role in the research question. Kentucky is among the states dramatically affected by the economic downturn that took place in 2008. Johnson et al. (2009) recognized the shift in university revenues away from federal and state funding to a greater reliance on tuition and fees paid by the individual student. Specifically, Kentucky saw state budget cuts of approximately 3%, leading to tuition increases from 5.2% to 9% as well as the elimination of faculty and staff positions (Johnson et al., 2009). Heller and Rogers (2004) agree that these state cuts are directly linked to massive increases in the tuition and fees paid by students and their families. These trends in decreased funding have continued in certain states across the United States including Kentucky. Kentucky is one of 12 states to see consistent per-student funding cuts in higher education for 2014 and 2015 (Mitchell, Leachman, & Masterson, 2016). Per-student funding is down by over 30% since the start of the recession in 2008 (Mitchell et al., 2016).

Population and Sample

The population for this study consisted of entirely first-time, full-time (FTFT) bachelor's degree-seeking (B-Cohort) first-year students enrolled in the Fall of 2013. Because international students are not eligible for federal financial aid, this population was excluded from analyses. The results are meant to be generalizable to similar

institutions' college-aged students in the United States. Regarding short-term financial confidence, the data were collected in the Fall of 2013, so the following characteristics are representative of the institution at that time. Just over 13,000 undergraduate students were enrolled during the Fall 2013 semester. Approximately 25% of those students were FTFT B-Cohort first-year students. Table 1 shows varying demographic information for the entire enrolled first-year population at the student institution. Table 2 shows the breakdown of demographic characteristics for this study sample population.

Table 1

Study Institution First-Year Population Characteristics Fall 2013

Characteristic	Total Number	Percentage
Undergraduate Enrollment	13,116	
First-Year	3,532	26.9%
First-Year (Gender: Female)	1,902	53.9%
First-Year (Gender: Male)	1,630	46.1%
First-Year (Race: White)	2,836	80.3%
First-Year (Race: Students of Color)	696	19.7%
Pell Grant Eligible First-Year Population	1,328	37.6%
First-Time, Full-Time B-Cohort Freshmen	1975	55.9%

Table 2

Study Population Demographic Characteristics

Variable	n	% of the sample
First-Generation Status	1,210	
First-Generation (0)	513	42.4%
Not First-Generation (1)	697	57.6%
Pell Grant Eligibility	1,210	
Yes (0)	474	39.2%
No (1)	736	60.8%
Gender	1,210	
Male (0)	449	37.1%
Female (1)	761	62.9%
Race	1,210	
White (0)	967	79.9%
Students of Color (1)	243	20.1%
High School GPA	1,200	
Below the Mean	583	48.6%
At or Above the Mean	617	51.4%

Data

This study design included the analysis of existing data as collected from FTFT B-Cohort first-year students at a single institution. One of the primary variables was obtained by the Mapworks survey conducted in 2013 on campus. Pre-college demographic characteristics were recorded in internal student data systems housed under Institutional Research. Final variables including academic achievement and six-year graduation success were maintained by the Registrar's Office. The timeframe of this study allowed for the collection of data over time. Access to multiple data reported over a period of years for each participant enabled the researcher to assess the relationship among different variables including short-term financial confidence, academic

achievement, and graduation within six years of initial enrollment. These relationships and covariates were analyzed using a number of statistical techniques.

All data are property of the individual university entity and housed on a secure server accessible by approved staff only. Academic achievement (GPA) and graduation data were gathered from university records. The analyses were conducted exclusively on one cohort beginning in Fall 2013 through the six-year graduation success rate (May 2019) consistent with reporting to the Council on Postsecondary Education in the Commonwealth of Kentucky (CPE).

The study institution had an undergraduate enrollment of 13,116 students during the Fall 2013 semester. Of this population, 1,975 are first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen representing 55.9% of the first-year population and 15.1% of the total undergraduate population. These 1,975 students are the focus of this study and were each given the opportunity and encouragement to complete the Mapworks Transition Survey starting the fifth week of their first fall semester. A total of 1,210 (61.3%) students completed the survey with at least two of the short-term financial confidence questions answered to provide a factor average.

Demographic specifics of the participating, first-time, full-time bachelor's degree-seeking first-year student population are as follows: approximately 513 are first-generation (42%); approximately 80% are White, 20% are students of color; and roughly 63% are female, 37% are male.

Procedure

The researcher used pre-existing data for this study and collected variables from two different sources: the Mapworks Fall Transition Survey results from the 2013 first-

year student cohort and institutional data including demographic information, academic performance, and graduation data. Because each of these data sets contained identifying information for the respondents, the Institutional Student Identification Number (SID), the researcher could connect these disparate data sets to link demographic information, the survey results, and educational progress and performance for each participant.

Data collected from the institution were linked to the Mapworks results using the student identification number for the statistical analyses. The study variables obtained from the two data sets are as follows: first-generation status, institutional research; Pell Grant eligibility, Free Application for Federal Student Aid; gender, institutional research; race, institutional research; high school GPA, institutional research; short-term financial confidence, Mapworks instrument; academic achievement, institutional research; and six-year graduation success, institutional research.

Mapworks

The instrument used for this study is the licensed first-year college survey called Mapworks. Created in 1988 at the higher education institution, Ball State University, it is a “research-based, comprehensive, student retention and success platform” designed to identify students at risk of leaving the institution for reasons ranging from academic to emotional (“Mapworks,” n.d.). One of the primary reasons for using this predictive analytics tool was to narrow the focus and make a user-friendly platform to help faculty and staff make positive, intentional interventions early in the semester (“Mapworks,” n.d.). The primary motivation of Ball State University leaders for the tool’s development was to collect and have a means to share student information vital to supporting and

retaining students in a way that allowed faculty and staff to feel they shared in the responsibility to support student success and retention.

At its inception, Ball State University leaders set the following three goals for their new platform: “Create earlier intervention opportunities between faculty/staff and first-year students; Educate students on the behaviors needed to be successful at Ball State; Gather systematic information on the characteristics of the first-year student population” (Woosley & Jones, 2011, p. 4). Seventeen years after it began, Ball State University administration partnered with the Skyfactor company to design the next iteration of the tool referred to as Mapworks: MAP (Making Achievement Possible) (“Mapworks,” n.d.). The new generation of the tool became a web-based version available for purchase and use by other colleges and universities as a student success platform (“Mapworks,” n.d.).

A wide range of higher education developmental theories were examined in the creation of the survey instrument:

Mapworks is based on several student development theories well-known within the field such as: Upcraft, Gardner & Associates (1989) focusing on pre-enrollment variables; Astin’s Theory of Involvement; Chickering’s seven vectors of student development; Tinto’s Theory of Attrition (1993); Institutional Commitment, a revision of Tinto’s theory by Bean and Eaton (2000); Academic Self-Efficacy; Socialization and Effort by Pascarella (1985); the combined work of Pascarella and Terenzini on Student Expectations; and Grit and Resiliency as researched by Duckworth, Peterson, Matthews, and Kelly (2007). (Woosley & Jones, 2011).

The survey is called the Transition Survey and it measures behaviors (academic and otherwise) as well as expectations of entering college freshmen. The online survey was administered to all freshmen via email invitation. Students were given the opportunity to save their place and return to the survey to further encourage complete responses. Reminders were provided by the institution via email as well as from administrators directly connected to the student, such as resident hall directors and identity-based office staff. The research questions chosen for this study were all scaled from 1 - “not at all confident” to 7 - “extremely confident.” The survey was conducted in the first three to four weeks of the fall semester through Skyfactor’s online survey system (“Mapworks,” n.d.). The system allows for institutions to submit their list of students for data collection and reminder emails and provides participants a chance to opt-out (“Mapworks,” n.d.).

Validity and Reliability

Because the Mapworks tool is used across so many different campus settings to support student success and retention, Skyfactor is continuously conducting empirical studies to examine validity and reliability of the scores generated from the survey. Some of the campus variation is in location, from rural to urban, while another is in size. Both large public and small private institutions use the instrument. In terms of the statistical tests chosen, both exploratory and confirmatory factor analyses are run to ensure the correct grouping of questions per construct. Cronbach’s alpha reliability scores are then used to ensure the internal consistency of the scales, as well as standard statistical examinations including descriptive statistics, and various plots and graphs help to avoid

any anomalies or unusual response patterns (“Mapworks,” n.d.). Table 3 shows the reliability via alpha scores for each of the factors included in the Mapworks survey.

Table 3

Mapworks Factor Reliability

Factor (Scale Name)	Reliability (α)	Factor (Scale Name)	Reliability (α)
Academic Integration	.867	On-Campus Living: Environment	.731
Academic Resiliency	.883	On-Campus Living: Roommate Relationship	.815
Academic Self- Efficacy	.856	On-Campus Living: Social Aspects	.860
Advanced Academic Behaviors	.782	Peer Connections	.927
Basic Academic Behaviors	.721	Satisfaction with Institution	.891
Commitment to the Institution	.799	Self-Assessment: Analytical Skills	.690
Financial Means	.877	Self-Assessment: Communication Skills	.742
Homesickness: Distressed	.860	Self-Assessment: Self- Discipline	.788
Homesickness: Separation	.628	Self-Assessment: Time Management	.775
Off-Campus Living: Environment	.628	Social Integration	.901

Constructs in the survey are evaluated to ensure high correlations between related factors such as Social Integration and Peer Connections (Woosley & Jones, 2011). Additionally, divergent or discriminant validity is also tested to verify that separate constructs are accurately measured by the survey questions (Woosley & Jones, 2011). “Correlational analysis and cross-tabulations with Chi-Square analysis are used to

investigate and confirm the predicted relationships among the constructs” (Woosley & Jones, 2011, p. 10).

Unfortunately, Skyfactor and Mapworks do not share detailed validity and reliability data with the public. For this study, the reliability score ($\alpha = .877$) for the “Financial Means” factor is not a benefit because the whole factor is not used. The given Mapworks construct of Financial Means is broader than the purposes of this research, so three individual questions were chosen to measure the specific construct of short-term financial confidence. Because these three questions have not previously been measured for reliability, the researcher conducted a statistical test to measure the internal consistency reliability of this new factor providing the Cronbach’s alpha in Chapter Four.

Study Variables

The primary objective of this study was to explore the relationships between short-term financial confidence, academic achievement, and six-year graduation success. The variables used to answer the research questions included: first-generation status, Pell Grant eligibility, gender, race, high school GPA, academic achievement (as measured by first-year college cumulative GPA), and graduation from the original institution.

First-generation status was calculated by the institution based on the self-report of parental education levels and was measured as either yes (coded as 0) or no (coded as 1).

Pell Grant eligibility (Pell) as reported by the Free Application for Federal Student Aid (FAFSA) served as an additional independent variable and was categorized into two discrete levels: yes (coded as 0) or no (coded as 1).

Gender was counted as nominal at two levels; male = 0 or female = 1.

Race was counted as nominal at two levels; White = 0 or students of color = 1.

High school GPA was the final pre-college demographic variable and was measured as interval with a scale of 0.00 to 4.00.

Short-term financial confidence was used both as an outcome and predictor variable across the research questions and was measured by the mean of three questions on the Mapworks survey. These three questions were selected to create the short-term financial confidence factor because they ask participants clearly and directly about individual short-term financial confidence in paying for three areas of cost: tuition, living expenses, and social activities. The factor of short-term financial confidence was then also interval in nature and rated on a Likert scale of 1–7. Academic achievement was a dependent variable and was measured by the cumulative GPA earned by students at the conclusion of their first academic year in college. The level of measurement was interval on the 0.00 to 4.00 grading scale. The final dependent variable was six-year graduation success measured as nominal and into two discrete categories. If, after six years, the individual had successfully earned a bachelor's degree from the original institution, the variable was coded as yes = 1. On the other hand, for that same time period, if an individual did not successfully graduate, the variable was coded as no = 0. Table 4 further clarifies the individual variables and information regarding those used in the study.

