

2015

The Impact of Financial Knowledge on Student Retention from the Second to the Third Year at a Public Research University

Eric N. Monday

Louisiana State University and Agricultural and Mechanical College

Follow this and additional works at: https://digitalcommons.lsu.edu/gradschool_dissertations



Part of the [Human Resources Management Commons](#)

Recommended Citation

Monday, Eric N., "The Impact of Financial Knowledge on Student Retention from the Second to the Third Year at a Public Research University" (2015). *LSU Doctoral Dissertations*. 2263.

https://digitalcommons.lsu.edu/gradschool_dissertations/2263

This Dissertation is brought to you for free and open access by the Graduate School at LSU Digital Commons. It has been accepted for inclusion in LSU Doctoral Dissertations by an authorized graduate school editor of LSU Digital Commons. For more information, please contact gradetd@lsu.edu.

THE IMPACT OF FINANCIAL KNOWLEDGE ON STUDENT RETENTION FROM
THE SECOND TO THE THIRD YEAR AT A PUBLIC RESEARCH UNIVERSITY

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The School of Human Resource Education
and Workforce Development

by

Eric N. Monday

B.S., Louisiana State University, 1996

M.P.A., Louisiana State University, 2005

May 2016

© Copyright 2015
Eric N. Monday
All rights reserved.

Our lives become complete when we are joined in marriage with the love of our life. My doctoral journey as represented by the completion of this document is dedicated to my wife, Sybil Corkern Monday. Without her, this outcome would not have been achieved. I am indebted to her.

I am also professionally indebted to the public higher education institutions in America who transform lives each day. Two public land grant universities – LSU and UK - have transformed my personal and professional life and I am forever grateful.

ACKNOWLEDGMENTS

I originally thought this would be the easiest part of the dissertation to write. Instead, it has proven to be the most difficult. How can one acknowledge all of the people who have contributed to my journey?

I must start with the One who is most important, the One who died for me – Jesus Christ. Everything we are and hope to be is because of His Power and Glory. My faith is due in a large part to the great environment provided to me by my parents, Bill and Dori Monday. I learned faith, hard-work, dedication, commitment, and, appropriate to this study, excellent financial knowledge from them.

Next to my Christian faith, my family is the most important. This outcome would not have been possible without the support, encouragement, and leadership of my wife, Sybil, and our two wonderful kids, Jack and Hampton. I hope that by my completing this part of life's amazing journey encourages them in the belief that anything is possible when you work smart, believe, work hard, and surround yourself with tremendous teammates.

The people we meet – whether personal or business, work or home, down the street or across the world – frames and contributes to the person we become, and I have been tremendously blessed. Within this section of the dissertation, I am doing my very best to mention, recognize, and acknowledge your impact on me.

My committee – Dr. Michael Burnett, Dr. Fran Lawrence, Dr. Satish Verma, Dr. James Richardson, and Dr. Earl Johnson – supported, developed, encouraged, and helped me achieve this milestone. Dr. Burnett is one of the kindest, most humble and encouraging person I have ever met. This achievement would simply not have been possible without him. Dr. Lawrence is the reason for this topic; she took a chance on me in 2008 and shared her passion and vision about college student financial literacy and she is the reason why the Student Financial

Management Center exists at LSU. She is also the reason why I discovered this research area, and she made an indelible impact on me. Dr. Verma and his able-bodied replacement Dr. Johnson are kind, gentle, and dedicated individuals who helped me get to the finish line. Last, but certainly not least, Dr. Richardson, one of the most intelligent people I have ever met, helped me within my masters and doctoral program. Special acknowledgement also goes to Emily Hester and Vice President Kurt Keppler for their assistance with the research instrument and data collection; their advice, counsel, and support was vital. I am appreciative to University Registrar Robert Doolos for his assistance as well as to Ann Harrington for her amazing formatting and ability to work with the graduate school.

I believe things happen for a reason, and that each one of us has a defined path created by God. LSU was in this path for over 20 years – first as a student and then as an employee. It was a great journey. I had the most amazing mentors – Vice Chancellor Norman Moore, Interim Vice Chancellor Art Goulas, Associate Vice Chancellor Ralph Gossard and Vice Chancellor Jerry Baudin. I had some tremendous supervisors – Chancellor and President William Jenkins, Chancellor Sean O’Keefe, Provost Astrid Merget, and Chancellor Mike Martin. My colleagues were outstanding ranging from my great teammate in the dark days of the budget cuts, Executive Vice Chancellor and Provost Jack Hamilton, to Jason Droddy to the FAS team of Staci Pepitone, Brian Hommel, Lawrence Rabalais, Brian Nichols, Jeff Campbell, Jason Tolliver, Derrick Angelloz, James Frazier, Rose Mary Wilhelm, Tony Lombardo, Bob Kuhn, and Ashley Territo. Special acknowledgment goes to D’Ann Morris and Heath Price, the best teammates I have ever had. We did amazing things when we were together at LSU.

In 2012, I had the opportunity to make a huge change and transition to UK. It was not without significant thought and fear. It was one of the best decisions Sybil and I have ever made.

At UK, I found leadership, commitment, and a focus on its future that excited me as much in 2012 as it does today. I also found a president in Eli Capilouto that inspired me to put students first in everything I do. I acknowledge President Capilouto for supporting and encouraging me as well as holding me accountable for getting to the finish line. Special thanks goes to Bill Swinford who was always supportive and interested in my journey.

I am blessed to work with a wonderful leadership team in Finance and Administration - Penny Cox, James Frazier, Melody Flowers and Barbara Royalty-Tatum. I must recognize Penny Cox again for her wonderful edits, constant encouragement, and steady-hand. Many colleagues across the campus welcomed me to the university and also encouraged me along the way – my good friend Jason Schlafer, Mitch Barnhart, Tim Tracy, Mike Karpf, Murray Clark, George Ward, Kim Wilson, Angie Martin, Susan Krauss, GT Lineberry, Drew Smith, Jay Blanton, Tom Harris, Terry Birdwhistell, Charley Carlson, and President Emeritus Charles Wethington.

Finally, this journey has allowed me to interact with some amazing people across the country who are focused on financial literacy every day – specifically, Bryan Ashton at Ohio State University and Todd Woodlee at iGrad. Additionally, I must acknowledge and thank two scholars who provided tremendous assistance to this project when they allowed me to use financial knowledge questions they had developed – Dr. Annamaria Lusardi of George Washington University and Dr. Sonya Britt of Kansas State University.

TABLE OF CONTENTS

ACKNOWLEDGMENTS	iv
LIST OF TABLES	ix
ABSTRACT.....	xiii
CHAPTER ONE: THE IMPACT OF FINANCIAL KNOWLEDGE ON STUDENT RETENTION FROM THE SECOND TO THE THIRD YEAR AT A PUBLIC RESEARCH UNIVERSITY.....	1
Introduction.....	1
Background of the Study	1
Statement of the Problem.....	7
Research Question	8
Purpose of the Study and Research Objectives.....	8
CHAPTER TWO: LITERATURE REVIEW	13
Importance of Higher Education.....	13
Funding and Affordability of Higher Education.....	16
Student Retention.....	21
Financial Literacy and Financial Knowledge	25
Student Retention and Financial Literacy	28
Summary	31
CHAPTER THREE: METHODOLOGY	33
Procedures	33
Population and Sample	33
Instrumentation	33
Data Collection	42
Data Analysis	44
CHAPTER FOUR: RESULTS	47
Objective One Results.....	51
Objective Two Results	62
Objective Three Results.....	72
Objective Four Results.....	78
Objective Five Results	83
Objective Six Results.....	91
Step One of Discriminant Analysis.....	93
Step Two of Discriminant Analysis.....	94
Step Three of Discriminant Analysis.....	96
Step Four of Discriminant Analysis.....	97
CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS	99
Summary of Methodology	103
Summary of Findings.....	104

Conclusions, Implications, and Recommendations	112
REFERENCES	122
APPENDIX A: SURVEY INSTRUMENT ONE.....	129
APPENDIX B: SURVEY INSTRUMENT TWO	132
APPENDIX C: APPROVAL FOR THE USE OF CERTAIN QUESTIONS FROM DR. LUSARDI	134
APPENDIX D: E-MAIL FROM DR. BRITT	136
APPENDIX E: CONSENT SCRIPT	139
APPENDIX F: APPROVAL FROM THE LSU INSTITUTIONAL REVIEW BOARD.....	141
APPENDIX G: COVER LETTER TO POPULATION.....	142
APPENDIX H: COMPLETE LIST OF MAJORS FOR STUDENTS WHO DID PERSIST FROM THE SECOND TO THE THIRD YEAR AT A PUBLIC RESEARCH UNIVERSITY IN THE SOUTHERN REGION OF THE UNITED STATES.....	143
VITA.....	146

LIST OF TABLES

Table 1	Race of Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.....	53
Table 2	Composite Scores on the American College Testing (ACT) for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	54
Table 3	High School Grade Point Average (GPA) for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	55
Table 4	Majors for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.....	56
Table 5	College Grade Point Average (GPA) for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	57
Table 6	Employment Status for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.....	58
Table 7	Work Experience for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.....	59
Table 8	Loan Debt for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	60
Table 9	Credit Card Debt for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.....	60
Table 10	Mother/Guardian and Father/Guardian Education for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.....	61
Table 11	First-Generation College Student for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	61
Table 12	Household Income (Family) for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	62
Table 13	Race of Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	63

Table 14	Composite Scores on the American College Testing (ACT) for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	65
Table 15	High School Grade Point Average (GPA) for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.....	66
Table 16	Majors for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	66
Table 17	College Grade Point Average (GPA) for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	68
Table 18	Employment Status for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States....	69
Table 19	Work Experience for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States....	70
Table 20	Loan Debt for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.....	70
Table 21	Credit Card Debt for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States....	71
Table 22	Mother/Guardian and Father/Guardian Education for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.....	71
Table 23	First-Generation College Student for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	72
Table 24	Household Income (Family) for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	72
Table 25	Answers to Financial Knowledge Questions for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	73
Table 26	Accuracy of Responses to Financial Knowledge Questions for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	76

Table 27	Financial Knowledge Score for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	78
Table 28	Answers to Financial Knowledge Questions for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	78
Table 29	Accuracy of Responses to Financial Knowledge Questions for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	81
Table 30	Financial Knowledge Score for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	83
Table 31	Comparison of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States on Variables Measured on a Categorical Scale. ^a	86
Table 32	Cross Classification of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States and Loan Debt.	87
Table 33	Cross Classification of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States and Resident/Nonresident.	87
Table 34	Cross Classification of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States and On/Off-Campus Living.....	88
Table 35	Cross Classification of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States and Race.	89
Table 36	Comparison of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States on Variables Measured on a Continuous Scale.....	90
Table 37	Means, Standard Deviations, and F-ratios Between Groups for Discriminating Variables of Students Who Did and Did Not Persist from the Second to the Third Year at a Public Research University in the Southern Region of the United States.	94
Table 38	Summary Data for Stepwise Discriminant Analysis of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States (n=546).	96

Table 39	Classification of Cases of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.	98
----------	---	----

ABSTRACT

The primary purpose of this study was to determine the influence of financial knowledge and selected demographic characteristics on student retention from the second to the third year at a public research university in the southern region of the United States. The accessible population was defined as students in the Fall 2013 entering freshman cohort who were enrolled in the Spring 2015 semester. Measurements including the independent variable represented by the financial knowledge score and 17 other independent variables were collected using a survey instrument and downloaded data from the university's electronic student information system. A total of 695 students responded, and these data were analyzed utilizing appropriate descriptive measures and stepwise multiple discriminant analysis.

Of the 695 students who responded to the survey, 665 or approximately 96 percent of the students did persist from the second to the third year while the remaining 30 or approximately 4% of the students did not persist. The mean score on the financial knowledge instrument was 68 percent with scores ranging from 15 percent to 100 percent.

Financial knowledge did not have an impact on student retention from the second to the third year in this study. However, further study is recommended on this relationship and the instrument should be administered to a larger sample size and retention evaluated beyond the second to the third year.

A model was identified that increased the ability to correctly classify university students on whether the student did or did not persist from the second to the third year. The model correctly classified 95.7 percent of the students on their retention status. The three variables that entered the model were: high school GPA, college GPA, and on/off-campus living.

Residency status and the amount of loan debt were related to student retention. Students whose race was Black or African American persisted at a lower rate than other races.

Additionally, students who lived off-campus were retained at a higher rate than students who lived on-campus. This conclusion is contrary to previous studies and much of the available research.

CHAPTER ONE: THE IMPACT OF FINANCIAL KNOWLEDGE ON STUDENT RETENTION FROM THE SECOND TO THE THIRD YEAR AT A PUBLIC RESEARCH UNIVERSITY

Introduction

Public higher education is under assault. From state legislatures evaluating the amount of funding provided to public institutions to parents of college students wondering if a college degree is worth the rising costs, many questions are being raised about higher education. The answers to these questions vary from state to state and institution to institution. However, there are some undeniable truths. The sticker price of higher education is rising faster than almost any other tracked good or service in any tracked price index (Odland, 2012). Student loan debt now exceeds \$1 trillion, and there appears to be no end in sight (The Domestic Policy Council & The Council of Economic Advisors, 2014). However, it is also undeniable, that a college degree is a good investment (Greenstone & Looney, 2011).

It would be difficult to deny that the financial knowledge of America is not where it needs to be (Hamilton, 2013). It is not only a matter of ensuring that good financial decisions are being made, but also one that is of national importance for the economic competitiveness of the United States. Considering the rising costs of higher education and the financial decisions students and parents are required to make, it is important to determine the financial knowledge of students. Does a student's financial knowledge impact their retention in college? Does a student's loan or credit card debt impact their retention in college? These are a few of the questions this study attempted to better understand.

Background of the Study

Higher Education in America

Higher education is of vital economic importance to the long-term success of the United States of America (United States Government Accountability Office, 2014). An educated

society is one that can create knowledge and discovery and prepare future generations for success. College graduates earn more, are more socially stable and community focused, and are healthier than non-college graduates (Baum, Ma, & Payea, 2013 & Hout, 2012). Higher education must prepare students for life (Chan, Brown, Ludlow, & Noguera, 2015). From the days of the first land grant public universities in the late 1800's, the role and focus of these public institutions has been on preparing students for the agricultural and mechanical fields but also a focus has been on how best to teach practical skills to students (The Land-Grant Tradition, 2012). An essential component of these public universities is about service to the state in which it resides (The Land-Grant Tradition, 2012).

Although the research is clear on the importance and benefits of higher education, more and more families are questioning the price (The Economist, 2014). The price of a public university is not only tuition and fees, but also the total cost of attendance includes room, board, books, transportation and miscellaneous other charges. The price continues to grow, and the reasons are numerous. There is a growing mountain of evidence suggesting the substantial reduction in state support to higher education since 2008 has led to significant increases in the cost to attend colleges and universities (Mitchell & Leachman, 2015). The cost share between the state and the student has transitioned from the state to the student as the primary funder, and it is unlikely to move back to the state.

The future of public funds for higher education is intertwined with other significant state funding needs. Many states are consumed with the public retirement funding crisis as well as healthcare costs (Boyd & Dadayan, 2013). It is estimated that state government's share of Medicaid expansion from 2014-2022 will be approximately \$73 billion (Angeles, 2012). If an average state is responsible for just two percent of these costs, this could mean as much as a

\$200 million increase in funding per year until 2022. If this cost is combined with the projected cost of the gross underfunding of public retirement plans, there may be little funding left for public higher education (Boyd & Dadayan, 2013).

Public institutions have increased their price to compensate for these adjustments in state funding. For public universities, tuition has increased by more than 10 percent above inflation for the last five years (Mulhere, 2014). Many elected officials are concerned with these growing costs (Maciag, 2013). The average annual price for tuition and fees at a public university in 2014-15 was \$9,190 (Mulhere, 2014). Although this is the sticker price, the price a student actually pays for tuition and fees can be substantially different. This differential is called the tuition discount and accounts for the amount of student financial aid an institution funds to recruit, retain, and reward students. It is a significant expense for most higher education institutions. The National Association of College and University Business Officers (NACUBO) estimated the average tuition discount for the freshman class in 2013 was nearly 45% and was expected to grow (NACUBO, 2014). This expense contributes to the growth in the price of higher education.