Table 4

Exposition of Major Variables

Variable	Timeline	Source	Level of Measurement	Coding
First-Generation Status (FG)	Pre-College	Self-Reported (IR)	Nominal, 2 levels	0=First-Generation 1=Not First-Generation
Pell Grant Eligibility (Pell)	Pre-College	FAFSA (OFA)	Nominal, 2 levels	0=Yes 1=No
Gender	Pre-College	Self-Reported (IR)	Nominal, 2 levels	0=Male 1=Female
Race	Pre-College	Self-Reported (IR)	Nominal, 2 levels	0=White 1=Students of Color
High School cumulative GPA	Pre-College	Transcript (IR)	Interval	0.0–4.0 (0.0-F, 4.0-A)
Short-Term Financial Confidence	First 5 Weeks	Mapworks	Interval, mean of Q011-Q013	1–7 (1-Not at all, 4-Moderately, 7-Extremely)
Academic Achievement	End of Year 1	Institutional (IR)	Interval, first-year college GPA	0.0–4.0 (0.0-F, 4.0-A)
Six-Year Graduation Success	End of Year 6	Institutional (IR)	Nominal, 2 levels	0=No 1=Yes

Note: The Office of Institutional Research (IR) serves the institution by analyzing problems facing the university staff, students, and culture and then posing possible solutions driven by data. The Office of Financial Aid (OFA) serves students at the institution by conducting all internal and federal processes to apply aid to student accounts.

Statistical Analysis

This study addressed the four research questions and corresponding hypotheses related to undergraduate college students. The data were analyzed using the IBM Statistical Package for the Social Sciences (SPSS) version 26 for Windows. In answering the research questions, multiple statistical techniques and analyses were used as best paired with each question and variable set. The following section outlines each research question, hypothesis, analysis, and assumptions.

Chi-square tests were used for the categorical data: first-generation status, Pell Grant eligibility, gender, race, and six-year graduation success. Independent samples *t*-tests were used for the continuous variables: high school GPA, short-term financial confidence score, and academic achievement as measured by first-year college GPA.

When conducting statistical analyses on individuals with multiple facets to their identity, it is important to establish additional variables that may contribute to any variance discovered in the dependent variable. This can be done by using multiple independent variables as covariates resulting in an analysis of co-variance. Examining one dependent variable at a time with ANCOVA allowed the researcher to determine the mean difference between the groups on continuous dependent variables while controlling for the additional variables, or covariates.

The focal point of this research, short-term financial confidence, was collected from existing survey data. In order to best measure this factor, three individual questions were posed: Q011. To what degree are you confident that you can pay for: Next term's tuition and fees? Q012. To what degree are you confident that you can pay for: Monthly living expenses (e.g., room, board, utilities, rent)? Q013. To what degree are you

confident that you can pay for: Social activities (e.g., eating out, going to movies) with your friends? Each of these three questions were given with a seven-point Likert scale to answer: 1-Not at all, 2, 3, 4-Moderately, 5, 6, 7-Extremely (Appendix A). “Monthly living expenses” might refer to rent, bills, groceries and other necessities, while “social activities” may refer to student engagement in campus organizations or going out to dinner and movies with friends. The variable used in the study was the mean score of these three questions answered by each participant. Again, these three questions were used in an internal consistency reliability test to establish the short-term financial confidence construct Cronbach’s alpha level.

These questions were posed in the Mapworks Transition Survey administered to first-time, first-year students within the first 5-weeks of the first fall semester. This survey tool collects general demographic information as well as a series of question responses concerning student success and achievement in college. As students were given unique and secure logins to complete the survey, the responses captured are from their perspective and represent each student’s individual confidence in their ability to pay. It is important to consider the fact that some students may have considered familial factors when considering ability to pay, especially considering tuition. This constraint is the nature of survey questions and individual interpretation and accounts for the inclusion of the familial variable of Pell Grant eligibility.

Assumptions

Both chi-square tests and independent samples *t*-tests required the data to be independent (i.e., the score of an individual participant is unrelated to the score of any other participant). The *t*-test also assumes the variables were normally distributed and

have equal variances across the groups. There are three main assumptions with ANCOVA. The first is the assumption that a linear relationship exists between the dependent variable and the covariates. The second assumption is the existence of homogeneity in the regression slopes. The final assumption is that the covariate is measured without error (Stevens, 2009). There are several assumptions that must be tested when running a standard multiple regression analysis, the first of which is, again, independence. This assumes that each score is independent of other scores in the population. The second is normality, assuming that in the population, the scores for the dependent variable (in this case short-term financial confidence) are normally distributed for each level of the independent variables. Thirdly, homoscedasticity assumes that in the population, the variances of the dependent variable are equal for each level of the independent variable. And finally, linearity assumes that in the population, the fundamental relationship between short-term financial confidence and each of the independent variables is linear when all other independent variables are held constant.

Research Question One

RQ1: For first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen, is there a significant difference in short-term financial confidence scores between those eligible for a Pell Grant and those not eligible?

To examine the difference in short-term financial confidence based on eligibility for the Pell Grant, an independent samples *t*-test was conducted. This compared the mean scores of students who are and are not eligible to receive a Pell Grant and established whether the difference in means was statistically significant. The Pell Grant eligibility was used here as a proxy for socioeconomic status. As discussed in the literature review,

socioeconomic status (SES) is often the culmination of a number of factors (Education and Socioeconomic Status, n.d.). Due to the interconnectedness of financial and social standing in SES, this study uses Pell Grant eligibility: a concrete dichotomous variable providing more defined parameters to this variable. The independent samples *t*-test has three assumptions as explained in the introduction of this section: data are independent, normally distributed, and have equal variances across the groups.

1H₀: There is no difference in short-term financial confidence score based on a participant's Pell Grant eligibility for first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen.

Research Question Two

RQ2: Which pre-college demographic variables are significant predictors of short-term financial confidence for first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen?

Standard multiple regression was used to determine the extent of the relationship between first-generation status, Pell Grant eligibility, gender, race, and/or high school GPA, and short-term financial confidence scores on the Mapworks survey. Additionally, the standard multiple regression determined the relative weight of each of the variables demonstrating a statistically significant finding. It provided a predictive model in which the relative weight of each predictor variable will be used.

Standard multiple regression helps to predict relationships among variables (Stevens, 2009). The standardized multiple regression equation utilizes the standardized beta coefficients: $Y = b_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5$ where *Y* is the predicted value for the dependent variable, β represents the standardized regression coefficients, and *x* is

the predictor variable value. Independent variables include first-generation status (x_1), Pell Grant eligibility (x_2), gender (x_3), race (x_4), and high school GPA (x_5). The dependent, or outcome, variable for this question was short-term financial confidence as measured by the mean of Mapworks survey questions Q011, Q012, and Q013.

Having met all of the assumptions for standard multiple regression, the predictive equation was examined for statistical significance. Two methods were used to explore this, testing R^2 using the *F-test* and interpreting R^2 . By testing the R^2 for significance, the researcher was able to identify whether at least one of the regression coefficients was significantly different from zero. The *F-test* compares the fits of different linear models. While the *t-test* can only assess one regression coefficient at a time, the *F-test* simultaneously assesses multiple coefficients.

2H₀: Pre-college demographic variables are not significant predictors of short-term financial confidence for first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen.

Research Question Three

RQ3: Is short-term financial confidence a significant predictor of academic achievement controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA?

A second standard multiple regression analysis was conducted to explore the percentage of the variance in academic achievement that is explained by the short-term financial confidence reported by students beyond that accounted for by the demographic variables. Academic achievement was measured by the cumulative GPA of an individual student at the conclusion of their first academic year of college for FTFT B-Cohort

students. The predictive model equation from the standard multiple regression analysis will read as below.

$$\text{Predicted Academic Achievement} = b_0 + \beta_{STFC}x_{STFC} + \beta_{FG}x_{FG} + \beta_{Pell}x_{Pell} + \beta_{Gend}x_{Gend} + \beta_{Race}x_{Race} + \beta_{HSGPA}x_{HSGPA}.$$

3H₀: Short-term financial confidence is not a significant predictor of academic achievement when controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA.

Research Question Four

RQ4: Is short-term financial confidence a significant predictor of six-year graduation success controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA?

For the final research question, the dependent variable of six-year graduation success is a dichotomous categorical variable. Therefore, a multiple binary logistic regression was proposed. Logistic regression allowed the researcher to use a combination of variables to establish an odds ratio predicting into which of two discrete groups a participant would fall; here six-year graduation success is either a yes or a no. The formula for multiple binary logistic regression is as follows:

$$p = \frac{1}{1 + e^{-(b_0 + \beta_{STFC}x_{STFC} + \beta_{FG}x_{FG} + \beta_{Pell}x_{Pell} + \beta_{Gend}x_{Gend} + \beta_{Race}x_{Race} + \beta_{HSGPA}x_{HSGPA})}}$$

where p represents the probability of the dependent variable occurring, e is the base of natural logarithms, b_0 is the constant, b_1 and b_2 represent the calculated coefficients, and x_1 and x_2 represent the predictor variable.

4H₀: short-term financial confidence is not a significant predictor of six-year graduation success when controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA.

Limitations

This study contributed to the arena of exploring undergraduate college students and their relationship with finances. A limitation of note in this study is the instrument used to collect the data. Although the Mapworks tool is a proprietary tool used across many institutions of higher education of all varieties, the validity, reliability, and details of its construction remain mysterious without a current subscription to the software. The raw institutional data collected in 2013 from this survey instrument are available as owned by the institution. However, any detailed information about the tool and its statistical research to prove its value are no longer accessible as the institution has switched to a different retention software. Reaching out directly to the company for information on the instrument also failed to provide any supporting data for their instrument and the factors as they have designed them with continuous exploratory and confirmatory factor analyses. As a point of order, the questions and raw data still provide the information needed for the purposes of this research, especially as a separate reliability analysis will be conducted for the developed factor of short-term financial confidence. On the other hand, future research may benefit from the development of a separate instrument specifically regarding short-term financial confidence or the use of a clearer and more publicly accessible instrument.

The nature of this research included limitations on human and financial resources. Additionally, the research was undertaken in a specific and limited timeframe. These

design confines resulted in certain limitations one must observe when reviewing the results in Chapter Four. Firstly, these data were collected from students attending a single institution. Institutional studies have value in developing a better understanding of the student population and campus culture at that university; it also means that the study may not be entirely generalizable to other settings within higher education (Nora, Barlow, & Crisp, 2005). The results of this study will be shared with the institution to better understand their specific population concerns. Available time and the institution's significant interest contributed to the decision in limiting the research setting.

A second point was the nature of the data in that it was both pre-existing and self-reported. With the use of pre-existing data, focus groups and/or follow-up surveys could not be used and some additional factors may not be accounted for in this research. Carter (2003) notes that the use of existing data rarely allows the researcher to fully address research questions in subsequent studies. While the survey data assessed the short-term financial confidence, the broader context of what may contribute to that strength or lack thereof is something for future research to examine. The choice to use existing data was made to allow for a longer outcome study on the six-year graduation success rate. Any current data would not be immediately measurable in terms of long-term key performance indicators. As with the majority of surveys, the data collected were self-reported. And with any self-reported data, there may be positive bias or incomplete answers at the discretion of the participant choosing to supply an honest report of their information (Fowler, 2013). The construct of confidence is difficult to observe as a researcher without the use of self-reported data.

A third area for attention for this study was the exclusion of certain participant characteristics which may also relate to short-term financial confidence. As this research was conducted in completion of a dissertation and along a specific and limited timeframe, it was not reasonable to consider every possible variable. However, these exclusions may provide direction for future research as discussed in Chapter Five. Specifically, international students were excluded from the research analyses due to their ineligibility for federal financial aid. Secondly, the tuition rate paid by students for enrollment was not examined. Students enrolled at the research institution would be listed at one of several tuition rates: in-state as the least expensive, out-of-state as one of the more expensive, and options in-between, such as certain reciprocity agreements. Because short-term financial confidence is self-reported and therefore subjective, and tuition rate is finite and objective, it did not merit inclusion in this specific study. Finally, the working status of students was not incorporated into this research study. Although previous discussions of financial confidence have included aspects of working while attending school, these data were not available for the research based on the timeline in which the survey was given. With only five weeks into the first fall semester, many students had yet to establish work schedules consistent enough for consideration as an additional variable.

Also of note is the timing and age of the data. These data were originally collected in the Fall of 2013 and, therefore, variables collected were based on the standards of that time. For instance, gender was only measured dichotomously as male or female. More recent data often allow for variation in gender identification and expression; however, for the purposes of this study, the historical dichotomy will be used. Additionally, Pell Grant

eligibility standards change from year to year based on the calculations recommended by the federal government. The poverty guideline for a family of four in 2013 was listed at a yearly household income of \$23,550 (2013 Poverty Guidelines, 2013) while the poverty guideline for a family of four in 2018 was \$25,100 (2018 Poverty Guidelines, 2018). Federally established poverty guidelines influence the calculation of expected family contribution on the FAFSA and ultimately federal aid program eligibility. These are just two examples of how the time and cultural and financial standards of the data may influence variables captured.

As was discussed in much of Chapter One, one of the limitations of this study was also the impetus for its existence: the lack of precision and understanding surrounding college student performance and financial factors. Some terms around this topic include financial knowledge, financial literacy, financial aid, short-term financial confidence, and myriad others. Each of these expressions could be understood differently dependent upon the audience, timeframe, and context. For the purposes of this study, the researcher has provided definitions for each of the terms used to guide the audience in understanding the results. This work was done to mitigate any confusion; the broader issue must first be acknowledged to be resolved.

Summary

The data for this study were collected from two primary sources: the online Mapworks survey conducted five weeks into the Fall 2013 semester, and institutional data on financial aid applications and academic success measures. This research included the analysis of previously collected data from FTFT B-Cohort first-year students at a mid-sized public institution in the Commonwealth of Kentucky alongside institutional

data on college GPA and enrollment. The population represented approximately 25% of the Fall 2013 undergraduate population of this comprehensive master's level institution ("Institution Lookup," n.d.).

The primary instrument used in this research is the Mapworks Transitions Survey originally created by stakeholders working at Ball State University and now sold to and used by leaders at a number of higher education institutions across the U.S. ("Mapworks," n.d.). This survey was conducted in the fifth week of the Fall 2013 semester at the research institution using Skyfactor's online survey system ("Mapworks," n.d.). Although the survey itself identified a "Financial Means" factor, this construct was too comprehensive for the purposes of this research and so the variable was winnowed down to the mean of Mapworks questions Q011, Q012, and Q013. This resulted in a mean score regarding short-term financial confidence exclusively in relation to tuition, living expenses, and social activities.

Statistical tests were conducted on the variables themselves to support their inclusion in the study. A number of additional statistical analyses were planned based on the specific research questions and available variables. The first question used an independent samples *t*-test to establish any variance found in short-term financial confidence based on Pell Grant eligibility. A standard multiple regression analyses was conducted to further explore predictors of short-term financial confidence. Then short-term financial confidence as a variable transitioned from an outcome to, instead, a predictor itself of both academic achievement and graduation, as explored in the second standard multiple regression and the multiple binary logistic regression of research questions three and four respectively.

Limitations exist with any research study and by no means invalidate the purpose or quality of results. The ones connected to this particular study relate to the data, the population, the construct, and the decision on variable inclusion. Each of these was explored and justified as is the responsibility of any researcher. The majority of the limitations allow for inspiration in future research on this timely and important topic.

The upcoming chapter will provide the results of the statistical analyses as outlined above. The results will be provided both in tables and narratives to enhance the understanding of the population and findings of the individual research questions. Before the research questions are explored in depth, the population will be displayed with descriptive statistics, providing reference for the other critical questions asked of the population.

CHAPTER IV

RESULTS

This chapter presents all analysis results, including descriptive statistics, reliability analysis, and each of the four research questions with accompanying hypotheses, assumptions, and results. Reliability results for the three-question factor of short-term financial confidence are highlighted before each of the research questions and the results are presented. All statistical analyses were conducted using IBM SPSS Statistics version 26.

Descriptive Statistics

Following the removal of any participants outside of the research range, for instance students aged 25 and older, and conducting data cleaning, the final sample consisted of 1,062 students. This section presents the descriptive statistics for the sample with regards to student demographics, key performance indicators, and short-term financial confidence. Table 5 outlines each of the primary variables with identified ranges, means, and standard deviations. Table 6 presents the intercorrelation among the major variables, both predictor and dependent.

Table 5

Descriptive Statistics of the Major Variables

Variable	Minimum	Maximum	Mean	Standard Deviation
Short-term Financial Confidence	1.00	7.00	4.92	1.54
First-Generation Status	0.00	1.00	0.57	0.50
Gender	0.00	1.00	0.63	0.48
Race	0.00	1.00	0.21	0.41
Pell-Eligibility Status	0.00	1.00	0.60	0.49
High School GPA	1.32	5.00	3.30	0.62
Academic Achievement	0.00	4.00	2.85	0.92
Six-Year Graduation Success	0.00	1.00	0.45	0.50

Table 6

Correlations among the Major Variables

Variable	1	2	3	4	5	6	7	8
1 -First-Generation Status (FG)	1	0.24**	0.02	-0.02	0.12**	0.17**	0.20**	0.15**
2 -Pell Grant Eligibility (Pell)		1	-0.05	-0.25**	0.18**	0.18**	0.21**	0.19**
3 -Gender			1	-0.01	0.20**	-0.07*	0.19**	0.09**
4 -Race				1	-0.19**	-0.06*	-0.10**	0.08*
5 -High School Cumulative GPA					1	0.14**	0.61**	0.44**
6 -Short-Term Financial Confidence						1	0.16**	0.18**
7 -Academic Achievement							1	0.59**
8 -Six-Year Graduation Success								1

75 Note: Two-tailed, *significant at the .05 alpha level, **significant at the .01 alpha level

Student Demographics

Concerning the student demographic information, there were a total of five pre-college demographic characteristics used as variables. The majority of the sample was female (63.0%), White (78.7%), not Pell Grant eligible (60.3%), and not first generation (57.1%). Calculating the high school GPA, over half of the sample was at or above the mean (51.7%). The mean high school GPA was 3.30 with a standard deviation of .62. Table 7 provides detailed demographic characteristics of the sample.

Table 7

Sample Demographic Characteristics

Characteristic	n	Percentage
First-Generation Status	1,062	
First-Generation (0)	456	42.9%
Not First-Generation (1)	606	57.1%
Pell Grant Eligibility	1,062	
Yes (0)	422	39.7%
No (1)	640	60.3%
Gender	1,062	
Male (0)	393	37.0%
Female (1)	669	63.0%
Race	1,062	
White (0)	836	78.7%
Students of Color (1)	226	21.3%
High School GPA	1,053	
Below the Mean (<3.30)	509	48.3%
At or Above the Mean (≥ 3.30)	544	51.7%

Key Performance Indicators and Short-Term Financial Confidence

Key performance indicators measured in this study include first-year cumulative college GPA and graduation within six years of initial enrollment. Some students failed

to complete any credit hours successfully and therefore had no representative first-year college GPA. This population was eliminated from research question three, the only question involving this variable. The remaining 948 (89.27%) students were analyzed for this specific research questions. Six-year graduation success was represented as a dichotomous variable and therefore all participants in the sample were categorized as “yes” or “1” if successful or “no” or “0,” disregarding which level of success the student achieved.

Short-term financial confidence was a factor developed from the Mapworks survey and the average score was calculated from three questions: Q011. To what degree are you confident that you can pay for: Next term's tuition and fees? Q012. To what degree are you confident that you can pay for: Monthly living expenses (e.g., room, board, utilities, rent)? Q013. To what degree are you confident that you can pay for: Social activities (e.g., eating out, going to movies) with your friends? Each of these three questions were given with a seven-point Likert scale to answer: 1-Not at all, 2, 3, 4-Moderately, 5, 6, 7-Extremely. Survey question Q011 had the highest mean score ($\bar{x} = 5.27$, $sd = 1.70$), survey question Q012 had the next highest mean score ($\bar{x} = 5.09$, $sd = 1.77$), survey question Q013 had the lowest of the three means ($\bar{x} = 4.42$, $sd = 1.79$). Short-term financial confidence represented these three questions as a single factor for further analysis ($\bar{x} = 4.92$, $sd = 1.54$). Table 8 displays the key performance indicators and short-term financial confidence variables in further detail.

Table 8

Key Dependent Variable Characteristics

Variable	n	Percentage
Short-Term Financial Confidence	1,062	
Below the Mean (<4.92)	472	44.4%
At or Above the Mean ($\geq$ 4.92)	590	55.6%
Academic Achievement (First-Year College GPA)	948	
Below the Mean (<2.85)	380	40.1%
At or Above the Mean ($\geq$ 2.85)	568	59.9%
Six-Year Graduation Success	1,062	
No (0)	589	55.5%
Yes (1)	473	44.5%

Reliability

IBM SPSS Statistics version 26 was used to analyze the internal reliability of the short-term financial confidence factor designed for this study. This factor included three individual questions on the Mapworks Transition Survey all regarding financial confidence: Q011. To what degree are you confident that you can pay for: Next term's tuition and fees? Q012. To what degree are you confident that you can pay for: Monthly living expenses (e.g., room, board, utilities, rent)? Q013. To what degree are you confident that you can pay for: Social activities (e.g., eating out, going to movies) with your friends? Each of these three questions were given with a seven-point Likert scale to answer: 1-Not at all, 2, 3, 4-Moderately, 5, 6, 7-Extremely. These three question responses were then averaged together to provide a participant's short-term financial confidence score. The Cronbach's alpha produced was .85. This Cronbach's alpha is statistically acceptable. The baseline range for factor reliability is .70-.80.

Reliability is primarily measured from two perspectives, internal and external. Internal reliability ensures that the items included in the factor are consistent among themselves. The exploration here providing a Cronbach's alpha of .85 demonstrates a statistically sound internal reliability. On the other hand, external reliability is the extent to which the items consistently measure the same construct, here short-term financial confidence, under different circumstances. Due to the nature of the data collection, external reliability is unable to be measured with the existing data.

Inferential Statistics

The primary purpose of the study was to identify the significance of the relationships between short-term financial confidence and a number of other student demographic and academic characteristics. The overall research goal focused on short-term financial confidence to help illuminate an area of influence for administrators and practitioners in higher education. To achieve this research goal, the researcher developed four separate research questions. The following subsections will present the results of statistical analyses for each of the following research questions.

RQ1: Is there a statistically significant difference in short-term financial confidence scores based on a participant's Pell Grant eligibility for first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen?

RQ2: Which pre-college demographic variables are significant predictors of short-term financial confidence for first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen?

RQ3: Is short-term financial confidence a significant predictor of academic achievement controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA?

RQ4: Is short-term financial confidence a significant predictor of six-year graduation success controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA?

Research Question One

RQ1: Is there a statistically significant difference in short-term financial confidence scores based on a participant's Pell Grant eligibility for first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen?

To answer this initial research question, an independent samples *t*-test was performed with Pell Grant eligibility as the predictor value. This statistical analysis evaluated the significance of the relationship between Pell Grant eligibility and the dependent variable, short-term financial confidence.