Concurrently with the reduction in state support for public higher education and the increases in the price of tuition and fees, there has been significant increase in the amount of student loan debt (Fry, 2014). Federally-backed student loan debt continues to grow and now accounts for a total value of approximately \$1 trillion (Chopra, 2013). Questions have been raised about the connection between the growth in federal aid and student loan balances and the price of higher education (Heller, 2013). Research is mixed about this connection, but a growing number of public policy officials believe there is a connection and go on to argue adjustments

should be made in how students access and qualify for student loans (Lucca, Nadauld, & Shen, 2015).

There are funding pressures for institutions, pricing pressures for students, and substantive thoughts and discussions amongst policy makers. All of these factors suggest that financial decisions are an integral part of the college experience. Adequate financial knowledge is needed and is an important consideration for college students.

Student Retention

Although studied for well over 50 years and considering the fact retention rates have been increasing over the last few decades at many public higher education institutions, the subject of student retention is discussed in the halls of higher education institutions on a daily basis (Tinto, 2006). Some universities discuss it for its impact on the university's academic reputation while others discuss retention for its impact on the university's revenue stream; regardless, it is being watched, monitored, and evaluated daily. It is a subject watched by parents and students alike and reported on by the various publications that rank institutions.

Vincent Tinto is considered the father of much of the research on student retention in higher education (McCarthy, 2004). He has written dozens of articles dating back to his original work in 1975. His works have been cited thousands of times, and he continues to perform research while in residence at Syracuse University. Tinto's concept of retention is one of an interactionalist model of student retention (Tinto, 2006). This model begins with the theory that student retention is impacted by the demographic characteristics of the student. Once the student's demographic characteristics are combined with individual goals and commitments, academic and social interactions result. A higher level of academic and social interaction produces a higher level of retention (Tinto, 2006). Tinto has reviewed and moderately revised his

theory over the years, but it still focuses on the integration of academic and social factors (Peltier, Laden, & Matranga, 1999).

Other researchers have suggested Tinto's model misses other important factors. Bean (1985) discusses how external factors can shape the student experience. Some studies have evaluated the impact of financial factors on retention (St. John, Cabrera, Nora, and Asker, 2001). Although other works exist, the Tinto model is still the most cited work on college student retention.

Students and parents are not the only ones concerned with student retention; it is also important to the university or college. With today's funding challenges, many universities equate student retention with funding. Higher retention levels lead to a larger number of students, which leads to increases in tuition and fee revenues. Additionally, the ranking of universities is impacted by retention (U.S. News and World Report, 2014). The U.S. News and World Report's Annual Best College Rankings calculates 22.5% of its ranking formula for its annual Best Colleges edition on student retention and graduation rates (U.S. News and World Report, 2014).

The industry of higher education evolves just like other industries. It may be slower or faster depending on whom you believe but it continues to adjust to the changing conditions thrust upon it. One such condition is the national conversation around return-on-investment (ROI) or the value of a college degree and how one should measure the outcomes or outputs from such degree (Zaback, Carlson, & Crellin, 2012). It is a discussion at the highest level of government with U.S. President Obama in the 2015 State of the Union speech outlining how the U.S. Department of Education will create a new college ratings system based on value (Bidwell, 2014). Little discussion has publicly taken place on how to determine value. Nonetheless, the conversations have reached a level of dialogue to suggest the issue will evolve into a new

ranking system or produce enough pressure on institutions that desired public policy outcomes would be achieved.

Financial Knowledge

The financial knowledge of citizens is low (Lusardi & Mitchell, 2014). There is growing evidence of research discussing financial knowledge and its impact on retirement planning, wealth accumulation, and debt (Lusardi & Mitchell, 2011). There is not a large breadth of research on the financial knowledge of college students or any connection it may have to student retention. Although some research studies reference how finances or financial issues impact student retention, there is little research on how a student's financial knowledge impacts student retention.

Considering the significant financial decisions students must make today and the importance of this information, financial knowledge is an important topic to consider. Students make dozens of decisions in college – where to live, where to eat, their academic major, organizations to join, student loans, and many others. These decisions may have a long-term impact on their life. These decisions may impact other choices and expand or limit financial opportunities. This life cycle of decision-making has financial consequences and having a solid base of financial knowledge is important (Durband & Britt, 2012).

Colleges and universities are responding to these needs by launching financial readiness programs on their campuses. These programs exist under various departmental names including financial knowledge, financial management, financial wellness, and financial literacy centers. Most of these programs have the common theme of trying to increase a student's financial acumen and help students make better financial decisions during college as well as after graduation. More research is needed to determine if these programs are effective and if they are

meeting the desired goals (Durband & Britt, 2012). This research should be longitudinal and of sufficient depth and quality to be statistically valid and applicable across a large cross-section of universities.

Statement of the Problem

A college degree is important for the individual and for society. Colleges and universities want to achieve higher levels of student success because it is a factor measured for university ranking instruments and because it has a positive financial impact (U.S. News and World Report, 2014). Student retention has been studied for decades yet clear and concise reasons for departure are still undefined (Peltier et al., 1999). College choice is driven by financial considerations and the growing cost of college may become a significant barrier to entry. The financial knowledge individuals possess is low worldwide and is low for college students (Lusardi & Mitchell, 2014 & Norvilitis et al., 2006). A student's time in college is one of the few distinct opportunities left to influence financial knowledge. Some colleges are building financial wellness and literacy centers for the students, but few are evaluating how they are impacting student success (Ashton, 2015).

Research on student retention becomes less succinct as the student progresses. Much of the research focuses on retention from the first to second year while this study will evaluate retention from the second to the third year. Next to the first year, the departure rate is highest between the second and third year (Seidman, 2012). Additionally, student loan debt is higher in years two and three and the impact of student engagement on retention may be muted as the student persists after year one. This research effort was focused on determining what connection, if any, exists between financial knowledge and student retention. The impetus is not only about providing reasons why colleges and universities should invest their limited resources in financial

knowledge programs for their students, but also about colleges and universities performing their civic duty of preparing students with life-skills. The habits formed and lessons learned during a student's time in college provides better preparation for life.

Research Question

Does financial knowledge impact student retention from the second to the third year at a public research university in the southern region of the United States?

Purpose of the Study and Research Objectives

The primary purpose of this study was to determine the influence of financial knowledge on student retention from the second to the third year at a public research university in the southern region of the United States. The research objectives that were formulated to guide the study were:

1. To describe students who did persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics. The characteristics included:
 - a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. ACT score;
 - g. High school GPA;
 - h. Major;
 - i. College GPA;

- j. Pell grant recipient;
 - k. Varsity student athlete;
 - l. Employment status;
 - m. Work experience;
 - n. Loan debt;
 - o. Credit card debt;
 - p. First-generation college student;
 - q. Household income (family).
2. To describe students who did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics. The characteristics included:
- a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. ACT score;
 - g. High school GPA;
 - h. Major;
 - i. College GPA;
 - j. Pell grant recipient;
 - k. Varsity student athlete;
 - l. Employment status;

- m. Work experience;
 - n. Loan debt;
 - o. Credit card debt;
 - p. First-generation college student;
 - q. Household income (family).
3. To describe students who did persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge.
 4. To describe students who did not persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge.
 5. Compare students who did and did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics and their level of financial knowledge. The variables included:
 - a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. ACT score;
 - g. High school GPA;
 - h. Major;

- i. College GPA;
 - j. Pell grant recipient;
 - k. Varsity student athlete;
 - l. Employment status;
 - m. Work experience;
 - n. Loan debt;
 - o. Credit card debt;
 - p. First-generation college student;
 - q. Household income (family);
 - r. Financial knowledge.
6. Determine if the selected demographic characteristics and financial knowledge significantly contribute to the proposed second to third year retention model. The variables included:
- a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. Act score;
 - g. High school GPA;
 - h. Major;
 - i. College GPA;
 - j. Pell grant recipient;

- k. Varsity student athlete;
- l. Employment status;
- m. Work experience;
- n. Loan debt;
- o. Credit card debt;
- p. First-generation college student;
- q. Household income (family);
- r. Financial knowledge.

CHAPTER TWO: LITERATURE REVIEW

The purpose of this study was to determine the influence of financial knowledge on student retention from the second to the third year at a public research university in the southern region of the United States. This chapter describes a review of related literature on financial knowledge and student retention. The review is organized in five topical areas. The first section describes the importance of higher education. Next is a review of funding and affordability in higher education. The third section reviews the breadth of literature on student retention while the fourth section presents an overview of financial knowledge and financial literacy in the United States. The final section explores the interrelationship between retention and financial knowledge in higher education.

Importance of Higher Education

A post-secondary education is important to one's ability to achieve financial success. In 2011, the median earnings of a full-time year-round worker with a bachelor's degree in the U.S. was \$56,500 per year or 60 percent more than the non-degreed worker who earned \$35,400 per year (Baum et al., 2013). The typical college graduate with a bachelor's degree earns 65 percent more than a high school graduate in their lifetime (Baum et al., 2013). This income differential is especially important to students born into a family in the lowest quintile of income; individuals who achieve a college degree only have a 16 percent chance to remain in the lowest quintile while individuals without a college degree have a 45 percent chance to remain (Greenstone, Looney, Patashnik, & Yu, 2013). A college degree is very important to social mobility.

The unemployment rate for college graduates with a bachelor's degree is about half the unemployment rate for high school graduates (Baum et al., 2013). However, job satisfaction, as measured by a 30- year work satisfaction survey, is nearly identical for high school and college

graduates (Baum et al., 2013). Research does suggest sense of learning or desire to continue to learn is greater for college graduates as compared to high school graduates (Baum et al., 2013).

Much has been written about the cost of higher education. Annual tuition at four-year public universities has increased by 27 percent since 2007-08 academic year (Oliff, Palacios, Johnson, & Leachman). Researchers have analyzed these costs in terms of an investment paid over four years and the ability to generate future earnings. When the amount invested for a college degree is compared to the average lifetime earnings of a college graduate, the return averages approximately 15 percent per year (Greenstone & Looney, 2011). This return is more than double the seven percent annual return experienced in the Standard & Poor's 500 for the time period of 1950-2009. (Simple Stock Investing).

Although financial success is important, an individual's health and well-being is of paramount concern. The higher the level of education, the higher the perception is of good health. College graduates are healthier (Hout, 2012). For example, the differential in smoking rates among college graduates and non-college graduates was small until the dangers of smoking became known. After years of explaining the medical evidence, a study in 2003 found that high school graduates smoke at two and half times the rate of college graduates (Baum et al., 2013). College graduates report higher levels of exercise rates and lower levels of obesity (Baum et al., 2013).

Civic involvement is impacted by level of education. The percentage of college graduates who volunteered in 2012 was 42 percent while only 17 percent of high school graduates performed volunteer work (Baum et al., 2013). College graduates are happier than high school graduates (Hout, 2012). Education impacts voter registration and turnout in the election cycle (Hout, 2012). Even the incarceration rate is impacted by level of education. The

incarceration rate of individuals possessing a college degree is one-one hundredth of one percent while those with only a high school diploma have a rate of one percent (Sum, Khatiwada, McLaughlin, & Palma, 2009). The differences between high school graduates and college graduates do not stop with financial and health differences. The ability of one to possess a college degree positively impacts school readiness of children, participation in social programs, and even the frequency of blood donations (Baum & Payea, 2005).

In today's interconnected complex world, a worker must be more competitive and prepared for a changing work environment. Post-high school education is a critical need for society as well as the individual employee. More highly educated societies yield higher productivity, wages, and outcomes. Productivity is an important factor in creating economic development and societal group. Higher education institutions play a larger role in economic development than ever before. Whether public or private, colleges and universities compete for grant and contract research dollars. These dollars are used to fund the discoveries of the lab that are then transferred into the products of the future. Total annual grants and contracts have an additional economic impact on the communities served by the research institutions including the benefits of the multiplier effect. Total university funding on research and development was \$65.1 billion in fiscal year 2011 (National Science Foundation, 2012).

The positive economic impact of higher education institutions does not end with the research engine. Universities act as an employer, a purchaser, real estate owner and developer, workforce developer, community partner, and research innovator (Porter, 2007). In purchasing alone, universities procured over \$100 billion of goods and services in 2001 (Porter, 2007). In many cities, the research institution will be one of the largest employers. This is common with public research universities in the southern region of the United States. For example, the

University of Kentucky is the largest employer in Lexington, KY (Commerce Lexington, 2014) and Louisiana State University (LSU) in Baton Rouge, LA is one of the top 10 employers in Baton Rouge (Baton Rouge Area Chamber, 2015).

Higher education is essential to the nation's competitiveness and has impacted the development of cultural, social and economic capital (United States Government Accountability Office, 2014). A successful higher education system is an essential component of economic viability, growth, and for individuals to enhance their existing abilities (United States Government Accountability Office, 2014).

Funding and Affordability of Higher Education

Nearly 20 million students were enrolled in colleges and universities in 2013 (US Census Bureau, 2013). Funding for higher education institutions comes from a variety of sources including tuition and fees, investment income, sales and services, healthcare, auxiliary operations, research grants and contracts, federal and state student aid, gifts, and savings from previous years. Additionally, public universities receive funding from the state and sometimes, local governments, while land grant institutions receive federal appropriations and may receive county appropriations as well. Most of these revenue streams have the ability to increase based on normal inflationary pricing adjustments. However, state appropriations have been contracting significantly since 2008.

In fiscal year 2013, over \$72 billion in state support was provided to higher education as compared to nearly \$81 billion in fiscal year 2008 or a reduction of approximately 13 percent (State Higher Education Executive Officers, 2014). Over 90 percent of the state support came from tax appropriations (State Higher Education Executive Officers, 2014). The American Council on Education evaluated state funding since fiscal year 1980 and determined state

funding was down by over 40 percent (Mortenson, 2012). Some studies extrapolate toward the future. If this funding trend continues, state investment in higher education would be nearly zero in 2059 (Mortenson, 2012).

The data on a per student basis is equally bad. Only two states – Alaska and North Dakota – are spending more per student than before 2008 (Mitchell, Palacios, & Leachman, 2014). Three states – Arizona, Louisiana, and South Carolina – have cut per-student state funding by more than 40 percent since the start of the 2008 recession (Mitchell et al., 2014). Colleges and universities have responded to these cuts by raising tuition and fees and reducing spending in areas that may impact academic quality. Spending reductions have been distributed throughout the higher education enterprise including the core services of teaching and research as well as student support functions. Some institutions have eliminated hundreds of positions due to these cuts (Mitchell et al., 2014). LSU has been directly impacted by the funding environment and reported in 2012 it had eliminated over 1,200 positions and experienced a net loss of over 200 faculty members (Mitchell et al., 2014). Although one year does not establish a trend, 42 states increased state spending per student from fiscal year 2013 to fiscal year 2014 (Mitchell et al., 2014).

The vast majority of research funding is in the form of grants, and contracts and the federal government provides the funding. Although there has been much discussion about the decline in federal research funding in higher education, the most current data does not yet reflect this decrease. The National Science Foundation reported \$15.7 billion was provided to universities and colleges in fiscal year 2011 and 2012 (National Science Foundation, 2014). Universities and colleges received over 50 percent of the total amount of federal investment in basic research in fiscal year 2012 (National Science Foundation, 2014).

In fiscal year 2012, universities generated more revenue from tuition and fees than from state support (United States Government Accountability Office, 2014). Specifically, the percentage of total revenues for public colleges from tuition has grown from 17 percent in 2003 to 25 percent in 2012 (United States Government Accountability Office, 2014). During the same time period, the percentage of total revenues generated from state governments has decreased from 32 percent in 2003 to 23 percent in 2012 (United States Government Accountability Office, 2014). As evidenced in these statistics, the price of higher education is growing at a rapid pace. The inflation-adjusted cost of a four-year education increased 130 percent over the last twenty years (Shierholz, Sabadish, & Finio, 2013). The average published tuition has risen by \$2,702 since fiscal year 2008 (Mitchell et al., 2014).