Before performing the independent samples *t*-test to indicate the significance of the relationship between Pell Grant eligibility and short-term financial confidence, the researcher checked to verify that no assumptions of independent samples *t*-test were violated. The assumption of independence was met with the independent variable being dichotomous and mutually exclusive. Normality was also examined with a histogram featured in Appendix C. The dependent variable of short-term financial confidence was both continuous and shown to be approximately normally distributed. The final assumption of homogeneity of variance was examined with Levene's test for equality of variances. In order to support this assumption, the results should present as not

statistically significant and for this research question, that was the case ($F(1060) = 3.49, p > .05$). With the confirmation that no assumptions were violated, the researcher conducted the independent t -test.

There was a statistically significant difference in short-term financial confidence score means based on a participant's Pell Grant eligibility. The results of the independent samples t -test indicated that short-term financial confidence of students who were Pell Grant eligible was significantly lower than that of students who were not Pell Grant eligible ($t(1060) = -5.94, p < .01$). The mean short-term financial confidence score of Pell Grant eligible students was 4.58 while non-Pell Grant eligible students had a much higher short-term financial confidence mean of 5.15. Cohen's d was then calculated as 0.37 to identify estimated effect size. Traditionally, a Cohen's d value of 0.2 is considered a "small" effect size with a Cohen's d value of 0.5 being considered a "medium" effect size. With a Cohen's d value of 0.37, this significant relationship among Pell Grant eligibility and short-term financial confidence is deemed a "small" effect size. Table 9 below outlines the group statistics for the independent samples t -test.

Table 9

Independent T-Test Group Statistics

	Pell Grant Eligibility Status	n	Mean	Standard Deviation	Standard Error Mean
STFC	Pell Grant Eligible	422	4.85	1.59	0.08
	Not Pell Grant Eligible	640	5.15	1.47	0.06

Research Question Two

RQ2: Which pre-college demographic variables are significant predictors of short-term financial confidence for first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen?

To answer this question, five individual pre-college demographic characteristics were entered as predictor variables. The research in Chapter Two along with the available data indicated the most useful variable to include when predicting short-term financial confidence were first-generation status, gender, race, Pell Grant eligibility, and high school GPA. The combination of these was used in a standard multiple regression analysis to estimate a predictive equation model for the dependent variable of short-term financial confidence.

Before performing this first standard multiple regression analysis to explore the significant relationships between first-generation status, gender, race, Pell Grant eligibility, high school GPA, and short-term financial confidence, the researcher checked to verify that no assumptions of standard multiple regression were violated. Normality was again examined with a histogram featured in Appendix C. The dependent variable of short-term financial confidence was both continuous and shown to be approximately normally distributed. Additionally, with a standard multiple regression, the assumption of a linear relationship between continuous variables must be met. This is met given the evidence in the scatterplot illustrated in Appendix D. The scatterplot included in the appendices illustrates a linear relationship with no identifiable curve to the data plotted. Multicollinearity is the assumption that no two predictor variables have a correlation above 0.7 and this was met as demonstrated in Appendix E. Finally, to check for

homoscedasticity, a scatterplot was examined with residual and predicted values. There was no clear pattern evident in the scatterplot as shown in Appendix F. Also all values on both the x- and y-axis fell between -3 and 3, therefore meeting this assumption.

The overall regression model was statistically significant ($R^2 = .06$, $F(5) = 14.09$, $p < .01$). The results of the standard multiple regression analysis indicated an R^2 value of .06 and an adjusted R^2 value of .06 as well. With a statistically significant model, this means approximately 6% of the variance in short-term financial confidence is explained by a combination of predictor variables. The 6% variance is explained by the combination of first-generation status, gender, race, Pell Grant eligibility, and high school GPA. Of note when interpreting the statistical significance is the large sample size. Due to the small amount of variance explained, it is possible that the large sample size offered statistically significant results while practical significance should continue to be explored.

Four of these five pre-college demographic characteristic variables measured as a significant predictor at the alpha level of .01; the variable of race failed to demonstrate a significant relationship with short-term financial confidence. First-generation status was included in the model ($\beta = .13$, $t = 4.18$, $p < .01$) as the strongest predictor of short-term financial confidence. The next strongest predictor was tied between Pell Grant eligibility ($\beta = .11$, $t = 3.41$, $p < .01$) and high school GPA ($\beta = .11$, $t = 3.61$, $p < .01$). The final significant predictor included in the model for short-term financial confidence was gender with a negative relationship ($\beta = -.09$, $t = -2.84$, $p < .01$). Each variable provides a standardized beta coefficient while controlling for the other predictor variables. With this model controlling for first-generation status, gender, Pell Grant eligibility, and high

school GPA, race did not independently present as a statistically significant predictor of short-term financial confidence ($\beta = -.02$, $t = -.62$, $p > .05$).

Regression coefficients indicated that first-generation status was a significant predictor of short-term financial confidence, suggesting that continuing-generation college students (coded as 1) have higher short-term financial confidence when compared to first-generation college students (coded as 0). Pell Grant eligibility has a positive relationship as well suggesting that students who are not Pell Grant eligible (coded at 1) have higher short-term financial confidence scores when compared to those eligible for Federal Pell Grants (coded as 0). High school GPA was also a significant predictor with a positive relationship with short-term financial confidence. This indicates that for each unit increase in high school GPA, there is a .11 unit increase in short-term financial confidence score. Finally, gender was a significant predictor, but had a negative relationship with short-term financial confidence. This suggests that males (coded as 0) have higher short-term financial confidence scores when compared to females (coded as 1). Table 10 outlines the specific standard multiple regression analysis results.

Table 10

Standard Multiple Regression Results on Short-Term Financial Confidence

	Unstandardized Coefficients		Standardized Coefficients	
	<i>b</i>	Std. Error	β	<i>t</i>
(Constant)	3.76	.26		14.54
First-Generation	0.40	.10	.13**	4.18
Pell Grant Eligibility	0.34	.10	.11**	3.41
Gender	-0.28	.10	-.09**	-2.84
High School GPA	0.28	.08	.11**	3.61
Race	-0.07	.12	-.02	-0.62

Note: Two-tailed, *significant at the .05 alpha level, **significant at the .01 alpha level

$$\text{Predicted Short-Term Financial Confidence} = 3.76 + 0.13_{FG}X_{FG} + 0.11_{Pell}X_{Pell} - 0.09_{Gend}X_{Gend} + 0.11_{HSGPA}X_{HSGPA} - 0.02_{Race}X_{Race}$$

Research Question Three

RQ3: Is short-term financial confidence a significant predictor of academic achievement controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA?

A standard multiple regression analysis was conducted to answer this research question. Short-term financial confidence was entered as a predictor variable for the dependent variable of academic achievement. Additionally, five individual pre-college demographic characteristics were controlled to best demonstrate the relationship between short-term financial confidence and academic achievement. The combination of these were used in a standard multiple regression analysis to estimate a predictive equation model for the dependent variable of academic achievement. Academic achievement is measured by the earned cumulative GPA at the conclusion of each participant's first year of college.

Before performing this standard multiple regression analysis to explore the significant relationship between short-term financial confidence and academic achievement while controlling for first-generation status, gender, race, Pell Grant eligibility, and high school GPA, the researcher checked to verify that no assumptions of standard multiple regression were violated. Normality was again examined with a histogram of the dependent variable featured in Appendix G. The dependent variable of academic achievement as measured by first-year college GPA was both continuous and shown to be nearly normally distributed. Additionally, with a standard multiple

regression, the assumption of a linear relationship between continuous variables must be met. This is met given the evidence in the scatterplots illustrated in Appendices H and I. These scatterplots demonstrate no curve to indicate a curvilinear relationship. Multicollinearity is the assumption that no two predictor variables have a correlation above 0.7 and this was met as demonstrated in Appendix J with the highest correlation between two predictor variables being -.26 among race and Pell Grant eligibility. Finally, to examine homoscedasticity, a scatterplot was examined with residual and predicted values. There was no clear pattern evident in the scatterplot as shown in Appendix K. Additionally all values on both the x- and y-axis fell between -3 and 3, therefore meeting this assumption.

The overall regression model was statistically significant ($R^2 = .40$, $F(6) = 105.38$, $p < .01$). The results of the standard multiple regression analysis provide identical R^2 and adjusted R^2 values at .40 each. This finding indicates approximately 40% of the variance in academic achievement is explained using the model including short-term financial confidence and pre-college demographic characteristics.

Short-term financial confidence was the focus of this study and this research question. Controlling for the pre-college demographic characteristics of first-generation status, gender, race, Pell Grant eligibility, and high school GPA; short-term financial confidence presented as a significant predictor of academic achievement at the alpha level of .05 ($\beta = .06$, $t = 2.28$, $p < .05$). The standardized beta coefficient generated by the standard multiple regression model was .06. Interpreting this value, for every one unit increase in the short-term financial confidence score there is a .06 unit increase in academic achievement as measured by a student's first-year college GPA.

In addition to the primary finding of the significant relationship between short-term financial confidence and academic achievement, the results from the control variables are explored here. Regression coefficients indicated that first-generation status was a significant predictor of academic achievement ($\beta = .10, t = 3.66, p < .01$). These findings suggest continuing-generation college students (coded as 1) have higher levels of academic achievement when compared to first-generation college students (coded as 0). Pell Grant eligibility had a significant positive relationship as well ($\beta = .08, t = 2.93, p < .01$). This indicates students who are not Pell eligible (coded as 1) have higher academic achievement measures when compared to those eligible for Federal Pell Grants (coded as 0). Gender also had a positive relationship with academic achievement ($\beta = .08, t = 2.87, p < .01$). With females (coded as 1), a significant positive relationship demonstrates that females are more likely to have higher first-year college GPAs than their male counterparts (coded as 0).

As was represented thoroughly in previous research and highlighted in the literature review, high school GPA was a significant predictor with a positive relationship with academic achievement ($\beta = .57, t = 21.10, p < .01$). This relationship is one of the primary reasons this variable was chosen as a control to highlight the true association between short-term financial confidence and academic achievement. Such a strong positive standardized beta coefficient denotes that for each one unit increase in high school GPA, there is a .57 unit increase in academic achievement as measured by first-year college GPA. Table 11 outlines the specific standard multiple regression analysis results.

Table 11

Standard Multiple Regression Results on Academic Achievement

	Unstandardized Coefficients		Standardized Coefficients	
	<i>b</i>	Std. Error	β	<i>t</i>
(Constant)	-.43	.15		-2.89
First-Generation	.18	.05	.10**	3.66
Pell Grant Eligibility	.15	.05	.08**	2.93
Gender	.14	.05	.08**	2.87
High School GPA	.84	.04	.57**	21.10
Race	.06	.06	.03	1.02
Short-Term Financial Confidence	.04	.02	.06*	2.28

Note: Two-tailed, *significant at the .05 alpha level, **significant at the .01 alpha level

$$\text{Predicted Academic Achievement} = -0.43 + 0.06_{\text{STFC}}X_{\text{STFC}} + 0.10_{\text{FG}}X_{\text{FG}} + 0.08_{\text{Pell}}X_{\text{Pell}} + 0.08_{\text{Gend}}X_{\text{Gend}} + 0.03_{\text{Race}}X_{\text{Race}} + 0.57_{\text{HSGPA}}X_{\text{HSGPA}}$$

Research Question Four

RQ4: Is short-term financial confidence a significant predictor of six-year graduation success controlling for first-generation status, Pell Grant eligibility, gender, race, and high school GPA?

The outcome variable measures six-year graduation success as either “yes” the student has graduated from the original institution or “no” the student has not graduated from the original institution. This dichotomy makes the dependent variable discrete, therefore the ordinary least squares regression cannot be used to fit a linear probability model. However, because the linear probability model is heteroskedastic and may predict probability values beyond the (0,1) range, the researcher chose to use the multiple binary logistic regression model to estimate factors influencing six-year graduation success.

A multiple binary logistic regression analysis was consequently performed to answer this research question. Short-term financial confidence was entered as a predictor for the dependent variable of six-year graduation success. Additionally five individual pre-college demographic characteristics were controlled to focus the results on the relationship between short-term financial confidence and six-year graduation success. The combination of these were used in a multiple binary logistic regression analysis because the dependent variable of six-year graduation success is categorical and more specifically dichotomous. The results of this multiple binary logistic regression analysis provide a predictive equation model for the dependent variable of six-year graduation success.

Before performing the multiple binary logistic regression analysis on the data to determine whether or not short-term financial confidence was a significant predictor of six-year graduation success, the researcher verified that no assumptions of multiple binary logistic regression were violated. One assumption is of linearity between continuous predictors and the logit of the dependent variable. To test this assumption, the continuous variables of short-term financial confidence and high school GPA were both transformed into the log of the original variable and these calculations were then tested for interaction significance with the original variable. Both interactions provided not statistically significant results, therefore meeting this assumption ($\text{Ln}(\text{STFC})$ by STFC , $p > .05$ and $\text{Ln}(\text{HSGPA})$ by HSGPA , $p > .05$). To examine the goodness of fit for the predictive model, the Hosmer and Lemeshow test was conducted and presented a p value that was not statistically significant, therefore meeting this assumption. Regarding independence, the students who participated in the study by completing the Mapworks

survey were independent of each other and so this assumption is met. Finally, multicollinearity was examined by tolerance and VIF statistics, indicating the strength of association between predictor variables. Stevens (2009) suggests a $VIF > 10$ or a tolerance $< .1$ might indicate violations of multicollinearity. The data for this question violated neither baseline ($VIF < 10$, tolerance $> .1$), therefore meeting this assumption. Appendix L demonstrates the VIF and tolerance values for the predictor variables.

A multiple binary logistic regression analysis was then conducted to examine the relationship between short-term financial confidence and six-year graduation success while controlling for the five pre-college demographic characteristics of first-generation status, gender, race, Pell Grant eligibility, and high school GPA. With the entry of the predictor variables, the resultant model was statistically significant (Nagelkerke $R^2 = .29$). This value indicates that approximately 29% of the variance in odds of six-year graduation success are explained by the combination of short-term financial confidence, first-generation status, gender, race, Pell Grant eligibility, and high school GPA. The results are displayed in Table 12.

Table 12

Multiple Binary Logistic Regression Results on Six-Year Graduation Success

Variable	B	S.E.	Wald (df=1)	Exp(B)
Short-Term Financial Confidence	0.15**	.05	10.12	1.17
First-Generation Status	-0.32*	.15	4.67	0.73
Pell Grant Eligibility	-0.45**	.15	8.37	0.64
Gender	-0.08	.15	0.30	0.92
High School GPA	1.63**	.14	138.42	5.10
Race	-0.15	.19	0.65	0.86
(Constant)	-5.95**	.55	118.75	0.00

Note: Two-tailed, *significant at the .05 alpha level, **significant at the .01 alpha level

Short-term financial confidence was entered as a predictor along with pre-college demographic characteristics for control (first-generation status, gender, race, Pell Grant eligibility, and high school GPA). The addition of short-term financial confidence to the prediction model was statistically significant ($\chi^2(18) = 47.89, p < .01$). According to the Wald test, the probability of six-year graduation success increases given a higher short-term financial confidence score. The odds of six-year graduation success increase by a multiplicative factor of $\exp(0.15) = 1.17$ per one unit increase in short-term financial confidence score.

Three of the controlling variables entered as pre-college demographic characteristics also presented as statistically significant. First-generation status was significant with beta coefficient of -0.32 ($\alpha = .05$). It is important to recall the coding of first-generation status as yes (0) and no (1). With this coding, a negative beta coefficient implies the significance for students who are first-generation. The odds ratio then, is 0.73 for those first-generation students. This value indicates that first-generation students are 0.73 times more likely to graduate within six years than their non first-generation peers. Pell Grant eligibility was also statistically significant with a beta coefficient of -0.45 ($\alpha = .01$). Pell Grant eligible students were coded as 0, whereas their non Pell Grant eligible peers were coded as 1. With a negative beta coefficient, this statistically significant finding then applies to students who are Pell Grant eligible. Interpreting beta coefficients with the use of the log within a multiple binary logistic regression analysis translates to an odds ratio of 0.64. This value specifies that students who are Pell Grant eligible have a 0.64 higher likelihood of graduating within six years of their initial enrollment.

The strongest predictor produced by the standard binary logistic regression was high school GPA. This finding is in line with much of the previous research and is impressive in its strength. High School GPA was statistically significant at the .01 alpha level with a beta coefficient of 1.63. This value converts into an odds ratio of 5.10. With such a high odds ratio, this indicates that students entering college with higher high school GPAs are over five times more likely to successfully obtain a bachelor's degree within six years of their initial fall enrollment.

The resultant equation can be used to calculate the predicted logit and subsequent conditional probability.

Logit (Y) = -5.95 + 0.15 (short-term financial confidence) - 0.32 (first-generation status) - 0.08 (gender) - 0.15 (race) - 0.45 (Pell Grant eligibility) + 1.63 (high school GPA)

Summary

Chapter 4 presented the statistical analysis results for each of the four research questions around short-term financial confidence. Initially, descriptive statistics, correlations, and then student demographic results are discussed, providing a grounding of the findings. Testing the reliability of the designated factor, short-term financial confidence, the Cronbach's alpha returned was .85. The acceptable baseline range for factor reliability is .70-.80.

Regarding the research questions themselves, the results proved significant and the key findings are further outlined in Table 13 below. Additionally, Table 14 identified the key resultant predictive equations regarding each of the dependent variables from research questions 3, 4, and 5.

Table 13

Summary of Key Findings

Research Question	Variables	Summary
1	<i>Independent:</i> Pell Grant Eligibility <i>Dependent:</i> Short-Term Financial Confidence	There was a statistically significant difference in short-term financial confidence means based on Pell Grant eligibility at the alpha level of .01. Non-Pell Grant eligible students had a demonstrably higher short-term financial confidence score than their Pell Grant eligible peers.
2	<i>Predictors:</i> First-Generation Status, Gender, Race, Pell Grant Eligibility, High School GPA <i>Dependent:</i> Short-Term Financial Confidence	The overall standard multiple regression model was statistically significant ($R^2 = .06$, $F(5) = 14.09$, $p < .01$). Four of the five predictor variables resulted with statistically significant standardized beta coefficients. Race was the exception and presented with a p value above the accepted .05 alpha level.
3	<i>Predictors:</i> Short-Term Financial Confidence *controlling for (First-Generation Status, Gender, Race, Pell Grant Eligibility, High School GPA) <i>Dependent:</i> Academic Achievement	The overall standard multiple regression model was statistically significant ($R^2 = .40$, $F(6) = 105.38$, $p < .01$). As the focus, short-term financial confidence proved statistically significant at the .05 alpha level. For each one unit increase in the short-term financial confidence score, there is a .06 unit increase in academic achievement as measured by a student's first-year college GPA.
4	<i>Predictors:</i> Short-Term Financial Confidence *controlling for (First-Generation Status, Gender, Race, Pell Grant Eligibility, High School GPA) <i>Dependent:</i> Six-Year Graduation Success	The addition of short-term financial confidence to the prediction model was statistically significant ($\chi^2(18) = 47.89$, $p < .01$). According to the Wald test, short-term financial confidence was a significant predictor ($p < .01$) and the odds ratio was 1.17, indicating that better scores in short-term financial confidence increases the chances of six-year graduation success by 1.17 times.

Table 14

Key Predictive Equations

Predicted Variable	Resultant Equation
Short-Term Financial Confidence	$= 3.76 + 0.13_{FG}X_{FG} + 0.11_{Pell}X_{Pell} - 0.09_{Gend}X_{Gend} + 0.11_{HSGPA}X_{HSGPA} - 0.02_{Race}X_{Race}$
Academic Achievement	$= -0.43 + 0.06_{STFC}X_{STFC} + 0.10_{FG}X_{FG} + 0.08_{Pell}X_{Pell} + 0.08_{Gend}X_{Gend} + 0.03_{Race}X_{Race} + 0.57_{HSGPA}X_{HSGPA}$
Logit (Y) Six-Year Graduation Success	$= -5.95 + 0.15 \text{ (short-term financial confidence)} - 0.32 \text{ (first-generation status)} - 0.08 \text{ (gender)} - 0.15 \text{ (race)} - 0.45 \text{ (Pell Grant eligibility)} + 1.63 \text{ (high school GPA)}$

Table 13 illustrates the statistical significance of short-term financial confidence in key performance indicators such as academic achievement and six-year graduation success. Using this variable as a lever to help influence student performance for the better may be worth the time and examination of professionals in the field of higher education. The upcoming chapter presents a discussion, recommendations for future research, and implications for practice based upon the presented statistical results for the four research questions. Specific focus is given to recommendations for future research as this is a fledgling topic in higher education and the results indicate statistically significant relationships worth further exploration. Strengths and limitations of this study are also examined. Finally, implications for practice are outlined based on the findings from this research to help support college students in financial confidence.

CHAPTER V

DISCUSSION

The cost of higher education in the United States continues to rise, and students are burdened with increasingly complex financial decisions to compensate. Almost half of all undergraduate students choose to take out student loans to pay for their postsecondary education at some point during their time enrolled (Wei & Horn, 2013). College education has become the goal for many U.S. citizens and former President Barack Obama even emphasized the importance of keeping higher education affordable (Obama, 2012). Obama also set the goal for the U.S. to have the highest proportion of college graduates of any other nation by 2020 (Oreopoulos & Petronijevic, 2013).

Lotkowski et al. (2004) examine the difficulties and barriers to employment and success that one faces in today's society without a college education. The majority of careers today (six out of ten) require postsecondary education or training. Unfortunately, not every student who is admitted to college will be successful in earning a degree. When a student leaves college without a degree, the retention numbers are affected and the institution experiences negative effects both monetarily and in reputation. Because of this issue, much of the higher education research to date targets retention and how enrollment numbers affect the institution and individual student success (McFarland et al., 2017; Sullivan, 2010). Even within the retention research, little attention has been given to

financial confidence. This study focuses on the short-term financial confidence of first-year college students and how this variable is related to their academic achievement and graduation within six years at a given institution.

This dissertation explored the relationships existing between short-term financial confidence and key performance indicators such as academic achievement and six-year graduation success while controlling for pre-college demographic characteristics. Positive performance indicators included a higher first-year college GPA and achieving a bachelor's degree within six years of the first enrolled semester. Each of the four research questions posed included short-term financial confidence as either a predictor or dependent variable, and each of the four research questions provided statistically significant results. This chapter will address the context of these findings as well as provide recommendations for the future.

The conceptual framework of this study was based in theories of Nancy Schlossberg (2012) and Baxter Magolda and King (2004). Schlossberg's exploration of the self in transition lends credence to the financial transitions experienced by incoming freshmen. She discusses how a student moves through transitions with the tools available to them. If institutions create and/or enhance the financial literacy support offered to students, this could directly affect the "Support" as addressed in her theory. As a student has better support available to them while they are engaged in difficult decision making, such as financial commitments, they are likely to develop higher levels of confidence in that area and subsequently may be more likely to succeed in other arenas.

Baxter Magolda and King (2004) address the student as the self-author. Students in college are consistently gathering information, analyzing data, and even creating new

knowledge. Understanding that knowledge is not a simple matter and is most often socially constructed, it is vital to engage students outside of themselves to better understand and develop confidence in financial matters. Each student will author their experience based on a personal narrative and history. It is the obligation of the institution to inform those current experiences and provide a solid foundation for the student's authorship succeeding college graduation.