Higher education pricing is often influenced by funding cuts, cost increases, and the need to generate more revenue to achieve institutional initiatives. Although it is clear funding cuts to public higher education have impacted the price, the information is not as convincing on the impact of cost increases on price. The complexity of higher education is such it has its own price index, which is separate and distinct from the Consumer Price Index. The index for higher education is called the Commonfund Higher Educating Price Index (HEPI). It is an inflation index built to track the cost drivers (Commonfund, 2015). It tracks a basket of goods and services used by higher education institutions. The basket includes the following: "... salaries for faculty, administrative employees, clerical employees, and service employees, fringe benefits, utilities, supplies and materials, and miscellaneous services" (Commonfund, 2015). These services represent the core services across the wide array of higher education institutions. For the years 2005 – 2014, HEPI ranged from a low of nine-tenths of one percent in 2010 to a high of five and one-tenths percent in 2006 (Commonfund, 2015).

As the price of higher education increases, the costs shift from the state to students. This shift has grown dramatically since 2008, with tuition revenue accounting for more of the revenue in nearly half of the 50 states (Mitchell et al., 2014). This price shift and resulting increase in the cost of higher education has led to significant increases in the amount of student loan debt. Total student loan debt surpassed \$1 trillion in 2014 (The Domestic Policy Council & The Council of Economic Advisors, 2014). The average student loan balance in 2012 was \$20,236 while the share of 25 year olds with student debt equaled 43 percent (Brown & Caldwell, 2013). And, the trends are not positive. In just one category, the percentage of 25 year olds with student debt, only 25 percent of this group had debt in 2003 with an average loan balance of \$10,649 (Brown & Caldwell, 2013).

Funding of higher education cannot be discussed without also talking about affordability. The U.S. Department of Education releases a report every four years on how families finance college. The findings of the 2012 report are consistent with the data described above regarding the number of 25 year olds with debt. It is an alarming growth rate. In 2004 and 2008, approximately 24 percent of students at public institutions used federal student loans for higher education expenses (Baylor, 2014). In 2012, the number grew to 30 percent (Baylor, 2014). Coincident with this increase in the percentage of students borrowing, the amount borrowed has increased as well (Baylor, 2014). During fiscal year 2012, the amount borrowed was \$7,063 compared to \$4,967 during fiscal year 2004, an increase of 42 percent (Baylor, 2014).

Student loans, especially federal student loans, are too complex. Stafford, Perkins, Ford, Family Education Loan, subsidized, non-subsidized are just a few of the type of federal student loan programs available to students. It's difficult for university financial aid staff to stay current on the various types of loan programs, payback terms, and individual loan terms and conditions.

Various groups and governmental agencies have analyzed the federal loan marketplace, and many have written reports with consistent and thorough recommendations. One such report recommends the entire student loan process should be improved, especially considering the active role the US Department of Education now serves as the largest direct lender to students (The Institute for College Access & Success, 2013).

The impact of student loan debt can be felt throughout the economy. For years, there was a positive correlation between 30 year olds who hold student loan debt and homeownership rates (Brown & Caldwell, 2013). In 2012, this shifted, and 30 year-olds with no history of student loans had home-secured debt at a higher percentage than those with student loans (Brown & Caldwell, 2013). In addition, the same trend is seen for holders of auto debt. In 2012, 25-year olds with student loans held less auto debt than 25 year-olds without student loan debt (Brown & Caldwell, 2013). The percentages in 2012 for homeownership and auto debt for these two age groups based on whether or not they have student loan debt are close, but there is a definite trend over the last 10 years.

Pell grants are another significant source of much discussion in the literature. This type of student aid is a grant and not a loan. It is a need-based grant aid program directed to low and moderate-income students. The maximum Pell grant for fiscal year 2016 was \$5,775 per year. It is awarded based on a combination of factors including part-time or full-time student status, cost of attendance, and financial need (US Department of Education, 2015). This program is equally criticized for its complexity as well as its limited financial impact on the total cost of attendance (The Institute for College Access & Success, 2013). Even if the grant award was increased by twice the amount, it would not equal the same share of the total cost of education as it did in the 1970s (The Institute for College Access & Success, 2013).

The substantial returns on the investment in a college degree provide incentives for students to borrow for college. Nonetheless, the rapid growth in student loan balances combined with the divergent salaries across employment opportunities for college graduates is a cause for further exploration.

Student Retention

Colleges and universities face substantial challenges and an uncertain future. Today, students have thousands of options when they make the decision on which college or university to attend. Student choice and preference drive many decisions within higher education because they drive the enrollment equation. Enrollment is to many institutions synonymous with power and degrees of success. Enrollment can be defined not only as recruiting students as freshman but also to include students who continue or persist through each year until graduation and beyond into alumni. Retention or keeping students enrolled is critical to a university's ability to thrive, survive, and be financially stable (Wetzel, O'Toole, & Peterson, 1999). It is more inexpensive to retain a student than to recruit a new one (Adams, 2006). The literature discusses how the social and academic fiber of the university plays a substantial role in retention (Robinson, 2004). An institution must create and sustain an environment of success for students while meeting the demands for high quality of student life as well as a rich culture that supports a student's daily needs. Student success and student retention play complementary roles. Whereas a primary discussion in higher education used to be more focused on access, student success is now more often discussed (Thomas, 2002).

The literature defines retention in many different ways including achieving a certain grade point average in the first year, remaining in state for college, and persistence (Droddy,

2009). For the purposes of this study, retention is defined as, "... calculation of the percentage of students who return to the same institution year after year" (Roberts & Styron, Jr., 2010).

Retention was initially viewed as a student problem and related to a student not having the skills to persist (Tinto, 2006). This view was called the "blame the victim" approach and was widely held through the 1960's (Tinto, 2006). The view evolved from a focus on the student to the impact of institutional factors on retention. Soon, universities began to focus on the university environment, which led to the creation of a wide-range of programs including freshman seminars, first year experiences, and focused faculty and student interactions (Tinto, 2006). Over the last 10 to 20 years, the desire to increase student retention has led to the creation and expansion of honors programs, better programs for at-risk students, orientation programs, freshman seminar courses, and improved academic support services (Noel-Levitz, 2009).

The foremost writer on student retention, Vincent Tinto, formulated a theory that retention is focused on two components: (1) goal commitment and (2) institutional commitment (Wetzel et al., 1999). This theory yields the concepts of academic integration and social integration (Wetzel et al., 1999). Academic integration suggests that there is a good match between the student's academic desire and the institution's academic options while social integration identifies the connection between the student and the campus environment or culture (Wetzel et al., 1999). Wetzel et al. (1999) believe another element – financial factors such as costs – plays a role in retention. However, in a study conducted in 1999, Wetzel et al. concluded academic integration had the larger impact on retention (Wetzel et al., 1999). Specifically, academic progress as defined by satisfactory grade point average and progress towards the completion of a degree were the largest factors of student retention (Wetzel et al., 1999).

Tinto's term of social integration is difficult to define. However, if this can be achieved through a more defined collegiate experience such as a student who lives on-campus as compared to one who does not during the freshman year, it can be evaluated. For example, the first to second year retention rate for students living on-campus at LSU was 86.2% while the rate for students residing off-campus was approximately 81.6% in 2013 (LSU Residential Life, 2014). This differential in on-campus versus off-campus housing retention rates from the first to second year is widely reported throughout higher education institutions. Additional areas of analyses include campus involvement, living proximity to campus, hometown, class size of high school, education level of the students' parents, and participation in orientation or transition camps. The impact of these indicators on retention is mixed. One such study even attempted to determine whether or not the level of investment in student services/affairs programs impacted student retention (Umfress, 2010). Umfress (2010) found that the investment did impact retention.

The focus on retention and persistence continues to be at the forefront of many conversations about higher education today, but the discussions have been taking place for many decades (Tinto, 2006). One heavily researched area involves the impact of financial aid on persistence (Jensen, 1981). Many studies have concluded that there is a positive relationship between financial aid and persistence (Jensen, 1981). Nearly 35 years ago, Jensen found that financial assistance, especially in the first year, had an impact on persistence (Jensen, 1981).

In addition to the impact of financial aid on persistence, researchers have evaluated debt and its impact. Understanding the growing cost of higher education and the documented growth in student loan debt, the impact of debt and financial need are important indicators to explore. Robb, Moody, and Abdel-Ghany (2011) explored the impact of consumer debt and student loan

debt on persistence. The study noted the positive correlation between the amount of student debt and students not persisting through college (Robb et al., 2011).

Finances impact the student in terms of retention and impact the institution in terms of revenue. The impact is in millions of dollars. If tuition is \$10,000 per year and 100 students were not retained, the university just lost gross revenue of \$1 million in the first year. If this is multiplied over the course of a four-year college degree, the impact of those 100 students leaving and not persisting for three years would be in the millions. Unfortunately, the number of students impacted at most institutions is in the hundreds of students rather than 100.

Additionally, 24 states in the United States have implemented some type of performance-based funding for public four-year institutions (National Conference of State Legislatures, 2015).

These funding formulas allocate state funds to the higher education institutions via a quantitative formula. State funds are no longer allocated based on historical appropriation or only on headcount. The majority of the states which have implemented performance-based funding use retention as one of the quantitative performance metrics (National Conference of State Legislatures, 2015). Therefore, retention not only impacts student tuition and fee revenue, but also impacts the amount of state funds a public institution receives.

Although much research has been completed on student retention, the focus has been more on why students leave rather than trying to determine how an institution can help students remain at a college or university (Tinto, 2006). Helping a student remain means colleges and universities must understand the complete lifecycle of the student. Higher education must recognize, appreciate, and prepare for students who have been impacted by various positive and negative influences before they arrive and ensure that the experience when enrolled supports the entire cycle of student development. Likewise, universities must recognize that cost of

attendance, amount and type of financial aid, the amount of consumer debt, and the connection a student makes to the institution will also impact a student's ability to persist.

Financial Literacy and Financial Knowledge

Financial literacy is defined as “the ability to use knowledge and skills to manage financial resources effectively for a lifetime of financial well-being” (President's Advisory Council on Financial Literacy, 2009). Although financial knowledge is often used interchangeably with financial literacy, the term is basic information about financial issues and is a component of financial literacy (Huston, 2010). The words cannot be used interchangeably. Financial literacy moves beyond knowledge and implies the information is being used to make financial decisions (Huston, 2010).

Financial knowledge and literacy are difficult to measure. Huston (2010) evaluated 71 different studies published between 1996 and 2008. These studies ranged from a three-item instrument to a 45-item instrument (Huston, 2010). Lusardi and Mitchell designed the three-item instrument in 2008 (Lusardi & Mitchell, 2014). The three questions are basic financial knowledge questions and cover economics and finance. The questions include simple calculations about interest rates, inflation, and risk (Lusardi & Mitchell, 2011). The instrument has been tested numerous times and, on average; about 30 percent of the respondents answer all three questions correctly (Lusardi & Mitchell, 2011). Lusardi has studied the connection between financial literacy and retirement planning. In a 2011 study, the summary statistics detailed how the responses differ based on age, with 35-year-old and under as well as 65-year-old and older having the lowest financial literacy (Lusardi & Mitchell, 2011).

Financial knowledge and financial literacy are important factors of success for college students. A student's ability to make sound financial decisions can have a substantial impact on

their time in college as well as in life (Cude et al., 2006). A direct correlation may exist between how a student manages money and how much time is spent on academic work (Cummins, Haskell, & Jenkins, 2009). Unfortunately, for students as well as non-students, sound financial decisions and an adequate understanding of personal financial issues are not being achieved (Chen & Volpe, 1998). Various studies suggest that either through a lack of education or a lack of focus, financial literacy is not a strength of U.S. citizens or, the data suggests it is not improving (Chen & Volpe, 1998). The issue has transitioned from one that was of concern to one that is now nearly in crisis. Coupled with the current economic environment in the United States, financial knowledge and financial literacy is no longer desired knowledge, it is essential knowledge for one to be an educated member of the workforce and society.

Another definition of financial literacy involves achieving an understanding of “money management, income versus expenses, spending and credit, and the value of savings and investing” (Adams, 2006). Regardless of which definition is used, the measures used have yielded the same results – a failing grade. Whether the population is high school students, college students, or adults, the studies find nearly half of the population cannot answer basic financial literacy questions (Adams, 2006). People must manage their retirement, education savings, medical and life insurance, mortgages, loans, and investments in order to best plan for their current and future needs (Chen & Volpe, 1998).

Although several states have recognized the need for improved financial literacy, the focus has been on elementary and secondary education (Cude et al., 2006). Over 30 states now have personal finance standards built into the curriculum (Cude et al., 2006). It is too early to determine whether or not these standards will impact the financial literacy of college students. However, the results from the work of the JumpStart Coalition suggest that the effort to make

high school students more financially literate has a long way to go. In a recent survey, only 50 percent of the students answered basic financial literacy questions correctly (Norvilitis et al., 2006). Unfortunately, it does not appear that college students are performing better in financial literacy.

In one study that reviewed college student financial habits, many students were unable to discuss the current balance or interest rate on their credit cards (Norvilitis et al., 2006). In the same study, college students did not appreciably score better than high school students on the JumpStart test, and there was a direct positive correlation between amount of debt and the lack of financial knowledge (Norvilitis et al., 2006). The importance of literacy to college students is evident in many reasons with the most important being how it can affect a student's academic performance (Cude et al., 2006). Additionally, the financial decisions a student makes in college can have an impact for the rest of a student's life. From the use of credit cards, the acquisition of personal debt, the acceptance of loans, and long-term financial commitments, these can have secondary impact for years or even decades. Cude et al. (2006) explained how approximately one-third of students answered that their academic performance may be impacted by financial decisions. Another study concludes that students are leaving college with an inability to make decisions about one of the most important factors that will impact their lives (Chen & Volpe, 1998). These poor decisions also limit future opportunities including personal health and future job opportunities (Cude et al., 2006).

Similar to the impact poor financial literacy can have on academic performance, it can also impact a worker's productivity in the job market (Chen & Volpe, 1998). There is a societal cost and impact from poor financial literacy. This issue drives towards the immediate need and focus of the discussion. Higher education's role is to participate in the holistic development of

the student – both inside and outside of the classroom. Colleges and universities should consider more defined strategies to incorporate financial literacy into course requirements, orientation programs, student financial management centers, financial literacy courses, and online financial resources (Cude et al., 2006). Poor financial literacy impacts quality of life, and therefore colleges and universities as well as educators should take the appropriate steps to provide more financial literacy in these environments (Chen & Volpe, 2002).

When developing financial literacy programs, attention should be directed towards gender, age, and degree program differences amongst the targeted students. Women generally have less knowledge about financial literacy as compared to men (Chen & Volpe, 1998). Data also suggests that older students and students studying a business curriculum perform better on financial literacy surveys as compared to younger students and students studying a non-business curriculum (Chen & Volpe, 2002). Chen and Volpe (2002) also determined that informal learning methods are used more in student learning than formal educational methods. Specifically, students report that parents are responsible for their financial knowledge (Chen & Volpe, 2002). This fact leads to several other questions and concerns for investigation. How does the parents' financial literacy and financial habits impact their children or students? Has the massive housing refinancing of the last decade impacted students' financial decisions? If the parents are not knowledgeable about personal financial literacy and they are responsible for 70 percent of the student's education on the subject, how will this impact the student's financial decisions?

Student Retention and Financial Literacy

With much attention and focus on college retention and the financial knowledge and

literacy of college students, it could be expected that the interaction or connection between these two factors has been frequently measured. It is difficult to find a study in a refereed journal that explores this connection. There may be a connection between student success and student's financial management skills (Cummins et al., 2009). Some college student aid and registrar practitioners are discussing the issue, but this research is subjective and based on feelings rather than quantitative and qualitative analysis (Adams, 2006).