The Burden of Aid

There exist two opposing views on student financial stress within the literature; the first being that financial aid relieves the immediate financial burden for the student, allowing them to focus on school. The second insists that this consistent weight of debt distracts the student and makes them less likely to persevere in the academic setting (King 1999; Saunders, 1997; Eitel & Martin, 2009). Additional findings support the latter opinion of financial aid being a burden. Brown et al. (2005) found that individuals with higher levels of debt experienced higher levels of psychological distress as well; this concept is also supported by Heckman and Grable (2011).

This sense of debt and psychological distress is conceivably captured in the financial confidence factor. The former perspective of financial aid as a relief on the student fails to be supported in the current research study. The latter view is better supported by the findings of research question one: as students are Pell Grant eligible and more likely to take out student loans, they experience a lower overall sense of short-term financial confidence. As a student deals with the burdens of new academic and social strains, they must balance the development of their identity as it relates to finances. Baxter Magolda and King (2004) address the development of self-identity and confidence

as an internal journey colored by the physical and psychological experiences of the individual. Students who have the additional weight of financial aid on their minds have demonstrably less short-term financial confidence.

To further examine the existing literature as it relates to this concept of financial confidence, it produces similar results as financial knowledge. Research has consistently shown that students coming from more affluent families have outperformed their peers in the area of financial knowledge (Yates & Ward, 2011). The research institution uses Pell Grant eligibility as a marker for “low income” socioeconomic status. This indicates students without Pell Grant eligibility represent the more affluent family backgrounds. Again supported in the findings, these affluent students without Pell Grant eligibility demonstrate high levels of both financial knowledge and confidence. As the student authors their college experience, the pre-existing lens through which they view finances colors their confidence. This exploration of short-term financial confidence further confirms that a student’s internal journey carries many facets from their earlier experiences.

Influence on Short-Term Financial Confidence

One of the tenets of self authorship is the transition from external to internal influence. This transition plays out in both identity and knowledge development. Short-term financial confidence is no different in light of a student’s shift in acknowledged influence. Pre-college demographic characteristics have demonstrated relationships with short-term financial confidence and the idea of this is supported by the self authorship theory. Baxter Magolda and King (2004) discuss the idea of an individual recognizing knowledge as socially constructed. Therefore as a student begins to understand their

financial reality and develop either confidence or a lack thereof, the idea of their previous environment and experiences would represent significant relationships with that development.

First-generation status, Pell Grant eligibility, and high school GPA demonstrated a statistically significant, positive relationship with short-term financial confidence. In contrast, gender presented as a significant negative relationship. These findings indicate that short-term financial confidence is affected by factors outside of the financial realm and, indeed, before the student even enrolled in college.

Specifically regarding first-generation status, this research supports many previous results finding first-generation students were outperformed by their peers in the areas of financial knowledge and literacy. Yates and Ward (2011) found that there was distinct deficit in financial literacy scores between students whose parents did not complete high school when compared with students who had at least one parent complete college (from 44.2% to 51.8%). Another finding from several different studies concluded that first-generation college students typically have less access to familial financial support in times of need (Eitel & Martin, 2009; Hogarth & Hilgert, 2002; Kasworm, 2003). This is again supported with the evidence that non first-generation students have higher short-term financial confidence than their peers. The reasoning of less familial financial support coincides with less financial confidence.

Regarding gender as a significant predictor in the realm of finances, the findings from this study indicating higher short-term financial confidence scores for women counters some of the existing literature. Previous research findings suggest that college-age women perform worse than college-age men on measures of personal financial

knowledge (Chen & Volpe, 1998, 2002; Borden et al., 2008; Robb & Sharpe, 2009). One reason for this result may be due to the examination of confidence over knowledge. It is possible that women have a sense of financial confidence even if they generally do not demonstrate a sense of financial knowledge. This might be explored in further research by a single instrument measuring the same sample population on both financial aspects.

Race was not found to be a significant predictor of short-term financial confidence in this study. Research findings regarding race and college financial variables are inconsistent. Some researchers found significant differences between White students and traditionally minoritized racial populations including Black or African American and Latinx (Peach & Yuan, 2017) while others found no real statistically significant difference on financial factors based on race and ethnicity (Stewart et al., 2015). Although research performed by Mimura et al. (2015) found that White students had higher levels of financial literacy and financial knowledge, the results from this study do not further support that stance. It is vitally important when examining the results, however, that one considers the context of the research. As this study took place at a Predominately White Institution, that may have an influence on the types of racial diversity in attendance and in the sample population. Further research may explore the topic of financial confidence in a wider variety of settings with a wider sampling of racial diversity.

Academic Achievement with Financial Confidence

First-generation status, Pell Grant eligibility, gender, high school GPA, and short-term financial confidence all demonstrated a statistically significant, positive relationship with academic achievement. Short-term financial confidence as an internal factor is

pivotal to the understanding a student has of their environment and experience. The epistemological journey a student takes in the Learning Partnerships Model is based on a student centering themselves in their experience and discovery of knowledge (Baxter Magolda & King, 2004). Therefore, it is meaningful that short-term financial confidence plays a role in a student's external and observable academic achievement.

The findings of significance among the pre-college demographic characteristics support the previous research and the reasoning for including them each as control variables when examining short-term financial confidence and academic achievement as measured by first-year college GPA. First-generation students, even those with the same level of academic preparedness, often do not achieve and persist at the same rates as their non-first-generation peers (Bui, 2002; Gibbons & Borders, 2010). Again, with a positive relationship found among first-generation status and academic achievement, the results consistently indicate poorer academic achievement among first-generation students.

There has been ample research connecting higher high school GPAs with higher college persistence. Enikö and Szamoskozi (2017) examined this phenomenon and found that high school GPA was one of the highest predictors of college success, concluding that the academic development in high school and the skills acquired during this time provide a foundation for future academic performance. This was vital to the controlling of high school GPA when exploring first-year college GPA. The idea of strength in prediction is supported with the finding that while other predictor variables were statistically significant, high school GPA was the strongest predictor with a standardized beta coefficient of 0.57.

As with the previous question, race was included as a predictor variable based on existing literature. Despite the research that has shown that there are additional hurdles in persistence and graduation for students from traditionally minoritized populations (Witkow et al., 2015), race did not present as a significant predictor for academic achievement in this study.

From Financial Confidence to Graduation

Lotkowski et al. (2004) examined the relationships between variables such as socioeconomic status, high school GPA, academic motivation, and college GPA. For their study, they defined socioeconomic status as the combination of highest level of education achieved by parents and family income. Comparable to this study, first-generation status and Pell Grant eligibility were used to estimate this aspect of a student's pre-college demographic characteristics. While their research study showed a stronger relationship to academic factors than the economic factors, they found that a combination of both academic and economic factors suited the research best in completing the picture of student needs for success (Lotkowski et al., 2004).

Lotkowski et al. (2004) discuss college retention as multifaceted including both academic and non-academic factors. Researchers agree that financial factors may be one of the significant non-academic factors and influence student persistence (Joo et al., 2003; Yorke & Thomas, 2003; Eitel & Martin, 2009). Cabrera et al. (1992) found a significant direct effect of financial aid on the student's college GPA and their reported intention to persist to graduation. All of these researchers are supported by the results of this study. These consistent indications that financial factors influence a student's

academic success and persistence to graduation should no longer be ignored, but rather supported systemically by higher education institutions.

Recommendations for Future Research

Researchers interested in the continued exploration of how financial confidence, both short- and long-term, affect first-time, full-time college freshmen should consider the following recommendations for further study. This study experienced limitations in the instrument selected and the question syntax of the three questions chosen for the factor. Future research might benefit from the development of a tool and questions specifically targeted at financial confidence.

As this study only explored short-term financial confidence, the expansion to long-term financial confidence might also be a worthwhile endeavor. Students experience the stress of their financial situation as a separate measure from their actual financial reality. It is this perception that greatly impacts a student's thoughts, feelings, and actions regarding other areas of their life. The term financial confidence captures that intangible subjective understanding of individual financial strength and deserves additional research. The questions used in this research address only the directly upcoming expenses a student may expect. The shift to long-term financial confidence would allow researchers to better understand not only the confidence, but also the planning mechanisms at work for a student.

As this research considered pre-college demographic characteristics alongside financial confidence, it may behoove future researchers to explore additional mitigating variables. For instance, campus engagement may differ depending on financial confidence, and research (Tinto, 1993) has established the connection engagement has

with academic success and persistence. It would be beneficial to understand how additional factors with an established relationship with academic success and persistence interact with financial confidence as an added variable.

Additional variables for consideration might include any intervention strategies or certain majors for individual students. There may be differences in financial confidence for students who have taken a financial planning course than for those that did not. Likewise, differences may exist between populations from different colleges or majors. A student majoring in the performing arts through the college of arts and sciences may have different opinions and influences concerning their financial confidence than would an accounting major in the college of business.

This study showed a statistically significant relationship between short-term financial confidence and first-generation status, high school GPA, gender, and race. Specifically considering the relationship between financial confidence and gender and/or race would merit future study simply due to the limitations of the data and research sample population. As discussed, race is a multifaceted aspect of any student's identity and unfortunately had to be simplified for this study due to statistical demands. However, future research with a broader and more diverse population would serve the study well in exploring the intricate relationships between different racial backgrounds and financial confidence. Additionally, gender was identified as dichotomous for this study. Today's college students allow for more flexibility in how they define their gender, and future research may want to explore how different gender identifications relate to financial confidence. There may be nuances to explore when considering gender outside of the male/female paradigm.

It is important to remember the specific parameters set on the study population for this research. This study explored short-term financial confidence for a specific subset of students: first-time, full-time, traditionally aged, bachelor's degree-seeking freshmen enrolled at a four-year public institution. Future studies might explore different populations at different types of institutions or even explore the differences between populations at varying levels of the higher education system.

The present study examined short-term financial confidence strictly from a quantitative perspective. It may be beneficial to include a qualitative examination of financial confidence and its relationship with academic achievement and graduation. Focus groups, individual interviews, and more open-ended essay response surveys may provide additional context for the financial confidence of students. As confidence has more to do with perception than reality, these qualitative data may shed additional light on the variable itself as well as any additional considerations for inclusion in future research.

A final recommendation would include the expansion of the measurement on academic achievement. For the purposes of this study, it included first-year college GPA; however, additional measurements may provide insight to other facets of academic achievement. An example of another measure may be the ratio of earned credit hours to attempted credit hours. This ratio could be measured over a single semester, over a year, or over multiple years. Beyond the additional insight for academic achievement, this ratio may prove meaningful in terms of the financial influence it has for students as well. Recall from the discussion on federal financial aid that a student receives grants and loans only if they are achieving satisfactory academic progress (SAP). One of the

measurements used in SAP is this exact ratio of earned to attempted credit hours. Therefore, a student earning less than 67% of their attempted credit hours not only indicates a certain level of academic achievement but also loses any access to federal funding for college. This implication is then twofold and deserves exploration in the research.

Implications for Policy and Practice

As college faculty, staff, and administrators continue to work supporting students, the findings of this study may inform future policies and practices. Each variable and research question presented in this dissertation may be useful when examining how colleges and universities can best serve students to achieve higher academic success and to help students persist and graduate. To best highlight the opportunities for enhancing higher education practices, the following section is ordered by the four S's as identified by Schlossberg's Transition Theory (2012).