Although more research is needed, many institutions have taken steps to incorporate financial knowledge and literacy into the campus culture. Texas Tech University, University of North Texas, Ohio State University, LSU, and many others have created student financial management/education/literacy centers on their campuses with the goal of increasing the financial literacy of all students. The service provided by these centers range from online resources to course creation to peer counseling to financial counseling to the communities in which they serve. Program models for these programs are becoming better defined. A white paper by the Coalition of Higher Education Assistance Organizations (2014) describes five program delivery models: (1) Interactive Online Games, (2) Classroom-Based Programs, (3) Game-Based Programs, (4) Event-Based Programs, and (5) Individual Counseling. The interactive, classroom, game and event-based programs may be used to teach similar content and work towards the goal of impacting behavior. Although delivery may be more costly than the other four models, individual counseling or the peer to peer counseling format offers some unique benefits compared to the other models (Coalition of Higher Education Assistance Organizations, 2014). In a review of various programs across higher education, most programs utilize multiple program models.

Colleges and universities document various reasons why the financial literacy or financial knowledge programs exist on the campus. These reasons range from the growth of student loans, personal debt, to stress reported from financial issues (Ashton, 2015). Likewise, universities have organized these programs into four distinct institutional frames: (1) academic, (2) enrollment/financial aid, (3) student affairs, and (4) chief financial officer/central administration (Ashton, 2015). With a trend toward a student affairs frame, these programs are evolving to recognize and focus on the social context of the environmental factors impacting the student.

These programs are needed, especially considering the astounding growth of personal debt through credit cards. There cannot be a discussion about college students and financial literacy without an overview of how credit cards have penetrated the college experience. The credit companies began targeting college students in the 1980s (Robb & Sharpe, 2009). Through direct marketing and on-campus signup opportunities, the number of college students who have a credit card has grown from 54 percent in 1990 to over 83 percent in 2001 (Robb & Sharpe, 2009). This usage has led to larger monthly balances for students. In one study, just 36 percent of the students surveyed reported paying off their bills on a monthly basis (Norvilitis et al., 2006). There is a positive relationship between the number of credit cards and the amount of debt (Norvilitis et al., 2006). Consistent with the research that describes lower financial literacy among women as compared to men, women also have more credit cards and carry a higher credit card balance (Robb & Sharpe, 2009). Various studies have examined the use of credit cards and how it impacts financial risk. One such study examined 1,400 students at LSU in 2005, and it provided evidence of a positive connection between active use of credit cards and higher student financial risk (Cude et al., 2006).

Although progress is being made, the need for universities to do more is clear. It is the role of colleges and universities to educate the complete student, and financial knowledge and literacy are too important to the success of the student. While students are coming to college more academically prepared, they are not adequately prepared in this area (Adams, 2006). Students expect institutions to provide financial knowledge and literacy training in the same way there is an expectation that high quality of life facilities and services will be available to them. The issue is no longer a want; it is a need. Colleges and universities must meet this expectation (Adams, 2006). These expectations could be informed by data on how financial knowledge impacts student retention.

Summary

The purpose of this chapter was to provide a review of related literature that supported the exploration of a relationship between financial knowledge and student retention. A review of current and older works was completed, and it was apparent there was a need for more research on the impact of financial knowledge on student retention.

The research question was, “Did financial knowledge impact student retention from the second to the third year at a public research university in the southern region of the United States?” To answer this question, the study completed the following objectives:

1. To describe students who did persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics.
2. To describe students who did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics.

3. To describe students who did persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge.
4. To describe students who did not persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge.
5. Compare students who did and did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics and their level of financial knowledge.
6. Determine if the selected demographic characteristics and financial knowledge significantly contribute to the proposed second to third year retention model.

CHAPTER THREE: METHODOLOGY

Procedures

The primary purpose of this study was to determine the influence of financial knowledge on student retention from the second to the third year at a public research university in the southern region of the United States. The purpose of this chapter is to describe the population and sample, instrumentation, data collection procedures, and the framework for analyzing the data.

Population and Sample

The target population for this study was defined as students in the Fall 2013 entering freshman cohort who were enrolled in the Spring 2015 semester at a public research university in the southern region of the United States. The accessible population for this study was defined as the same as the target population. Subjects chosen for the study were selected by sampling 100 percent of the accessible population.

The population was accessed through the use of the e-mail address of each student in the Fall 2013 freshman cohort who was enrolled in the Spring 2015 semester available from the university's electronic student information system. The defined population was 4,407 students, and the entire population was used for the study.

Instrumentation

Two instruments were used for this study. The first instrument – a 20-item survey - consisted of 13 items on financial knowledge and seven items designed to measure selected demographic characteristics of the students (see Appendix A). The second instrument consisted of an electronic recording form into which 12 additional demographic characteristics provided by the university's registrar were downloaded (see Appendix B).

Instrument One

The 13 financial knowledge questions used on the first instrument were compiled through three methods: (1) three questions provided by Annamaria Lusardi, Denit Trust Chair of Economics and Accountancy at The George Washington University (2) five questions provided by Sonya Britt, Associate Professor and Program Director of Personal Financial Planning at Kansas State University, and (3) five questions developed by the researcher through a review of related literature. Lusardi provided written approval (see Appendix C) for the use of the financial knowledge questions she developed (A. Lusardi, personal communication, March 14, 2015). She has developed and used these questions for over 10 years and one article describing the research results from such use has been cited over 100 times (Lusardi & Mitchell, 2011).

The one true/false and two multiple-choice questions were:

1. Q: Buying a single company's stock usually provides a safer return than a stock mutual fund.
A: [True; False]
2. Q: Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?
A: [More than \$102; Exactly \$102; Less than \$102; Do not know; Refuse to answer]
3. Q: Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

A: [More than today; Exactly the same; Less than today; Do not know;
Refuse to answer]

Dr. Britt provided the researcher with financial knowledge questions and explained she has used these questions for the last five years to measure financial knowledge (see Appendix D) (S. Britt, personal communication, December 8, 2014). The five true/false questions were:

1. Q: You can obtain at least one free copy of your credit report each year.

A: [True;False]

2. Q: Higher insurance deductibles lead to lower insurance premiums.

A: [True;False]

3. Q: Social security is sufficient to meet retirement needs.

A: [True;False]

4. Q: An annuity is a contract issued by a financial institution that
guarantees a series of payments for over a lifetime.

A: [True;False]

5. Q: A mutual fund is an investment company that invests its shareholders'
money in a diversified portfolio of securities.

A: [True;False]

The remaining five financial knowledge questions were developed based on a review of literature and included questions on the following topics: mortgages and interest, budgeting process, retirement plans, credit score, and taxes. Other financial survey instruments have developed questions on the topics of mortgages and its interaction with good financial decisions (Lusardi & Mitchell, 2011). Additionally, the question exploring the tax topic of a tax credit versus a tax deduction was previously explored in a financial survey completed in 1998 (Chen

and Volpe, 1998). The literature is less defined on the topics of budgeting process, retirement plans, and the credit score. With the gaps in other survey instruments, the researcher designed the remaining questions from these topic areas based on a review of related literature. The five questions, of which, three were true/false and two were multiple-choice were:

1. Q: The budgeting process starts with establishing financial goals.
A: [True; False]
2. Q: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.
A: [True;False]
3. Q: A 401 (k) retirement plan is a defined benefits plan.
A: [True; False]
4. Q: Which of the following makes up the largest component of a credit score?
A: [Payment history; Length of credit history; New credit; Credit mix – type of credit; Credit utilization – amount owed]
5. Q: If you qualify for both options but can only claim one, is it generally better to utilize a tax credit or a tax deduction?
A: [A tax credit; A tax deduction; They are the same; Do not know; Refuse to answer]

Instrument one also contained seven demographic characteristic questions that were unavailable from the university's electronic student information system. These questions were:

1. Q: How many hours per week do you work?
A: [0; Less than 10 hours; 10 - 19 hours; 20 – 29 hours; 30 hours or more]
2. Q: How many years of work experience do you have? Include full- or part-

time experience, internships, etc.

A: [0; Less than 1; 1-2; 3-4; 5 or more]

3. Q: What is the approximate balance of your student loan debt?

A: [0; \$1-\$14,999; \$15,000-\$29,999; \$30,000-\$49,999; more than \$50,000]

4. Q: What is the approximate balance of your personal credit card debt?

A: [0; \$1-\$1,499; \$1,500-\$2,499; \$2,500-\$3,499; more than \$3,500]

5. Q: What is the highest level of education attained by your mother/guardian?

A: [Less than high school; High school graduate or GED; Some college; Four year college degree or higher; Do not know]

6. Q: What is the highest level of education attained by your father/guardian?

A: [Less than high school; High school graduate or GED; Some college; Four year college degree or higher; Do not know]

7. Q: What is your family's personal income last year?

A: [Less than \$25,000; \$25,000 - \$49,999; \$50,000 - \$74,999; more than \$75,000; Do not know]

The data collected from these questions were used to describe students on the following six characteristics:

1. Employment status;
2. Work experience;
3. Loan debt;
4. Credit card debt;
5. First-generation college student;
6. Household income (family).

Each one of these six demographic characteristics was selected based on a review of related literature. Employment status has long been examined as whether or not it relates to student retention. Astin (1984) evaluated the difference between on and off-campus employment while others have focused on its impact on future career development. Although studied for decades, no consensus exists as to the impact of student employment on retention (Riggert, Boyle, Petrosko, Ash, & Rude-Parkins, 2006).

Chen and Volpe (1998) used work experience and household income as characteristics within their study. Two other questions relate to the characteristics of student loan and credit card debt. Student loan debt is the discussion of this decade, and with student loan debt crossing the \$1 trillion threshold in the last few years, this topic is of significant concern to society and to the future of higher education. Similarly, college students and credit cards are inexplicably linked, and dozens of studies have researched the use, connection, and impacts (Lyons, 2004).

Many studies have discussed the success rate and other factors concerning first-generation college students. The arguments are strong on how there is a strong correlation between family education and retention (Thayer, 2000). First-generation students have a higher rate of departure (Ishitani, 2006). These characteristics had potential to impact the study.

Instrument Two

Instrument two contained 12 demographic characteristics collected from the university's electronic student information system, and the university's registrar provided the information.

The demographic characteristics were:

1. Race;
2. Gender;
3. Age;

4. Resident/nonresident;
5. On/off-campus living;
6. Act score;
7. High school GPA;
8. Major;
9. College GPA;
10. Pell grant recipient;
11. Varsity student athlete;
12. Retention.

Each one of the demographic characteristics was chosen based on a review of related literature. Race, sex (gender), and age are often connected to student retention (Ishler and Upcraft, 2005). There is a difference in retention rates for the majority and the minority races. Additionally, the race of college students is evolving with minority races accounting for a larger percentage of total college population and for a growing percentage of total degrees awarded (Reason, 2003). Although the gender breakdown of college students is more stable than race, the number of female students continues to grow at a faster rate than the number of male students (Reason, 2003). However, the research is mixed on the impact of gender on retention. Some studies have found there is an impact while others have found little connection between gender and retention (Lutta, 2008). As to the age demographic characteristic, Purdie (2007) found it could be used as a predictor of student retention. The age of college students may impact retention in a variety of ways including maturity of student, work and life requirements, teaching methods, and whether or not the student has time to be engaged in the campus. As Tinto found

in one of his original studies, student engagement is explicitly linked to student success (Tinto, 1975).

In public research universities, students who are not residents of the state in which the university is located are assessed a non-residency fee to enroll. Such fees can substantively change the total cost of attendance and could be double or even triple the price students who are residents of the state in which the university is located pay. This fact, in and of itself, could have an impact on retention, as pricing, financial status, and debt are important factors to consider for college retention. One such study found that in-state students persisted at a higher rate than out-of-state students (Murtaugh, Burns, & Schuster, 1999).

Generally, students who live on-campus in residence halls persist at a higher rate than students who live off-campus, whether at home or in a residence located physically off-campus (Schudde, 2011). Research also notes the preparation differences between students who live on and off-campus. Should these characteristics be controlled the resulting retention “advantage” is less than many residential life programs note (Schudde, 2011). The same pre-college academic characteristics the researcher studied – ACT score and high school GPA – may be more significant than where a student lives. Many studies have found pre-college academic characteristics can be a predictor of student retention (Murtaugh, et al., 1999). Although the research varies, many universities have found high school GPA is a stronger predictor as compared to ACT score. High school GPA may be a better predictor because it could be an indicator of persistence while the ACT score may be more focused on testing ability and other less reliable methods of prediction.

Murtaugh et al. (1999) evaluated the connection between first semester grades and student retention from the first to second year and found a positive correlation. The importance

of this characteristic is especially high in the first and second years because retention rates after the first and second years are considerably higher. If universities can determine ways to retain students until the third year, the chance of success is high. Likewise, there is interaction between GPA and the student's choice of study. Purdie (2007) found a connection between choice of major and student retention.

Additional factors the researcher evaluated included special populations or situations related to whether or not a student is a student athlete or pell grant recipient. Student retention is enhanced if the student is also a student athlete (Wohlegemuth et al., 2007). The National Collegiate Athletics Association (NCAA) and its members have focused tremendous efforts on student athlete retention and graduation rates. In order to achieve a more level playing field of comparison, the NCAA developed a new formulaic method to compare institutions, and this method is called the Academic Progress Rate (APR). The APR measures progress toward retention and graduation and is widely reported annually each year (NCAA, 2015).

The last factor the researcher collected was to evaluate the impact of whether or not a student is a pell grant recipient and how such may impact retention. The eligibility standard for a pell grant is based on financial need, cost of attendance, enrollment status, and attendance plans (U.S. Department of Education, 2015). Generally, the requirements are such that families with incomes above \$50,000 are not eligible while the majority of the aid goes to families with income in the \$20,000 range (U.S. Department of Education, 2015). Understanding this income factor, additional items including academic preparation, high school choice, ACT score, and high school GPA may be related to this factor of retention. There is a relationship between financial concerns and college academic performance (St. John, Cabrera, Nora, and Asker, 2000). Notwithstanding the interactions between finances and academic performance, one such study on

students who received pell grants found evidence student retention was positively impacted by receiving financial aid in the form of a pell grant. (Bettinger, 2004).

Data Collection

The researcher prepared the consent script and documents necessary to seek approval from the Institutional Review Board. A consent and communication script was completed, and the researcher discussed the data request with the university's student affairs division and the university's registrar (see Appendix E). The scripts outlined the data security protections including specifying the survey was confidential and the appropriate secure storage techniques that were used to achieve confidentiality. After completing these discussions and receiving approval from the Institutional Review Board (see Appendix F), the researcher requested an electronic file containing the e-mail addresses of the population from the university's registrar. Upon receipt of these e-mails, these were loaded into the Qualtrics survey software product. As anticipated, approximately 4,400 e-mails were received and loaded.

Instrument One

Instrument one was then loaded into the survey software. The survey timeline was finalized, incentives determined, and any necessary approvals were sought. The researcher provided six gift cards valued between \$50 and \$100 as an incentive to students for completing the survey. The researcher completed testing of the survey by sending it to e-mail addresses of colleagues and ensured appropriate delivery and response. Once testing of the instrument was complete, the survey instrument was distributed through e-mail via Qualtrics to the entire study population. The initial distribution e-mail included a cover letter signed by the researcher, the study institution's chief student affairs officer, and study institution's head of the student financial wellness center (see Appendix G). The e-mail requested a response within seven days

in order to qualify for the initial round of four \$100 gift card incentives. A reminder e-mail was sent approximately four days later while the researcher continued to monitor Qualtrics for any survey errors or undeliverable e-mail addresses.

Since final exams were administered to students during the approximate three-week survey timeframe, an additional two e-mail reminders were sent after the exams were over. These final two e-mail reminders noted a second-chance drawing would be held for students who respond to the survey within this final time period. Each reminder was distributed at different times of the day to reach students and achieve a higher level of response. The second chance drawing was for two - \$50 gift cards. Additionally, the study institution's student affairs division posted messages to Twitter and used other forms of social media to encourage survey response. After approximately three weeks, the survey closed, and the data were downloaded into a Microsoft Excel file. These data were spot-checked for accuracy and held until Instrument Two was available.

Instrument Two

Approximately three weeks before the data from the Fall 2015 semester became available, the researcher sent an electronic request for the 12 demographic characteristics to the university's registrar. The data request included information on the needed summary demographic characteristics for the entire population. Once the electronic recording form was received, it was downloaded into the Microsoft Excel file and merged with the file collected via Instrument One. The key identifier for the merge was the student's e-mail address. The summary data was kept in a separate Microsoft Excel file. Once the merged file was complete, the researcher checked it for accuracy and then deleted the e-mail addresses from the file.

Data Analysis

Procedures for statistical data analysis are discussed by objective.

The first objective of the study was to describe students who did persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics. The characteristics included the following: race, gender, age, resident/nonresident, on/off-campus living, ACT score, high school GPA, major, college GPA, pell grant recipient, varsity student athlete, employment status, work experience, loan debt, credit card debt, first-generation college student, and household income (family).

Characteristics measured on a categorical scale of measurement (nominal and ordinal scales of measurement) were summarized using frequencies and percentages. Characteristics measured on a categorical scale included: race, gender, resident/nonresident, on/off-campus living, major, pell grant recipient, varsity student athlete, employment status, work experience, loan debt, credit card debt, first-generation college student, and household income (family).

Characteristics measured on a continuous scale of measurement (interval scale of measurement) were summarized using means, standard deviations, and ranges. Characteristics measured on a continuous scale included: age, ACT score, high school GPA, and college GPA.

The second objective of the study was to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics. The characteristics included the following: race, gender, age, resident/nonresident, on/off-campus living, ACT score, high school GPA, major, college GPA, pell grant recipient, varsity student athlete, employment status, work experience, loan debt, credit card debt, first-generation college student, and household income (family).

Characteristics measured on a categorical scale of measurement (nominal and ordinal scales of measurement) were summarized using frequencies and percentages. Characteristics measured on a categorical scale included: race, gender, resident/nonresident, on/off-campus living, major, pell grant recipient, varsity student athlete, employment status, work experience, loan debt, credit card debt, first-generation college student, and household income (family).

Characteristics measured on a continuous scale of measurement (interval scale of measurement) were summarized using means, standard deviations, and ranges. Characteristics measured on a continuous scale included: age, ACT score, high school GPA, and college GPA.

The third objective of the study was to describe students who did persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge. The financial knowledge characteristic was measured on a continuous scale of measurement (interval scale of measurement) and summarized using means, standard deviations, and ranges.

The fourth objective of the study was to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge. The financial knowledge characteristic was measured on a continuous scale of measurement (interval scale of measurement) and summarized using means, standard deviations, and ranges.

The fifth objective of the study was to compare students who did and did not persist from the second to the third year at a public research university in the southern region of the United States based on selected demographic characteristics and their level of financial knowledge. The variables included the following: race, gender, age, resident/nonresident, on/off-campus living, ACT score, high school GPA, major, college GPA, pell grant recipient, varsity student athlete,

employment status, work experience, loan debt, credit card debt, first-generation college student, household income (family), and financial knowledge.

Characteristics measured on a categorical scale of measurement (nominal and ordinal scales of measurement) were compared using chi squares. Variables measured on a categorical scale included: race, gender, resident/nonresident, on/off-campus living, major, pell grant recipient, varsity student athlete, employment status, work experience, loan debt, credit card debt, first-generation college student, and household income (family).

Characteristics measured on a continuous scale of measurement (interval scale of measurement) were compared using t-tests. Variables measured on a continuous scale included: age, ACT score, high school GPA, and college GPA, and financial knowledge.

The sixth objective of the study was to determine if the selected demographic characteristics and financial knowledge significantly contribute to the proposed second to third year retention model. The variables included the following: race, gender, age, resident/nonresident, on/off-campus living, ACT score, high school GPA, major, college GPA, pell grant recipient, varsity student athlete, employment status, work experience, loan debt, credit card debt, first-generation college student, household income (family), and financial knowledge. Analysis was accomplished using the multiple discriminant statistical analysis.

CHAPTER FOUR: RESULTS

The primary purpose of this study was to determine the influence of financial knowledge on student retention from the second to the third year at a public research university in the southern region of the United States. The dependent variable of this study was retention, which was defined as whether students who were in the Fall 2013 entering freshman cohort and were enrolled in the Spring 2015 semester did or did not persist from the second to the third year.

The following research objectives were formulated to guide the study:

1. To describe students who did persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics. The characteristics included:
 - a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. Act score;
 - g. High school GPA;
 - h. Major;
 - i. College GPA;
 - j. Pell grant recipient;
 - k. Varsity student athlete;
 - l. Employment status;
 - m. Work experience;
 - n. Loan debt;

- o. Credit card debt;
 - p. First-generation college student;
 - q. Household income (family).
2. To describe students who did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics. The characteristics included:
- a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. Act score;
 - g. High school GPA;
 - h. Major;
 - i. College GPA;
 - j. Pell grant recipient;
 - k. Varsity student athlete;
 - l. Employment status;
 - m. Work experience;
 - n. Loan debt;
 - o. Credit card debt;
 - p. First-generation college student;
 - q. Household income (family).

3. To describe students who did persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge.
4. To describe students who did not persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge.
5. Compare students who did and did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics and their level of financial knowledge. The variables included:
 - a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. Act score;
 - g. High school GPA;
 - h. Major;
 - i. College GPA;
 - j. Pell grant recipient;
 - k. Varsity student athlete;
 - l. Employment status;
 - m. Work experience;

- n. Loan debt;
 - o. Credit card debt;
 - p. First-generation college student;
 - q. Household income (family);
 - r. Financial knowledge.
6. Determine if the selected demographic characteristics and financial knowledge significantly contribute to the proposed second to third year retention model. The variables included:
- a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. Act score;
 - g. High school GPA;
 - h. Major;
 - i. College GPA;
 - j. Pell grant recipient;
 - k. Varsity student athlete;
 - l. Employment status;
 - m. Work experience;
 - n. Loan debt;
 - o. Credit card debt;

- p. First-generation college student;
- q. Household income (family);
- r. Financial knowledge.

The enrollment data for students who were in the Fall 2013 entering freshman cohort and were enrolled in the Spring 2015 semester at a public research university in the southern region of the United States were collected from the university's electronic student information system. This set of 4,407 students served as the accessible population for this study. The sample was defined as 100 percent of the accessible population.

Therefore, 4,407 students were selected as the sample for this study. Of these 4,407 students, 695 or approximately 16 percent responded to the survey instrument. Six hundred sixty-five of the 695 students who responded did persist from the second to the third year at a public research university in the southern region of the United States. The remaining 30 students who responded to the survey did not persist from the second to the third year. In this chapter, the researcher presents the results of the study by objective.

Objective One Results

1. The first objective of the study was to describe students who did persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics. The characteristics included:
 - a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;

- f. Act score;
- g. High school GPA;
- h. Major;
- i. College GPA;
- j. Pell grant recipient;
- k. Varsity student athlete;
- l. Employment status;
- m. Work experience;
- n. Loan debt;
- o. Credit card debt;
- p. First-generation college student;
- q. Household income (family).

There were 665 students who met the criteria of this objective. Following are the results for each of these characteristics:

Race

Race was the first characteristic on which the students were described. Of the 665 students who did persist from the second to the third year at a public research university in the southern region of the United States, the largest group ($n = 466$, 70.2%) identified themselves as White. The second largest group identified themselves as Black or African American ($n = 80$, 12.0%). One individual did not respond to the question. This information was collected from the university's electronic student information system (see Table 1).

Table 1 Race of Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Race	Frequency	Percent
White	466	70.2
Black or African American	80	12.0
Hispanic	48	7.2
Asian	36	5.4
Multi-Racial	30	4.5
American Indian or Alaskan Native	2	.3
Native Hawaiian or Other Pacific Islander	2	.3
Total	664 ^a	99.9 ^b

^a Data regarding race was not available for one of the study subjects.

^b Percentages do not sum to 100.0 due to rounding error.

Gender

Another characteristic on which the students were described was gender. Of the 665 students who did persist from the second to the third year at a public research university in the southern region of the United States, 471 students (70.8%) were identified as female, while 194 students (29.2%) were identified as male.

Age

The third characteristic on which the study subjects were described was age. The age of the student was measured as of the Spring 2015 semester. The average age of students who did persist from the second to the third year at a public research university in the southern region of the United States was 20 years ($SD = .38$). The overall age for this group of students ranged from 19 to 21 years.

Resident/Nonresident

Students who did persist from the second to the third year at a public research university in the southern region of the United States were also described by whether or not they were residents of the state in which the study institution was located. When students were described on this characteristic, the majority of the students ($n = 568$, 85.4%) were identified as residents,

while 97 students (14.6%) were identified as nonresidents of the state in which the study institution was located.

On/Off-Campus Living

The fifth characteristic was whether or not students who did persist from the second to the third year at a public research university in the southern region of the United States lived on-campus. A majority of the students ($\underline{n} = 517, 77.7\%$) did not live on-campus while the remaining students ($\underline{n} = 148, 22.3\%$) did live on-campus.

ACT Score

The public research university studied in this research requires applicants to submit a college entrance examination. This examination, in the form of the ACT score, was another characteristic used in the study to describe students who did persist from the second to the third year at a public research university in the southern region of the United States. For students who submitted more than one examination to the university, the institution used the student's highest composite ACT score. The mean composite score on this characteristic was 26.38 ($\underline{SD} = 3.65$), and the scores ranged from a low of 16 to a high of 35. To further describe students on ACT scores, the student's scores were grouped into categories. The largest group ($\underline{n}=184, 27.8\%$) had scores in the 28 – 30 category. Table 2 presents the composite ACT scores of the students.

Table 2 Composite Scores on the American College Testing (ACT) for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

ACT Score	Frequency	Percent
34 or more	13	2.0
31 - 33	72	10.8
28 - 30	184	27.8
25 -27	165	24.9
22 - 24	164	24.8
21 or less	64	9.7
Total	662 ^a	100.0

(Table 2 continued)

Note. The mean ACT composite score was 26.38 (SD = 3.65). The ACT scores ranged from 16 to 35.

^a Data regarding ACT score were not available for three of the study subjects.

High School GPA

High school grade point average (GPA) was the seventh characteristic used to describe students who did persist from the second to the third year at a public research university in the southern region of the United States. The high school GPA was defined as the grade point average on units required for admission to the university studied. The GPA was calculated on a 4.000 scale and was available in the university's electronic student information system.

The mean high school GPA was 3.601 (SD = .328) for the students who did persist from the second to the third year at a public research university in the southern region of the United States. High school GPA ranged from a low of 2.500 to a high of 4.000 for this group of students. Examination of the high school GPA data in Table 3 provides the number of students who had high school GPAs in selected groupings or categories. The largest group of students (n = 190, 29.0%) who did persist from the second to third year had high school academic GPAs in the 3.750 to 3.999 category. The category with the second largest number of students (n = 156, 23.9%) was the GPA range of 3.500 – 3.749, while the category with the least number of students (n = 29, 4.4%) was a GPA of less than 3.000. The distribution of these ranges is presented in Table 3.

Table 3 High School Grade Point Average (GPA) for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Academic GPA Range	Frequency	Percent
4.000	80	12.3
3.750 – 3.999	190	29.0
3.500 – 3.749	156	23.9
3.250 – 3.499	115	17.6
3.000 – 3.249	83	12.8

(Table 3 continued)

Less than 3.000	29	4.4
Total	653 ^a	100.0

Note. The mean high school GPA was 3.601 ($SD = .328$). GPA scores ranged from 2.500 to 4.000.

^a Data regarding high school GPA were not available for 12 of the study subjects.

Major

The major of the student was a characteristic used to describe students who did persist from the second to the third year at a public research university in the southern region of the United States. Approximately 50% of the students majored in 10 different degree programs with the largest percentage of students majoring in Kinesiology ($n = 73$, 11.0%). See Table 4 for the 10 majors with the largest number of students. A complete listing of majors for students who did persist from the second to the third year is presented in Appendix H.

Table 4 Majors for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Major	Frequency	Percent
Kinesiology	73	11.0
Biology	40	6.0
Mass Communication	37	5.6
Psychology	33	5.0
Accounting	32	4.8
Finance	29	4.4
Marketing	27	4.1
Chemical Engineering	26	3.9
Mechanical Engineering	19	2.9
Petroleum Engineering	18	2.7
Others ^a	331	49.6
Total	665	100.0

^a Data regarding all other majors listed with frequencies of less than 18. See Appendix H for complete listing of majors.

College GPA

The ninth characteristic used to describe students who did persist from the second to the third year at a public research university in the southern region of the United States was College

grade point average (GPA). The college GPA was defined as the cumulative grade point average at the end of the Spring 2015 semester. The GPA was calculated on a 4.000 scale and was available in the university's electronic student information system. Table 5 presents a categorized summary of college GPA for students who did persist from the second to the third year.

The mean college GPA was 3.245 (SD = .518) for the students who did persist from the second to the third year at a public research university in the southern region of the United States. College GPA ranged from a low of 1.739 to a high of 4.000 for this group of students. Examination of the college GPA data in Table 5 provides the number of students who had college GPAs in selected groupings or categories. The largest group of students who did persist from the second to third year (n = 213, 32.0%) had college GPAs in the 3.500 to 3.999 category. The category with the second largest number of students (n = 212, 31.9%) was the GPA range of 3.000 – 3.499, while the category with the least number of students (n = 6, .9%) was a GPA of less than 2.000. The distribution of all of these ranges is presented in Table 5.

Table 5 College Grade Point Average (GPA) for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

College GPA Range	Frequency	Percent
4.000	36	5.4
3.500 – 3.999	213	32.0
3.000 – 3.499	212	31.9
2.500 – 2.999	144	21.7
2.000 – 2.499	54	8.1
Less than 2.000	6	.9
Total	665	100.0

Note. The mean college GPA was 3.245 (SD = .518). GPA scores ranged from 1.739 to 4.000.

Pell Grant Recipient

Another characteristic on which students who did persist from the second to the third year at a public research university in the southern region of the United States were described was

whether or not they were pell grant recipients. When students were described on this characteristic, the majority of the students ($\underline{n} = 520, 78.2\%$) did not receive a pell grant, while 145 students (21.8%) were identified as pell grant recipients.

Varsity Student Athlete

Whether or not the student was a student athlete was another characteristic used to describe students who did persist from the second to the third year at a public research university in the southern region of the United States. Of the 665 students who did persist from the second to the third year, a high percentage ($\underline{n} = 655, 98.5\%$) were not student athletes while the remaining students ($\underline{n} = 10, 1.5\%$) were student athletes.

Employment Status

The twelfth characteristic used to describe students who did persist from the second to the third year at a public research university in the southern region of the United States was employment status. Employment status was measured by students self-reporting the number of hours they currently work. Approximately one-third of students ($\underline{n} = 225, 33.8\%$) worked 10 – 19 hours per week while a little more than one-quarter of students ($\underline{n} = 176, 26.5\%$) reported they did not work or worked 0 hours per week. The distribution of these ranges is presented in Table 6.

Table 6 Employment Status for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Hours Worked	Frequency	Percent
0 hours	176	26.5
Less than 10 hours	119	17.9
10 – 19 hours	225	33.8
20 – 29 hours	88	13.2
30 hours or more	57	8.6
Total	665	100.0

Work Experience

Work experience was another characteristic on which students who did persist from the second to the third year at a public research university in the southern region of the United States were described. Work experience was measured by students self-reporting the number of years of work experience they currently have. The largest number of students had work experience of between 3 – 4 years ($\underline{n} = 252$, 37.9%) while students with 1 – 2 years of work experience closely followed ($\underline{n} = 209$, 31.4%). The fewest number of students ($\underline{n} = 36$, 5.4%) had 0 years of work experience. A distribution of these data is presented in Table 7.