The situation addressed in this study is the initial transition to college and burgeoning financial independence. Universities have studied this initial transition under many lenses to better understand what triggers a student may experience during this time. The research in this study explores this transition early within the first semester a student enrolls in college. The questions regarding short-term financial confidence center on the immediacy of financial need in a student's life. The question regarding living expenses is most immediate in the housing situation of the student and possible monthly rent due. The question regarding social activities can be as immediate but may present as less necessary depending on a student's desire to socially engage. The final confidence

question about affording the next semester's tuition is a near-future issue that triggers many students within the initial college transition period.

One area over which colleges and universities may have the least influence is the student's self. While this may not be influenced, it is vital to the success of programming that universities understand this aspect of transition and account for it within the programming models. The pre-college demographic characteristics included in this dissertation begin the exploration of relationships between self and short-term financial confidence. A student's self-identity is existent as they enter the college arena while simultaneously being shaped by the transitions and experiences occurring once they engage in university life. The programming and practices implemented by university staff have weight with regard to bolstering and developing the student's self that will represent the college as an alumnus.

Support is among the most significant areas possibly influenced by a college through the implementation of thoughtful policies and procedures. It is important for the university leaders to first examine which support structures are already in place and devise ways to focus and shore these up regarding financial confidence. The second research question examines the pre-college demographic variables as significant predictors of short-term financial confidence. This study found four variables had a significant relationship with short-term financial confidence. As with the finding from the first research question, each of these variables are brought in by the student before the student begins classes and can be observed and measured by the institution to help predict which student characteristics should be targeted for additional financial support. The regression model and resulting standardized beta coefficients indicate that students with

the following pre-college demographic characteristics would benefit most from intervention: first-generation students, students with lower high school GPAs, Pell Grant eligible students, and women.

Understanding these aspects of a student's self that can most benefit from additional support, the university decision-makers should examine which areas of identity already have programs in place. For instance, many institutions will have a support office available to first-generation students. This program may be a smaller-scale operation by the college or a federally funded grant program like TRiO support services. Either operation can be enriched to serve first-generation students on the specific topic of financial confidence. These programs often have a mentorship aspect and/or general educational sessions targeted towards the first-generation population. It would behoove the university administration to focus some of these sessions and discussions on financial literacy and developing financial confidence. Founded in this research, a college could expect higher academic achievement and retention by improving the financial confidence of this specific student population. Likewise, students with lower high school GPAs may be flagged in a program with additional support and possibly mandatory study sessions. As with the first-generation student programs, additional focus on financial literacy can bolster the financial confidence in these students and pay academic and retention dividends.

The final consideration from Schlossberg concerns the strategies used by the student to alleviate the discomfort of transition. Focusing here on the discomfort of developing financial independence, financial literacy can help to support and enhance confidence. The significant relationship discovered between Pell Grant eligibility and

short-term financial confidence could benefit in the design of financial education interventions for incoming students. Pell Grant eligibility as an observable indication might allow administrators to directly target marketing to students most in need, based on their federally reported Pell Grant eligibility. Many institutions offer an introductory freshmen course or a university 101 of sorts. Either adding to the curriculum of these existing courses or developing shorter, fast-paced courses with the express intention of financial education is one measure available to universities wanting to offer strategies to their students. Courses should remain open to all students with encouraged participation regardless of demographic or socioeconomic characteristics. Universities should intensify outreach efforts for students who may need additional support. Based on the findings in this study, populations benefitting from additional support include incoming freshmen with Pell Grant eligibility as demonstrated on their completed and filed FAFSA. It could preserve both human and financial resources if institutional leaders are better able to target increased marketing and encouragement to the most affected population of students.

This study revealed that short-term financial confidence had a positive significant relationship with academic achievement, here measured by first-year college GPA and six-year graduation success. This indication allows for administrators to effect policies and seek funding to support initiatives around financial confidence. Oftentimes, a Board of Regents will not approve funding for programs or services unless there is a clear “return on investment.” This equates to higher retention and graduation rates that increase revenue for an institution. With increased revenue as an outcome, boards are more likely to make the initial investment to support these outcomes. This study shows a significant

relationship indicating that if an intervention program is able to increase a student's financial confidence, it may have a similar positive effect on a student's academic achievement.

One of the takeaways from this dissertation regarding short-term financial confidence is the way in which institutions approach financial knowing with their students. For the past decades, colleges and universities have focused on the cost and financial aid facts surrounding a student's college experience, from scholarships awarded to measured unmet need. Each question in this study uses short-term financial confidence as the focal variable. This allows practitioners to no longer sum a student up by a given and measurable dollar sign, but rather enables professionals working with students to explore the feelings and opinions around the dollar sign. A student may come from an affluent background, but with little to no understanding of how their finances work, may still lack the confidence to financially plan for their future. Conversely, a student may be taking out student loans and appear to have no unmet need as measured by the institution, but that student is working two jobs to balance the stress of their financial debt. Going beyond the simple and delving into the emotions and confidence surrounding a student's financial situation takes effort, but this research study has demonstrated the worth of exploring a student's financial confidence as it affects academic achievement and college graduation.

Financial literacy programs are in place at some schools; the extension of this practice to other campuses and shifting the curriculum beyond how to balance a checkbook could benefit more of the population. Although confidence grows from practical knowledge, it may not be enough to simply educate students, but rather we may

need to counsel them on financial decision making. Developing financial competence within a separate class or financial program is the first step to enhancing financial confidence. It may also be wise to enact a yearly check-in or progress update for student participants. A freshmen may begin cultivating financial confidence with understanding how their financial aid loans will affect them directly following college while a senior may be more interested in how to negotiate salaries while job searching. These continuing programs can therefore offer a financial syllabus based on growth and focus from one year to the next as pertinent for each student level. The concept of a financial passport could be implemented to track the attendance at educational sessions and growth from topics year over year. This financial confidence grows from freshmen year, measured and demonstrated significance in this study, to the sophomore, junior, senior, and graduate years.

Conclusion

This dissertation contributes to a field of study that has recently come into sharper focus as the United States has both suffered an economic decline and put an unprecedented focus on higher education for the general population. Short-term financial confidence has been used to explore not only the financial experience of a college student, but the relationship such an experience has with their academic performance and overall graduation. The value of this study goes beyond the examination of a single institution because it informs future research on financial confidence.

The first research question used an independent samples *t*-test to establish any variance found in short-term financial confidence based on Pell Grant eligibility. A standard multiple regression analysis was conducted to further explore predictors of

short-term financial confidence. Then short-term financial confidence transitioned from outcome to a predictor for academic achievement and graduation as explored in the second standard multiple regression and the multiple binary logistic regression of research questions three and four. Each of these statistical evaluations demonstrated significance and therefore may be used to increase understanding by practitioners and enable better services to be constructed and offered to students regarding the development of financial confidence.

Future research should focus on expanding the understanding of depth for financial confidence in college students today. Studies both quantitative and qualitative may benefit the definition and measurement of this complex factor. Additionally, various institution types should be examined with regard to financial confidence as college cost and student demographics will almost certainly influence this variable.

The findings from this study may offer guidance to practitioners working with students today in better understanding the significant relationship between individual financial confidence and academic success. Additionally, in planning programming around the topics of financial literacy and confidence building, universities can focus marketing measures on the most affected populations such as Pell Grant eligible students. More pointed and understanding advising can benefit the individual student while larger-scale programming and year-to-year planning can benefit the institution's retention and graduation rates. It is imperative that higher education professionals continue to explore and support enrolled students beyond the academic realm. This additional support not only prepares future contributing citizens, but pays direct and immediate dividends within the academic realm.

This chapter allowed for a discussion, recommendations for future research, and implications for practice based upon the presented statistical results for the four research questions. Specific focus was given to recommendations for future research as this is a fledgling topic in higher education and the results indicate statistically significant relationships worth further exploration. Strengths and limitations of this study were also examined. Finally, implications for practice were outlined, based on the findings from this research, to help support college students gain in financial confidence.

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APPENDICES

Appendix A

Mapworks Transition Survey Fall 2013 – Short-Term Financial Confidence Factor

Questions

1. To what degree are you confident that you can pay for: Next term's tuition and fees

(1) Not at all

(2)

(3)

(4) Moderately

(5)

(6)

(7) Extremely

Not applicable

2. To what degree are you confident that you can pay for: Monthly living expenses (e.g. room, board, utilities, rent)

(1) Not at all

(2)

(3)

(4) Moderately

(5)

(6)

(7) Extremely

Not applicable

3. To what degree are you confident that you can pay for: Social activities (e.g. eating out, going to movies) with your friends

(1) Not at all

(2)

(3)

(4) Moderately

(5)

(6)

(7) Extremely

Not applicable

Appendix B

IRB Approval Outcome Letter

Human Subjects Protection Program Office
MedCenter One – Suite 200
501 E. Broadway
Louisville, KY 40202-1798

DATE: December 09, 2019
TO: Amy S Hirschy, Ph.D.
FROM: The University of Louisville Institutional Review Board
IRB NUMBER: 19.1073
STUDY TITLE: SHORT-TERM FINANCIAL CONFIDENCE AS A PREDICTOR OF ACADEMIC ACHIEVEMENT AND SIX-YEAR GRADUATION RATE OF FIRST-YEAR STUDENTS
REFERENCE #: 696668
IRB STAFF CONTACT: Jackie Powell, CIP 852-4101 jspowe01@louisville.edu

This study was reviewed and approved with changes on 12/03/2019 by the Chair of the Institutional Review Board. The resubmitted changes were approved administratively on 12/09/2019. This study was approved through Expedited Review Procedure, according to 45 CFR 46.110(b), since this study falls under Category 5: Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis)

This study now has final IRB approval from 12/09/2019 through 12/08/2022.

This study was also approved through 45 CFR 46.116 (D), which means that it has been granted a waiver of informed consent.

The following items have been approved:

Submission Components			
Form Name	Version	Outcome	
Submit for Initial Review	Version 1.0	Approved as Submitted	
Review Response Submission Form	Version 1.0	Approved as Submitted	
IRB Study Application	Version 2.1	Approved as Submitted	
Study Document			
Title	Version #	Version Date	Outcome
Fall 2013 Mapworks Survey - Participant View	Version 2.0	12/07/2019	Approved
Shawna Clark_Proposal	Version 1.0	11/04/2019	Approved

Your study does not require annual continuing review. Your study has been set with a three year expiration date. If your study is still ongoing you will receive iRIS automated reminders to submit a request to continue your study prior to the expiration date above.

All other IRB requirements are still applicable. You are still required to submit amendments, personnel changes, deviations, etc... to the IRB for review. Please submit a closure amendment to close out your study with the IRB if it ends prior to the three year expiration date.

Human Subjects & HIPAA Research training are required for all study personnel. It is the responsibility of the investigator to ensure that all study personnel maintain current Human Subjects & HIPAA Research training while the study is ongoing.

For guidance on using iRIS, including finding your approved stamped documents, please follow the instructions at <https://louisville.edu/research/humansubjects/iRISSubmissionManual.pdf>

Please note: Consent and assent forms no longer have an expiration date stamped on them. The consent/assents expire if the study lapses in IRB approval. Enrollment cannot take place if a study lapses in approval. For additional information view [Guide 038](#).

Site Approval

If this study will take place at an affiliated research institution, such as UofL Hospital/UofL Health and/or Norton Healthcare, permission to use the site of the affiliated institution is necessary before the research may begin. If this study will take place outside of the University of Louisville Campuses, permission from the organization must be obtained before the research may begin (e.g. Jefferson County Public Schools). Failure to obtain this permission may result in a delay in the start of your research.

Privacy & Encryption Statement

The University of Louisville's Privacy and Encryption Policy requires such information as identifiable medical and health records: credit card, bank account and other personal financial information; social security numbers; proprietary research data; dates of birth (when combined with name, address and/or phone numbers) to be encrypted. For additional information: <http://security.louisville.edu/PolStds/ISO/PS018.htm>.