Table 7 Work Experience for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Years Worked	Frequency	Percent
0 years	36	5.4
Less than 1 year	69	10.4
1 – 2 years	209	31.4
3 – 4 years	252	37.9
5 years or more	99	14.9
Total	665	100.0

Loan Debt

Another characteristic on which students who did persist from the second to the third year at a public research university in the southern region of the United States were described was their amount of loan debt. Over half of the students ($\underline{n} = 412$, 62.0%) reported they had no loan debt while approximately one-fourth of the students ($\underline{n} = 168$, 25.3%) reported loan debt of between \$1 - \$14,999. The distribution of loan debt is presented in Table 8.

Table 8 Loan Debt for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Loan Debt	Frequency	Percent
\$0	412	62.0
\$1 - \$14,999	168	25.3
\$15,000 - \$29,999	53	8.0
\$30,000 - \$49,999	24	3.6
\$50,000 or more	8	1.2
Total	665	100.1 ^a

^a Percentages do not sum to 100.0 due to rounding error.

Credit Card Debt

Regarding credit card debt, students who did persist from the second to the third year at a public research university in the southern region of the United States were asked to provide their amount of credit card debt. The largest group ($n = 552$, 83.0%) reported that their credit card debt was \$0 while 80 (12.0%) students reported credit card debt between \$1 - \$1,499. See Table 9 for a complete distribution of credit card debt.

Table 9 Credit Card Debt for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Credit Card Debt	Frequency	Percent
\$0	552	83.0
\$1 - \$1,499	80	12.0
\$1,500 - \$2,499	15	2.3
\$2,500 - \$3,499	10	1.5
\$3,500 or more	8	1.2
Total	665	100.0

First-Generation College Student

The sixteenth characteristic used to describe students who did persist from the second to the third year at a public research university in the southern region of the United States was first-generation college student. This self-reported characteristic was described as whether or not either the mother/guardian or father/guardian had obtained a four year college degree or higher. Examination of the data revealed that the majority of the students' mother/guardian ($n = 360$, 54.1%) had a four year college degree or higher. In addition, a majority of the students'

father/guardian ($\underline{n} = 353$, 53.1%) had a four year college degree or higher. When evaluating the education of both mother/guardian and father/guardian, the number of first-generation college students was 213 or 32.0% of the students. Table 10 presents the educational level of mother/guardian and father/guardian while Table 11 includes data on the number of first-generation college students.

Table 10 Mother/Guardian and Father/Guardian Education for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Level of Education	Mother/Guardian		Father/Guardian	
	Frequency	Percent	Frequency	Percent
Less than high school	13	2.0	30	4.5
High school graduate or GED	102	15.3	123	18.5
Some college	183	27.5	146	22.0
Four year college degree or higher	360	54.1	353	53.1
Do not know	7	1.1	13	2.0
Total	665	100.0	665	100.1 ^a

^a Percentages do not sum to 100.0 due to rounding error.

Table 11 First-Generation College Student for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

First-Generation College Student	Frequency	Percent
Yes	213	32.0
No	452	68.0
Total	665	100.0

Household Income (Family)

When students who did persist from the second to the third year at a public research university in the southern region of the United States were asked to provide their total family income, the largest group ($\underline{n} = 312$, 46.9%) reported that their family income was more than \$75,000. The smallest group ($\underline{n} = 44$, 6.6%) reported that their family income was less than \$25,000. One-fifth of the students ($\underline{n} = 133$) did not know their family income (See Table 12).

Table 12 Household Income (Family) for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Household Income (Family)	Frequency	Percent
Less than \$25,000	44	6.6
\$25,000 - \$49,999	71	10.7
\$50,000 - \$74,999	105	15.8
More than \$75,000	312	46.9
Do not know	133	20.0
Total	665	100.0

Objective Two Results

The second objective of the study was to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics. The characteristics included:

- a. Race;
- b. Gender;
- c. Age;
- d. Resident/nonresident;
- e. On/off-campus living;
- f. Act score;
- g. High school GPA;
- h. Major;
- i. College GPA;
- j. Pell grant recipient;
- k. Varsity student athlete;
- l. Employment status;
- m. Work experience;
- n. Loan debt;

- o. Credit card debt;
- p. First-generation college student;
- q. Household income (family).

There were 30 students who met the criteria of this objective. Following are the results for each of these characteristics:

Race

Race was the first characteristic on which the students were described. Of the 30 students who did not persist from the second to the third year at a public research university in the southern region of the United States, the largest group ($\underline{n} = 16, 53.3\%$) identified themselves as White. The second largest group identified themselves as Black or African American ($\underline{n} = 8, 26.7\%$). This information was collected from the university's electronic student information system (see Table 13).

Table 13 Race of Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Race	Frequency	Percent
White	16	53.3
Black or African American	8	26.7
Hispanic	2	6.7
Asian	2	6.7
Multi-Racial	2	6.7
Total	30	100.1 ^a

^a Percentages do not sum to 100.0 due to rounding error.

Gender

Another characteristic on which the students were described was gender. Of the 30 students who did not persist from the second to the third year at a public research university in the southern region of the United States, 23 students (76.7%) were identified as female, while 7 students (23.3%) were identified as male.

Age

The third characteristic on which the study subjects were described was age. The age of the student was measured as of the Spring 2015 semester. The average age of students who did not persist from the second to the third year at a public research university in the southern region of the United States was 19.93 years ($SD = .37$). The overall age for this group of students ranged from 19 to 21 years.

Resident/Nonresident

Students who did not persist from the second to the third year at a public research university in the southern region of the United States were also described by whether or not they were residents of the state in which the study institution was located. When students were described on this characteristic, the majority of the students ($n = 21$, 70.0%) were identified as residents, while 9 students (30.0%) were identified as nonresidents of the state in which the study institution was located.

On/Off-Campus Living

The fifth characteristic was whether or not students who did not persist from the second to the third year at a public research university in the southern region of the United States lived on-campus. A majority of the students ($n = 18$, 60.0%) did not live on-campus while the remaining students ($n = 12$, 40.0%) did live on-campus.

ACT score

The public research university studied in this research requires applicants to submit a college entrance examination. This examination, in the form of the ACT score, was another characteristic used in the study to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States. For students

who submitted more than one examination to the university, the institution used the student's highest composite ACT score. The mean composite score on this characteristic was 25.07 ($\underline{SD} = 3.23$), and the scores ranged from a low of 19 to a high of 32. To further describe students on ACT scores, the student's scores were grouped into categories. The largest group ($n=11$, 36.7%) had scores in the 24 – 26 category. Table 14 presents the composite ACT scores of the students.

Table 14 Composite Scores on the American College Testing (ACT) for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

ACT Score	Frequency	Percent
34 or more	0	0.0
31 - 33	1	3.3
28 - 30	7	23.3
25 -27	9	30.1
22 - 24	9	30.0
21 or less	4	13.4
Total	30	100.1 ^a

Note. The mean ACT composite score was 25.07 ($\underline{SD} = 3.23$). The ACT scores ranged from 19 to 32.

^a Percentages do not sum to 100.0 due to rounding error.

High School GPA

High school grade point average (GPA) was the seventh characteristic used to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States. The high school GPA was defined as the grade point average on units required for admission to the university studied. The GPA was calculated on a 4.000 scale and was available in the university's electronic student information system.

The mean high school GPA was 3.356 ($\underline{SD} = .385$) for the students who did not persist from the second to the third year at a public research university in the southern region of the United States. High school GPA ranged from a low of 2.540 to a high of 4.000 for this group of students. Examination of the high school GPA data in Table 15 provides the number of students who had high school GPAs in selected groupings or categories. The largest group of students

who did not persist from the second to third year included 6 students (20.6%) in three different GPA categories - 3.750 – 3.999, 3.000 – 3.249, and less than a 3.000. The category with the least number of students ($n = 1$, 3.4%) was a GPA of 4.000. The distribution of these ranges is presented in Table 15.

Table 15 High School Grade Point Average (GPA) for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Academic GPA Range	Frequency	Percent
4.000	1	3.4
3.750 – 3.999	6	20.6
3.500 – 3.749	5	17.4
3.250 – 3.499	5	17.4
3.000 – 3.249	6	20.6
Less than 3.000	6	20.6
Total	29 ^a	100.0

Note. The mean high school GPA was 3.356 ($SD = .385$). GPA scores ranged from 2.540 to 4.000.

^a Data regarding high school GPA were not available for one of the study subjects.

Major

The major of the student was a characteristic used to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States. The 30 students majored in 22 different degree programs with the largest percentage of students majoring in Pre-Nursing ($n = 5$, 16.7%). See Table 16 for the listing of the majors.

Table 16 Majors for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Major	Frequency	Percent
Pre-Nursing	5	16.7
Management	3	10.0
Not Reported	2	6.7
Computer Science	2	6.7
Biological Engineering	1	3.3
Chemical Engineering	1	3.3
Chemistry/Pre-Nursing	1	3.3
Communication Disorders	1	3.3

(Table 16 continued)

Major	Frequency	Percent
Allied Health – Dental Hygiene	1	3.3
Electrical Engineering	1	3.3
General Business	1	3.3
Kinesiology	1	3.3
Mass Communications	1	3.3
Mechanical Engineering	1	3.3
Marketing	1	3.3
Nutrition and Food Sciences	1	3.3
Natural Resource Ecology and Management	1	3.3
Petroleum Engineering	1	3.3
PK-3 Teacher Certification	1	3.3
Political Science	1	3.3
Psychology	1	3.3
Theatre	1	3.3
Total	30	99.5 ^a

^a Percentages do not sum to 100.0 due to rounding error.

College GPA

The ninth characteristic used to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States was College grade point average (GPA). The college GPA was defined as the cumulative grade point average at the end of the Spring 2015 semester. The GPA was calculated on a 4.000 scale and was available in the university's electronic student information system. Table 17 presents a categorized summary of college GPA for students who did not persist from the second to the third year.

The mean college GPA was 2.768 (SD = .623) for the students who did not persist from the second to the third year at a public research university in the southern region of the United States. College GPA ranged from a low of 1.583 to a high of 4.000 for this group of students. Examination of the college GPA data in Table 17 provides the number of students who had college GPAs in selected groupings or categories. The largest group of students who did not persist from the second to third year (n = 11, 36.7%) had college GPAs in the 3.000 to 3.499

category. The category with the second largest number of students ($\underline{n} = 9$, 30.0%) was the GPA range of 2.000 – 2.499, while the category with the least number of students ($\underline{n} = 1$, 3.3%) was a GPA of 4.000. The distribution of these ranges is presented in Table 17.

Table 17 College Grade Point Average (GPA) for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

College GPA Range	Frequency	Percent
4.000	1	3.3
3.500 – 3.999	2	6.7
3.000 – 3.499	11	36.7
2.500 – 2.999	4	13.3
2.000 – 2.499	9	30.0
Less than 2.000	3	10.0
Total	30	100.0

Note. The mean college GPA was 2.768 ($\underline{SD} = .623$). GPA scores ranged from 1.583 to 4.000.

Pell Grant Recipient

Another characteristic on which students who did not persist from the second to the third year at a public research university in the southern region of the United States were described was whether or not they were pell grant recipients. When students were described on this characteristic, the majority of the students ($\underline{n} = 24$, 80.0%) did not receive a pell grant, while six students (20.0%) were identified as pell grant recipients.

Varsity Student Athlete

Whether or not the student was a student athlete was another characteristic used to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States. Of the 30 students who did not persist from the second to the third year, a high percentage ($\underline{n} = 29$, 96.7%) were not student athletes while the remaining student ($\underline{n} = 1$, 3.3%) was a student athlete.

Employment Status

The twelfth characteristic used to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States was employment status. Employment status was measured by students self-reporting the number of hours they currently work. Approximately one-fourth of the students ($\underline{n} = 8$, 26.7%) reported they work in two different categories – 0 hours per week and 10 – 19 hours per week. The distribution of these ranges is presented in Table 18.

Table 18 Employment Status for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Hours Worked	Frequency	Percent
0 hours	8	26.7
Less than 10 hours	4	13.3
10 – 19 hours	8	26.7
20 – 29 hours	5	16.7
30 hours or more	5	16.7
Total	30	100.1 ^a

^a Percentages do not sum to 100.0 due to rounding error.

Work Experience

Work experience was another characteristic on which students who did not persist from the second to the third year at a public research university in the southern region of the United States were described. Work experience was measured by students self-reporting the number of years of work experience they currently have. The largest number of students had work experience of between 3 – 4 years ($\underline{n} = 12$, 40.0%) while students with 5 years of work experience closely followed ($\underline{n} = 8$, 26.7%). The fewest number of students ($\underline{n} = 2$, 6.7%) had less than 1 year of work experience. A distribution of these data is presented in Table 19.

Table 19 Work Experience for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Years Worked	Frequency	Percent
0 years	3	10.0
Less than 1 year	2	6.7
1 – 2 years	5	16.7
3 – 4 years	12	40.0
5 years or more	8	26.7
Total	30	100.1 ^a

^a Percentages do not sum to 100.0 due to rounding error.

Loan Debt

Another characteristic on which students who did not persist from the second to the third year at a public research university in the southern region of the United States were described was their amount of loan debt. Approximately one-third of the students ($\underline{n} = 9$, 30.0%) reported they had no loan debt while approximately 40 percent of the students ($\underline{n} = 12$) reported loan debt of between \$1 - \$14,999. The distribution of loan debt is presented in Table 20.

Table 20 Loan Debt for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Loan Debt	Frequency	Percent
\$0	9	30.0
\$1 - \$14,999	12	40.0
\$15,000 - \$29,999	7	23.3
\$30,000 - \$49,999	1	3.3
\$50,000 or more	1	3.3
Total	30	99.9 ^a

^a Percentages do not sum to 100.0 due to rounding error.

Credit Card Debt

Regarding credit card debt, students who did not persist from the second to the third year at a public research university in the southern region of the United States were asked to provide their amount of credit card debt. The largest group ($\underline{n} = 26$, 86.7%) reported that their credit card debt was \$0 while 3 (10.0%) students reported credit card debt between \$1 - \$1,499. See Table 21 for a complete distribution of credit card debt.

Table 21 Credit Card Debt for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Credit Card Debt	Frequency	Percent
\$0	26	86.7
\$1 - \$1,499	3	10.0
\$1,500 - \$2,499	1	3.3
\$2,500 - \$3,499	0	0.0
\$3,500 or more	0	0.0
Total	30	100.0

First-Generation College Student

The sixteenth characteristic used to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States was first-generation college student. This self-reported characteristic was described as whether or not either the mother/guardian or father/guardian had obtained a four year college degree or higher. Examination of the data revealed that nearly half of the students' mother/guardian ($\underline{n} = 14$, 46.7%) had a four year college degree or higher. In addition, over 40 percent of the students' father/guardian ($\underline{n} = 14$, 46.7%) had a four year college degree or higher. When evaluating the education of both mother/guardian and father/guardian, the number of first-generation college students was 33.3% ($\underline{n} = 10$) of the students. Table 22 presents the educational level of mother/guardian and father/guardian while Table 23 includes data on the number of first-generation college students.

Table 22 Mother/Guardian and Father/Guardian Education for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Level of Education	Mother/Guardian		Father/Guardian	
	Frequency	Percent	Frequency	Percent
Less than high school	1	3.3	1	3.3
High school graduate or GED	5	16.7	4	13.3
Some college	10	33.3	10	33.3
Four year college degree or higher	14	46.7	14	46.7
Do not know	0	0.0	1	3.3
Total	30	100.0	30	99.9 ^a

^a Percentages do not sum to 100.0 due to rounding error.