Implementation of Changes to Previously Approved Research

Prior to the implementation of any changes in the approved research, the investigator will submit any modifications to the IRB and await approval before implementing the changes, unless the change is being made to ensure the safety and welfare of the subjects enrolled in the research. If such occurs, a Protocol Deviation/Violation should be submitted within five days of the occurrence indicating what safety measures were taken, along with an amendment to revise the protocol.

Unanticipated Problems Involving Risks to Subjects or Others (UPIRTSOs)

In general, these may include any incident, experience, or outcome, which has been associated with an unexpected event(s), related or possibly related to participation in the research, and suggests that the research places subjects or others at a greater risk of harm than was previously known or suspected. UPIRTSOs may or may not require suspension of the research. Each incident is evaluated on a case by case basis to make this determination. The IRB may require remedial action or education as deemed necessary for the investigator or any other key personnel. The investigator is responsible for reporting

Full Accreditation since June 2005 by the Association for the Accreditation of Human Research Protection Programs, Inc.

UPIRTSOs to the IRB within 5 working days. Use the UPIRTSO form located within the iRIS system to report any UPIRTSOs.

Payments to Subjects

As a reminder, in compliance with University policies and Internal Revenue Service code, all payments (including checks, pre-paid cards, and gift certificates) to research subjects must be reported to the University Controller's Office. For additional information, please contact the Controller's Office at 852-8237 or controll@louisville.edu. For additional information: <http://louisville.edu/research/humansubjects/policies/PayingHumanSubjectsPolicy201412.pdf>

The committee will be advised of this action at a regularly scheduled meeting.

If you have any questions, please contact: Jackie Powell 852-4101 jspowe01@louisville.edu

Peter M. Quesada

Peter M. Quesada, Ph.D., Chair
Social/Behavioral/Educational Institutional Review Board
PMQ/jsp

We value your feedback. Please let us know how you think we are doing:
<https://www.surveymonkey.com/r/CCLHCRP>

Full Accreditation since June 2005 by the Association for the Accreditation of
Human Research Protection Programs, Inc.

Appendix C

Histogram of Short-Term Financial Confidence

Histogram

Appendix D

Scatterplot Demonstrating Linear Relationship for High School GPA and Short-Term Financial Confidence

Appendix E

Correlation Matrix of Predictor Variables for Research Question 2

Correlations

		STFC	First- Generation Status	Gender	Race
Pearson Correlation	STFC	1.000	.168	-.068	-.072
	First-Generation Status	.168	1.000	.019	-.018
	Gender	-.068	.019	1.000	.002
	Race	-.072	-.018	.002	1.000
	Pell-Eligibility Status	.170	.237	-.048	-.262
	HS GPA	.135	.121	.195	-.185

Correlations

		Pell-Eligibility Status	HS GPA
Pearson Correlation	STFC	.170	.135
	First-Generation Status	.237	.121
	Gender	-.048	.195
	Race	-.262	-.185
	Pell-Eligibility Status	1.000	.176
	HS GPA	.176	1.000

Appendix F

Scatterplot of Residual over Predicted for Short-Term Financial Confidence

Appendix G

Histogram of Academic Achievement

Appendix H

Scatterplot Demonstrating Linear Relationship for Short-Term Financial Confidence and Academic Achievement

Appendix I

Scatterplot Demonstrating Linear Relationship for High School GPA and Academic Achievement

Appendix J

Correlation Matrix of Predictor Variables for Research Question 3

Correlations

		First-Year GPA	First-Generation Status	Gender	Race
Pearson Correlation	First-Year GPA	1.000	.202	.188	-.109
	First-Generation Status	.202	1.000	.018	-.024
	Gender	.188	.018	1.000	.001
	Race	-.109	-.024	.001	1.000
	Pell-Elligibility Status	.203	.242	-.046	-.263
	HS GPA	.613	.132	.207	-.192
	STFC	.156	.172	-.043	-.066

Correlations

		Pell-Elligibility Status	HS GPA	STFC
Pearson Correlation	First-Year GPA	.203	.613	.156
	First-Generation Status	.242	.132	.172
	Gender	-.046	.207	-.043
	Race	-.263	-.192	-.066
	Pell-Elligibility Status	1.000	.178	.148
	HS GPA	.178	1.000	.129
	STFC	.148	.129	1.000

Appendix K

Scatterplot of Residual over Predicted for Academic Achievement

Appendix L

VIF and Tolerance Output Table for Research Question 4

Coefficients^a

Model		Collinearity Statistics	
		Tolerance	VIF
1	STFC	.937	1.067
	First-Generation Status	.919	1.089
	Gender	.947	1.056
	Race	.907	1.102
	Pell-Eligibility Status	.852	1.174
	HS GPA	.890	1.124

a. Dependent Variable: Six-Year Graduation

CURRICULUM VITAE

Shawn Clark

Email: smclar12@louisville.edu

Academic Preparation

Ph.D. in Counseling and Personnel Services (College Student Personnel) May 2020
University of Louisville, Louisville, Kentucky
Graduating with Honors

Master of Education; College Student Affairs Leadership April 2011
Grand Valley State University, Allendale, Michigan
Graduated with Honors

Bachelor of Arts; Diplomacy and Foreign Affairs May 2009
Miami University, Oxford, Ohio
Minor; German
Honors and Scholars Program – Cum Laude

Languages

Fluent English
Functional French, German, American Sign Language

Professional Experience

Analyst, Institutional Research 09/2018 – Present
Northern Kentucky University
Highland Heights, KY

- Provide analytic and reporting support for IPEDS federal requirements
- Develop surveys in Qualtrics supporting the office and institutional goals
- Collaborate with leadership in developing and supporting the strategic framework
- Provide qualitative analysis for multiple offices on campus exploring student data
- Provide Access support in query designs to complete research most efficiently
- Trained in the use of NVivo, Tableau, Power BI, Navigate, and other analytics tools

Associate Director, University Connect and Persist
Northern Kentucky University
Highland Heights, KY

08/2015 – 09/2018

- Co-supervised two professional level UCAP Coordinators
- Provided oversight and tracked budget and expenditure of \$50,000 SGA Award program
- Led support for special populations such as Diversity Scholarship and Northern Difference Award recipients
- Collected and assigned referrals identifying risk level and potential interventions
- Established collaborative relationships with campus to resolve student issues
- Wrote reports on work conducted and presented data to various stakeholders
- Provided advocacy for students experiencing academic, financial, and personal concerns
- Provided information and training for campus community as related to UCAP programs and services such as Early Referrals and other support technologies

Student Success Coordinator
Galen College of Nursing, Cincinnati Campus
Cincinnati, OH

05/2013 – 07/2015

- Budgeted programming for 500 students, including about \$7,000 each year
- Coordinated all 504 and ADA paperwork and accommodations provided to students
- Provided career services to students, including mock interviews and resume review
- Counseled “at-risk” students on campus resources and coordinated faculty outreach
- Coordinated service-learning opportunities for faculty, staff, and students
- Managed the Galen student blog to keep students informed on college and field matters
- Organized and implemented New Student Orientation for 80 students each quarter

Coordinator for Housing and Residence Life, HRL
Western Kentucky University
Bowling Green, KY

07/2011 – 05/2013

- Oversaw male and female residents in a traditional style residence hall
- Supervised, trained, and evaluated fulltime Residence Hall Directors
- Supervised a student staff of Resident and Community Assistants by weekly meetings and individual one on ones

- Provided emergency and crisis response in hall throughout the week and for a campus zone of 1,700 students while on weekend on-call rotations
- Developed and implemented a Community Development Plan within the hall
- Advised students based on their fifth week (midterm) marks
- Counseled students based on MAP-Works (success and quality) survey responses
- Maintained and properly allocated a community budget of \$1700
- Coordinated administrative functions within hall including a year-long room changes

Assistant Living Center Director, HRL
Grand Valley State University
Allendale, MI

08/2009 – 05/2011

- Oversaw residents in two apartment-style buildings including academic living centers
- Co-advised a student staff of Resident Assistants through weekly meetings and individual one on ones
- Coordinated in-hall programming with faculty in the Honors College
- Tracked building access cards and room keys working closely with facilities operations
- Oversaw the front desk schedule by training, supervising, and evaluating desk assistants
- Provided emergency and crisis response for a campus zone of 3,000 students
- Participated in Resident Assistant selection process

Frederik Meijer Honors College Intern
Grand Valley State University
Allendale, MI

08/2010 – 12/2010

- Assessed the Scholars Institute, a one-week intensive camp for incoming first years
- Collected research from students via focus groups
- Evaluated the Honors Peer Mentor program and refitted the application process
- Created a training manual for peer mentors and a training facilitator's guide

Summer Conferences ACUHO-I Intern
Arizona State University
Tempe, AZ

06/2010 – 07/2010

- Analyzed the summer conference paperwork: agendas, timelines, and contracts
- Recommended changes to increase efficiency in the process as a whole

- Assembled and implemented a training binder with conference training and operations
- Collaborated in defining the different professional roles working with conferences

Resident Assistant
Miami University
Oxford, OH

08/2007 – 05/2009

- Organized campus programming for the National Day of Silence in 2008 and 2009
- Enforced policy in a hall of first-year residents and performed other administrative tasks
- Provided emergency and crisis first response to residents while on duty
- Initiated and conducted community programs related to the French/German floors
- Co-Advised the Community Council of a traditional-style hall of residents

Professional Presentations

“The Impact of Non-Cognitive Factors on Student Success”, co-presenter	01/2020
CPAK State Convention, Highland Heights, KY	
“Collaborations at Work”, presenter	03/2018
ACPA National Convention, Houston, TX	
“Leveraging Lessons Learned via a Lending Library”, presenter	03/2017
ACPA National Convention, Columbus, OH	

Instructional Experience

Instructor, University 101 taught Fall Semester 2015
Northern Kentucky University
Highland Heights, KY

Instructor, Alcohol Campus Education Services 4-hour course as needed 2009-2011
Grand Valley State University
Allendale, MI

Leadership Experience

Staff, Faculty, and Administrators for Equality, Secretary	02/2019 – Present
Northern Kentucky University	
University Sustainability Committee, Member	08/2019 – Present
Northern Kentucky University	
Professional Development Committee, Member	01/2016 – 09/2018
Northern Kentucky University	
GSNPCOP, Directorate	03/2014 – 03/2018

ACPA College Educators International IR Analyst Screening Committee, Member Northern Kentucky University	06/2016 – 08/2016
University Scholarship Committee, Member Northern Kentucky University	06/2016 – 08/2016
Student Advisory Committee, Chair Galen College of Nursing	05/2013 – 07/2015
Student Nurses Association of Galen, Chair Galen College of Nursing	05/2013 – 07/2015
Faculty Development Committee, Member Galen College of Nursing	05/2013 – 07/2015
Resident Staff Association, Primary Adviser Western Kentucky University	08/2011 – 05/2013
Recognition Committee, Member Western Kentucky University	08/2011 – 05/2013
Room Change Process Committee, Member Western Kentucky University	06/2012 – 08/2012
Oshkosh Placement Exchange (OPE) Search Committee, Member Western Kentucky University	12/2011 – 03/2012
Honors Community Council, Co-Adviser Grand Valley State University	08/2009 – 04/2011
National Residence Hall Honorary, “OTM” Committee Member Miami University	08/2008 – 05/2009
Alternative Spring Break, Vice President Miami University	08/2007 – 05/2009
Lambda Sigma Service Society, Funding Committee Member Miami University	08/2007 – 05/2008

Community Service

Dog Socializing and Walking, Volunteer League for Animal Welfare, OH	06/2018 – present
Dog Walking Team, Volunteer SPCA Cincinnati	03/2017 – 06/2018
Civic Engagement Committee, Feedback Chair Give Back Cincinnati	01/2017 – 12/2017