Table 23 First-Generation College Student for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

First-Generation College Student	Frequency	Percent
Yes	10	33.3
No	20	66.7
Total	30	100.0

Household Income (Family)

When students who did not persist from the second to the third year at a public research university in the southern region of the United States were asked to provide their total family income, the largest group ($\underline{n} = 12$, 40.0%) reported that their family income was more than \$75,000. The smallest group ($\underline{n} = 3$, 10.0%) reported that their family income was between \$50,000 - \$74,999. One-fifth of the students ($\underline{n} = 6$) did not know their family income (See Table 24).

Table 24 Household Income (Family) for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Household Income (Family)	Frequency	Percent
Less than \$25,000	5	16.7
\$25,000 - \$49,999	4	13.3
\$50,000 - \$74,999	3	10.0
More than \$75,000	12	40.0
Do not know	6	20.0
Total	30	100.0

Objective Three Results

The third objective of the study was to describe students who did persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge. There were 665 students who met the criteria of this objective. Table 25 provides the answers students provided to the 13 financial knowledge questions. The 13 questions consisted of nine true/false questions and four multiple-choice questions. The multiple-choice questions provided five answer choices for the students.

Table 25 Answers to Financial Knowledge Questions for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Question 1: Buying a single company's stock usually provides a safer return than a stock mutual fund.		
Answer	Frequency	Percent
True	201	30.2
False ^a	464	69.8
Total	665	100.0
Question 2: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.		
Answer	Frequency	Percent
True ^a	593	89.2
False	72	10.8
Total	665	100.0
Question 3: The budgeting process starts with establishing financial goals.		
Answer	Frequency	Percent
True ^a	629	94.6
False	36	5.4
Total	665	100.0
Question 4: A 401 (k) retirement plan is a defined benefits plan.		
Answer	Frequency	Percent
True	492	74.0
False ^a	173	26.0
Total	665	100.0
Question 5: You can obtain at least one free copy of your credit report each year.		
Answer	Frequency	Percent
True ^a	565	85.0
False	100	15.0
Total	665	100.0
Question 6: Higher insurance deductibles lead to lower insurance premiums.		
Answer	Frequency	Percent
True ^a	426	64.1
False	239	35.9
Total	665	100.0
Question 7: Social security is sufficient to meet retirement needs.		
Answer	Frequency	Percent
True	178	26.8

(Table 25 continued)

Answer	Frequency	Percent
False ^a	487	73.2
Total	665	100.0
Question 8: An annuity is a contract issued by a financial institution that guarantees a series of payments for over a lifetime.		
Answer	Frequency	Percent
True ^a	489	73.5
False	176	26.5
Total	665	100.0
Question 9: A mutual fund is an investment company that invests its shareholders' money in a diversified portfolio of securities.		
Answer	Frequency	Percent
True ^a	570	85.7
False	95	14.3
Total	665	100.0
Question 10: Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?		
Answer	Frequency	Percent
More than \$102 ^a	541	81.4
Exactly \$102	41	6.2
Less than \$102	43	6.5
Do not know	40	6.0
Refuse to answer	0	0.0
Total	665	100.1 ^b
Question 11: Which of the following makes up the largest component of a credit score?		
Answer	Frequency	Percent
Payment history ^a	420	63.2
Length of credit history	68	10.2
New credit	19	2.9
Credit mix – type of credit	43	6.5
Credit utilization – amount owed	115	17.3
Total	665	100.1 ^b
Question 12: If you qualify for both options but can only claim one, is it generally better to utilize a tax credit or a tax deduction?		
Answer	Frequency	Percent
A tax credit ^a	132	19.8

(Table 25 continued)

Answer	Frequency	Percent
A tax deduction	222	33.4
They are the same	57	8.6
Do not know	252	37.9
Refuse to answer	2	.3
Total	665	100.0
Question 13: Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?		
Answer	Frequency	Percent
More than today	92	13.8
Exactly the same	44	6.6
Less than today ^a	391	58.8
Do not know	135	20.3
Refuse to answer	3	.5
Total	665	100.0

^a Correct Response.

^b Percentages do not sum to 100.0 due to rounding error.

Information presented in Table 26 provides the answers to the 13 financial knowledge questions based on correct or incorrect. The item that was answered correctly by the largest percentage of students ($\underline{n} = 629$, 94.6%) was “Question 3: The budgeting process starts with establishing financial goals.” The next highest percentage correct ($\underline{n} = 593$, 89.2%) was for “Question 2: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.” The two questions that were answered correctly by the lowest percentage of students were “Question 4: A 401 (k) retirement plan is a defined benefits plan.” ($n = 173$, 26.0%) and “Question 12: If you qualify for both options but can only claim one, is it generally better to utilize a tax credit or a tax deduction?” ($\underline{n} = 132$, 19.8%).

Table 26 Accuracy of Responses to Financial Knowledge Questions for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Item	Correct		Incorrect	
	Frequency	Percent	Frequency	Percent
Question 3: The budgeting process starts with establishing financial goals.	629	94.6	36	5.4
Question 2: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.	593	89.2	72	10.8
Question 9: A mutual fund is an investment company that invests its shareholders' money in a diversified portfolio of securities.	570	85.7	95	14.3
Question 5: You can obtain at least one free copy of your credit report each year.	565	85.0	100	15.0
Question 10: Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?	541	81.4	124	18.6
Question 8: A 401 (k) retirement plan is a defined benefits plan.	489	73.5	176	26.5
Question 7: Social security is sufficient to meet retirement needs.	487	73.2	178	26.8
Question 1: Buying a single company's stock usually provides a safer return than a stock mutual fund.	464	69.8	201	30.2

(Table 26 continued)

Item	Correct		Incorrect	
	Frequency	Percent	Frequency	Percent
Question 6: Higher insurance deductibles lead to lower insurance premiums.	426	64.1	239	35.9
Question 11: Which of the following makes up the largest component of a credit score?	420	63.2	245	36.8
Question 13: Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?	391	58.8	274	41.2
Question 4: A 401 (k) retirement plan is a defined benefits plan.	173	26.0	492	74.0
Question 12: If you qualify for both options but can only claim one, is it generally better to utilize a tax credit or a tax deduction?	132	19.8	533	80.2

The answers to the financial questions were also evaluated to calculate a financial knowledge score. This score was determined by evaluating the number of questions correct divided by the total number of questions and then converted to a percentage. The average score of students who did persist from the second to the third year at a public research university in the southern region of the United States was 68% ($SD = 14.66$). The score for this group of students ranged from 15% to 100%. Three students achieved a perfect score of 100% while the largest number ($n = 132$, 19.8%) scored a 69%. Table 27 presents the financial knowledge scores for students who did persist from the second to the third year.

Table 27 Financial Knowledge Score for Students Who Did Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Score	Frequency	Percent
100%	3	.5
92%	36	5.4
84%	98	14.7
77%	128	19.2
69%	132	19.8
62%	121	18.2
54%	65	9.8
46%	50	7.5`
38%	17	2.6
31%	11	1.7
23%	3	.5
15%	1	.2
Total	665	100.1 ^a

^a Percentages do not sum to 100.0 due to rounding error.

Objective Four Results

The fourth objective of the study was to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge. There were 30 students who met the criteria of this objective. Table 28 provides the answers students provided to the 13 financial knowledge questions. The 13 questions consisted of nine true/false questions and four multiple-choice questions. The multiple-choice questions provided five answer choices for the students.

Table 28 Answers to Financial Knowledge Questions for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Question 1: Buying a single company's stock usually provides a safer return than a stock mutual fund.		
Answer	Frequency	Percent
True	13	43.3
False ^a	17	56.7
Total	30	100.0

(Table 28 continued)

Question 2: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.		
Answer	Frequency	Percent
True ^a	29	96.7
False	1	3.3
Total	30	100.0
Question 3: The budgeting process starts with establishing financial goals.		
Answer	Frequency	Percent
True ^a	30	100.0
False	0	0.00
Total	30	100.0
Question 4: A 401 (k) retirement plan is a defined benefits plan.		
Answer	Frequency	Percent
True	23	76.7
False ^a	7	23.3
Total	30	100.0
Question 5: You can obtain at least one free copy of your credit report each year.		
Answer	Frequency	Percent
True ^a	28	93.3
False	2	6.7
Total	30	100.0
Question 6: Higher insurance deductibles lead to lower insurance premiums.		
Answer	Frequency	Percent
True ^a	20	66.7
False	10	33.3
Total	30	100.0
Question 7: Social security is sufficient to meet retirement needs.		
Answer	Frequency	Percent
True	10	33.3
False ^a	20	66.7
Total	30	100.0
Question 8: An annuity is a contract issued by a financial institution that guarantees a series of payments for over a lifetime.		
Answer	Frequency	Percent
True ^a	23	76.7
False	7	23.3
Total	30	100.0

(Table 28 continued)

Question 9: A mutual fund is an investment company that invests its shareholders' money in a diversified portfolio of securities.		
Answer	Frequency	Percent
True ^a	25	83.3
False	5	16.7
Total	30	100.0
Question 10: Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?		
Answer	Frequency	Percent
More than \$102 ^a	24	80.0
Exactly \$102	3	10.0
Less than \$102	2	6.7
Do not know	1	3.3
Refuse to answer	0	0.0
Total	30	100.0
Question 11: Which of the following makes up the largest component of a credit score?		
Answer	Frequency	Percent
Payment history ^a	19	63.3
Length of credit history	3	10.0
New credit	3	10.0
Credit mix – type of credit	2	6.7
Credit utilization – amount owed	3	10.0
Total	30	100.0
Question 12: If you qualify for both options but can only claim one, is it generally better to utilize a tax credit or a tax deduction?		
Answer	Frequency	Percent
A tax credit ^a	7	23.3
A tax deduction	9	30.0
They are the same	2	6.7
Do not know	12	40.0
Refuse to answer	0	0.0
Total	30	100.0
Question 13: Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?		
Answer	Frequency	Percent
More than today	7	23.3
Exactly the same	3	10.0

(Table 28 continued)

Answer	Frequency	Percent
Less than today ^a	11	36.7
Do not know	9	30.0
Refuse to answer	0	0.0
Total	30	100.0

^a Correct Response

Information presented in Table 29 provides the answers to the 13 financial knowledge questions based on correct or incorrect. The item that was answered correctly by the largest percentage of students ($\underline{n} = 30$, 100.0%) was “Question 3: The budgeting process starts with establishing financial goals.” The next highest percentage correct ($\underline{n} = 29$, 96.7%) was for “Question 2: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.” The two questions that were answered correctly by the lowest percentage of students were “Question 4: A 401 (k) retirement plan is a defined benefits plan.” ($n = 7$, 23.3%) and “Question 12: If you qualify for both options but can only claim one, is it generally better to utilize a tax credit or a tax deduction?” ($\underline{n} = 7$, 23.3%).

Table 29 Accuracy of Responses to Financial Knowledge Questions for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Item	Correct		Incorrect	
	Frequency	Percent	Frequency	Percent
Question 3: The budgeting process starts with establishing financial goals.	30	100.0	0	0.0
Question 2: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.	29	96.7	1	3.3
Question 5: You can obtain at least one free copy of your credit report each year.	28	93.3	2	6.7

(Table 29 continued)

Item	Correct		Incorrect	
	Frequency	Percent	Frequency	Percent
Question 9: A mutual fund is an investment company that invests its shareholders' money in a diversified portfolio of securities.	25	83.3	5	16.7
Question 10: Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?	24	80.0	6	20.0
Question 8: A 401 (k) retirement plan is a defined benefits plan.	23	76.6	7	23.4
Question 6: Higher insurance deductibles lead to lower insurance premiums.	20	66.7	10	33.3
Question 7: Social security is sufficient to meet retirement needs.	20	66.7	10	33.3
Question 11: Which of the following makes up the largest component of a credit score?	19	63.3	11	36.7
Question 1: Buying a single company's stock usually provides a safer return than a stock mutual fund.	17	56.7	13	43.3
Question 13: Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?	11	36.7	19	63.3
Question 4: A 401 (k) retirement plan is a defined benefits plan.	7	23.3	23	76.7

(Table 29 continued)

Item	Correct		Incorrect	
	Frequency	Percent	Frequency	Percent
Question 12: If you qualify for both options but can only claim one, is it generally better to utilize a tax credit or a tax deduction?	7	23.3	23	76.7

The answers to the financial questions were also evaluated to calculate a financial knowledge score. This score was determined by evaluating the number of questions correct divided by the total number of questions and then converted to a percentage. The average score of students who did not persist from the second to the third year at a public research university in the southern region of the United States was 67% ($SD = 15.30$). The score for this group of students ranged from 23% to 92%. No students achieved a perfect score of 100% while the largest number ($n = 10$, 33.3%) scored a 62%. Table 30 presents the financial knowledge scores.

Table 30 Financial Knowledge Score for Students Who Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Score	Frequency	Percent
100%	0	0.0
92%	1	3.3
84%	6	20.0
77%	5	16.7
69%	1	3.3
62%	10	33.3
54%	4	13.3
46%	2	6.7
38%	0	0.0
31%	0	0.0
23%	1	3.3
15%	0	0.0
Total	30	99.9 ^a

^a Percentages do not sum to 100.0 due to rounding error.

Objective Five Results

The fifth objective of the study was to compare students who did and did not persist from the second to the third year at a public research university in the southern region of the United

States based on selected demographic characteristics and their level of financial knowledge. The variables included:

- a. Race;
- b. Gender;
- c. Age;
- d. Resident/nonresident;
- e. On/off-campus living;
- f. Act score;
- g. High school GPA;
- h. Major;
- i. College GPA;
- j. Pell grant recipient;
- k. Varsity student athlete;
- l. Employment status;
- m. Work experience;
- n. Loan debt;
- o. Credit card debt;
- p. First-generation college student;
- q. Household income (family);
- r. Financial knowledge.

An a' priori significance level of less than .05 was used to determine if students who did and did not persist were significantly different. Eighteen variables were compared, and six were found to be significantly different based on whether students did or did not persist from the

second to the third year at a public research university in the southern region of the United States.

The variables were as follows:

1. Loan debt;
2. Resident/nonresident;
3. On/off-campus living;
4. Race;
5. College GPA;
6. High school GPA.

This objective was analyzed using the chi-square test and the t-test procedure as appropriate for each variable. For the variables measured on a categorical scale, the chi-square procedure was used to determine if each of the variables were independent of the dependent variable, retention (see Table 31). Using an a' priori significance level of less than .05, four of the 12 variables that were categorical had chi-square values that were statistically significant, indicating that the four variables were not independent of the retention dependent variable. Major, which was to be the 13th variable measured on a categorical scale, could not be analyzed for impact on the dependent variable, retention, because insufficient data was available. The four variables were:

1. Loan debt;
2. Resident/nonresident;
3. On/off-campus living;
4. Race.

The results of the chi-square test for the other nine variables were not significant, indicating that these variables were independent of the retention dependent variable (see Table

31). Each of the four variables for which a significant chi-square value was found were further examined.

Table 31 Comparison of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States on Variables Measured on a Categorical Scale.^a

Characteristic	<u>N</u>	df	X^2	<u>P</u>
Loan Debt	695	3	15.296	.002
Resident/Nonresident	695	1	5.276	.022
On/Off-campus living	695	1	5.100	.024
Race	695	2	6.088	.048
Work Experience	695	2	3.082	.214
Varsity Student Athlete	695	1	.617	.432
Gender	695	1	.476	.490
Employment Status	695	4	3.139	.535
Credit Card Debt	695	1	.275	.600
Household Income (Family)	695	1	.243	.622
Pell Grant Recipient	695	1	.055	.815
First-Generation	695	1	.022	.881

^a For the Major variable, insufficient data were available in any of the specific majors in order to analyze for impact on retention.

Loan Debt

The variable for which the highest chi-square value [X^2 (3, N = 695) = 15.296, p = .002] was found was the students' loan debt. Initially there were five categories in the student loan debt response. However, due to relatively small numbers in the responses per group, the number of inefficient cells (expected n of <5) was excessively large. To correct this situation, the researcher collapsed the \$30,000 - \$49,999 and \$50,000 or more cells together. Therefore, the final variable analyzed had four categories (\$0, \$1 - \$14,999, \$15,000 - \$29,999, and \$30,000 or more). The results showed that the variables, the amount of loan debt and the dependent variable, retention, were not independent. The nature of the relationship of these two variables was such that a higher percentage of students who had loan debt of \$0 (n = 412, 97.9%), \$1 - \$14,999 (n = 168, 93.3%), and \$30,000 or more (n = 32, 94.1%) did persist from the second to the third year

than the percentage of students who had loan debt of \$15,000 - \$29,999 ($\underline{n} = 53$, 88.3%) (see Table 32).

Table 32 Cross Classification of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States and Loan Debt.

		Loan Debt				Total
		\$0	\$1 - \$14,999	\$15,000 - \$29,999	\$30,000 or more	$\frac{N}{\%}$
Did Persist	$\frac{n}{\%}$	412 97.9	168 93.3	53 88.3	32 94.1	665 95.7
Did Not Persist	$\frac{n}{\%}$	9 2.1	12 6.7	7 11.7	2 5.9	30 4.3
Total	$\frac{n}{\%}$	421 100.0	180 100.0	60 100.0	34 100.0	695 100.0

Note. $X^2 (3)$, ($N = 695$) = 15.296, $p = .002$.

Resident/Nonresident

When the variable, resident/nonresident status of the student, was tested for independence from the dependent variable, retention, the chi-square value [$X^2 (1, N = 695) = 5.276$, $p = .022$] was significant, meaning these variables were not independent. The nature of the relationship of these two variables was such that a higher percentage of students who were residents of the state in which the university was located ($\underline{n} = 568$, 96.4%) did persist from the second to the third year than the percentage of students who were nonresidents of the state in which the university was located ($\underline{n} = 97$, 91.5%) (See Table 33).

Table 33 Cross Classification of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States and Resident/Nonresident.

		Resident/Nonresident		Total
		Resident	Nonresident	$\frac{N}{\%}$
Did Persist	$\frac{n}{\%}$	568 96.4	97 91.5	665 95.7
Did Not Persist	$\frac{n}{\%}$	21 3.6	9 8.5	30 4.3

(Table 33 continued)

		Resident/Nonresident		Total
		Resident	Nonresident	$\frac{N}{\%}$
Total	$\frac{n}{\%}$	589 100.0	106 100.0	695 100.0

Note. $X^2 (1), (N = 695) = 5.276, p = .022$.

On/Off-Campus Living

The variable for which the third highest chi-square value [$X^2 (1, N = 695) = 5.100, p = .024$] was found was on/off-campus living. The results showed that the variables, whether students lived on or off-campus and the dependent variable, retention, were not independent. The nature of the relationship of these two variables was such that a higher percentage of students who lived off-campus ($n = 517, 96.6\%$) did persist from the second to the third year than the percentage of students who lived on-campus ($n = 148, 92.5\%$) (see Table 34).

Table 34 Cross Classification of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States and On/Off-Campus Living.

		On/Off-Campus Living		Total
		On-Campus	Off-Campus	$\frac{N}{\%}$
Did Persist	$\frac{n}{\%}$	148 92.5	517 96.6	665 95.7
Did Not Persist	$\frac{n}{\%}$	12 7.5	18 3.4	30 4.3
Total	$\frac{n}{\%}$	160 100.0	535 100.0	695 100.0

Note. $X^2 (1), (N = 695) = 5.100, p = .024$.

Race

When the variable, race of the students, was tested for independence from the dependent variable, retention, the chi-square value [$X^2 (2, N = 695) = 6.088, p = .048$] was significant, meaning these variables were not independent. Initially there were eight categories in the race

response. However, due to relatively small numbers in the responses per group, the number of inefficient cells (expected n of <5) was excessively large. To correct this situation, the researcher collapsed the American Indian or Alaskan Native, Asian, Hispanic, Multi-Racial, Native Hawaiian or Other Pacific Islander, and Did Not Respond cells together. Therefore, the final characteristic analyzed had three categories (White, Black or African American, or All Other Races). The nature of the relationship of these two variables was such that a higher percentage of students who were White ($\underline{n} = 466, 96.7\%$) and All Other Races ($\underline{n} = 119, 95.2\%$) did persist from the second to the third year than the percentage of students who were Black or African American ($\underline{n} = 80, 90.9\%$) (see Table 35).

Table 35 Cross Classification of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States and Race.

		Race			Total
		White	Black or African American	All other Races	$\frac{N}{\%}$
Did Persist	$\frac{n}{\%}$	466 96.7	80 90.9	119 95.2	665 95.7
Did Not Persist	$\frac{n}{\%}$	16 3.3	8 9.1	6 4.8	30 4.3
Total	$\frac{n}{\%}$	482 100.0	88 100.0	125 100.0	695 100.0

Note. $X^2 (2), (N = 695) = 6.088, p = .048$.

For variables measured on a continuous scale, the t-test procedure was used to determine if there was a difference in each of the variables by the dependent variable, retention. Using an a priori significance level of less than .05, significant differences were found in two of the five variables – college GPA and high school GPA. Three variables – ACT score, age, and financial knowledge – were found to be similar for students who did and did not persist (see Table 36). Further examination was completed for the two variables for which a significant difference was found.

Table 36 Comparison of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States on Variables Measured on a Continuous Scale.

Characteristic	<u>N</u>	<u>M</u>	<u>SD</u>	<u>t</u>	<u>df</u>	<u>P</u>
Did Persist	665	3.245	.518	4.881	693	<.001
College GPA Did Not Persist	30	2.768	.623			
Did Persist	665	3.601	.328	3.912	680	<.001
High School GPA Did Not Persist	30	3.356	.385			
Did Persist	665	26.38	.3.65	1.932	690	.054
ACT Score Did Not Persist	30	25.07	3.23			
Did Persist	665	20.00	.38	1.069	693	.286
Age Did Not Persist	30	19.93	.37			
Did Persist	665	68.02	14.66	.492	693	.623
Financial Knowledge Did Not Persist	30	66.67	15.30			

College GPA

The variable for which the greatest difference was found by categories of the variable, retention, was the college GPA ($t_{693} = 4.881$, $p = <.001$). The college GPA variable was defined as the student's cumulative grade point average at the end of the Spring 2015 semester. The nature of the difference in this variable was such that students who did persist had a higher college GPA ($\underline{M} = 3.245$, $\underline{SD} = .518$) than students who did not persist ($\underline{M} = 2.768$, $\underline{SD} = .623$) (see Table 36).

High School GPA

The variable for which the second greatest difference was found by categories of the variable, retention, was the high school GPA ($t_{680} = 3.912$, $p = <.001$). The high school GPA variable was defined as the grade point average on units required for admission to the university

studied. The nature of the difference in this variable was such that students who did persist had a significantly higher high school GPA ($\underline{M} = 3.601$, $\underline{SD} = .328$) than students who did not persist ($\underline{M} = 3.356$, $\underline{SD} = .385$) (see Table 36).

The other three variables - ACT score ($t_{690} = 1.932$, $p = .054$), age ($t_{693} = 1.069$, $p = .286$), and financial knowledge ($t_{693} = .492$, $p = .623$), were not found to be significantly different when compared by the categories of the dependent variable, retention (see Table 36).

Objective Six Results

The final objective of the study was to determine if the selected demographic characteristics and financial knowledge significantly contribute to the proposed second to third year retention model. The variables included:

- a. Race;
- b. Gender;
- c. Age;
- d. Resident/nonresident;
- e. On/off-campus living;
- f. Act score;
- g. High school GPA;
- h. Major;
- i. College GPA;
- j. Pell grant recipient;
- k. Varsity student athlete;
- l. Employment status;
- m. Work experience;

- n. Loan debt;
- o. Credit card debt;
- p. First-generation college student;
- q. Household income (family);
- r. Financial knowledge.

The multiple discriminant statistical analysis was used to accomplish this objective. To utilize this analysis, all independent variables must be evaluated to determine if they are on the continuous scale of measurement or they must be coded as a dichotomous variable. The dependent variable, retention, was defined as whether students who were in the Fall 2013 entering freshman cohort and were enrolled in the Spring 2015 semester did or did not persist from the second to the third year and was measured as dichotomous. The following independent variables were entered into the model as continuous variables:

- a. Age;
- b. Act score;
- c. High school GPA;
- d. College GPA;
- e. Financial knowledge.

The following independent variables were entered into the model as binary or dichotomous:

- a. Race;
- b. Gender;
- c. Resident/nonresident;
- d. On/off-campus living;

- e. Pell grant recipient;
- f. Varsity student athlete;
- g. Employment status;
- h. Work experience;
- i. Loan debt;
- j. Credit card debt;
- k. First-generation college student;
- l. Household income (family).

One of the categorical independent variables had to be recoded for use in the multiple discriminant analysis. Based on a small quantity of cases in some of the race categories, three new variables were created. These included: Race – White, Race – Black or African American, and Race – All Other Races.

Because this is an exploratory study, all variables were considered equally when entered into the model, and stepwise entry for inclusion in the model was utilized.

Step One of Discriminant Analysis

For step one, the independent variables must be examined for multicollinearity. Multicollinearity is defined as “... correlation among the explanatory variables ...” (Goldberger, A.S., 1991, page 245). Lewis-Beck (1980) described the test for this analysis as to “regress each independent variable on all the other independent variables (Page 60).” High multicollinearity is achieved if the cumulative R^2 values approach 1.00.

The independent variables chosen from the analysis were examined for multicollinearity using the tolerance value. Hair, Black, Babin, and Anderson (2010) described on page 201, “A direct measure of multicollinearity is tolerance, which is defined as the amount of variability of

the selected independent variable not explained by the other independent variables.” The tolerance values were evaluated and ranged from .720 - .998 and therefore no excessive multicollinearity exists in the data (Hair et al., 2010). As Hair et al. (2010) stated on page 204, “... small tolerance values ... denote high collinearity. A common cutoff threshold is a tolerance value of .10 ...”

Step Two of Discriminant Analysis

The next step in the analysis was to compare the groups – did persist and did not persist – on each of the independent variables. This was achieved by comparing the means of each independent variable by the two different groups of the dependent variable, retention. Using an a’ priori significance level of less than .05, five of the independent variables had statistically significant differences in the group means (see Table 37). The five independent variables were: college GPA, high school GPA, Race – Black or African American, on/off-campus living, and loan debt.

The highest degree of difference was college GPA ($F_{1,544} = 17.923$, $p = <.001$). The nature of the difference in this variable was such that students who did persist had a higher mean GPA ($M = 3.263$, $SD = .508$) than students who did not persist ($M = 2.801$, $SD = .599$) (see Table 37).

Table 37 Means, Standard Deviations, and F-ratios Between Groups for Discriminating Variables of Students Who Did and Did Not Persist from the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Discriminating Variable	Group				F – Ratio	df1	df2	p
	Did Persist N=523		Did Not Persist N=23					
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>				
College GPA	3.263	.508	2.801	.599	17.923	1	544	<.001
High School GPA	3.615	.326	3.337	.381	15.870	1	544	<.001

(Table 37 continued)

Table 37 (continued)

Discriminating Variable	Group				F – Ratio	df1	df2	p
	Did Persist N=523		Did Not Persist N=23					
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>				
Race – Black or African American	.113	.317	.304	.470	7.685	1	544	.006
On/Off-Campus Living	.212	.409	.435	.507	6.376	1	544	.012
Loan Debt	1.568	.893	2.043	.878	6.257	1	544	.013
Resident/Nonresident	1.134	.341	1.260	.449	2.972	1	544	.085
Race – White	.728	.445	.565	.507	2.928	1	544	.088
Age	19.992	.377	19.87	.344	2.360	1	544	.125
Household Income (Family)	3.296	.984	3.000	1.206	1.960	1	544	.162
Credit Card Debt	1.243	.644	1.087	.417	1.324	1	544	.250
Financial Knowledge	68.687	14.747	65.551	15.708	.990	1	544	.320
Work Experience	3.478	1.033	3.696	1.063	.976	1	544	.324
ACT score	26.520	3.571	25.783	3.133	.948	1	544	.331
Varsity Student Athlete	.015	.123	.000	.000	.356	1	544	.551
Employment Status	2.650	1.236	2.783	1.063	.251	1	544	.617
Pell Grant Recipient	.222	.416	.261	.449	.193	1	544	.660
Race – All Other Races	.159	.366	.130	.344	.132	1	544	.716
Gender	1.294	.456	1.261	.449	.120	1	544	.730
First-Generation College Student	.685	.465	.696	.470	.013	1	544	.162

The second highest degree of difference was high school GPA ($F_{1,544} = 15.870$, $p = <.001$). The mean high school GPA for students who did persist ($\underline{M} = 3.615$, $\underline{SD} = .326$) was higher than the mean GPA for students who did not persist ($\underline{M} = 3.337$, $\underline{SD} = .381$) (see Table 37). The next highest degree of difference was whether or not the student's race was Black or African American ($F_{1,544} = 7.685$, $p = .006$). Race – Black or African American was coded as 1 and all other races were coded as 0. The nature of the difference was such that students who did not persist had a higher mean Race - Black or African American score ($\underline{M} = .304$, $\underline{SD} = .470$) than students who did persist ($\underline{M} = .113$, $\underline{SD} = .317$) (see Table 37).

The fourth highest degree of difference was on/off-campus living ($F_{1,544} = 6.376$, $p = .012$). On-campus living was coded as 1 and off-campus living was coded as 0. The mean

on/off-campus score for students who lived on-campus and did not persist ($\underline{M} = .435$, $\underline{SD} = .507$) was higher than the mean score for students who lived off-campus and did persist ($\underline{M} = .212$, $\underline{SD} = .409$) (see Table 37). The final variable with a significant degree of difference was loan debt ($\underline{F}_{1,544} = 6.257$, $\underline{p} = .013$). The nature of the difference in this variable was such that students who did not persist had a higher mean loan debt score ($\underline{M} = 2.043$, $\underline{SD} = .878$) than students who did persist ($\underline{M} = 1.568$, $\underline{SD} = .893$) (see Table 37).

Step Three of Discriminant Analysis

The third step of this analysis required the researcher to examine the computed standardized canonical discriminant function coefficients. As detailed in Table 38, the centroids for the groups were determined to be .048 for students who did persist and -1.094 for students who did not persist. Three independent variables entered the discriminant model yielding a canonical correlation of $R_c = .224$.

Table 38 Summary Data for Stepwise Discriminant Analysis of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States (n=546).

Discriminating Variables	β	S	Discriminating Functions	
			Group Did Persist Did Not Persist	Centroids .048 -1.094
High School GPA	.527	.743		
College GPA	.500	.790		
On/Off-Campus Living	-.452	-.471		
	<u>Eigenvalue</u> .053	<u>R_c</u> .224	<u>Wilk's Lamba</u> .950	<u>p</u> <.001

β = standardized discriminant function coefficient

s = within group structure correlation

R_c = canonical correlation coefficient

The first independent variable, which entered the model and had the greatest influence on the dependent variable, retention, was high school GPA. This was determined by the variable having the highest standardized discriminant function coefficient ($\beta = .527$). The nature of the

influence of the independent variable, high school GPA, on the dependent variable, retention, was such that a student having a higher high school GPA increased the likelihood of the student persisting from the second to the third year at a public research university in the southern region of the United States. The second variable to enter the model, as determined by the standardized discriminant function coefficient ($\beta = .500$), was college GPA. The nature of the influence was such that a student having a higher college GPA increased the likelihood of the student persisting from the second to the third year.

The final independent variable to enter the model was whether the student lived on-campus or off-campus ($\beta = -.452$). The nature of the influence of this variable on the dependent variable, retention, was such that students who lived off-campus were more likely to persist from the second to the third year as compared to students who lived on-campus.

Table 38 also provides the within-group structure correlations, the final component of review in step three of the discriminant analysis. The structure correlations allow for an understanding of the relationship between each of the independent variables and the discriminant score computed from the variables that entered the model. A significant structure correlation is considered when any coefficient is half or greater of the highest structure correlation. As presented in Table 38, the highest structure correlation was college GPA ($s = .790$). Therefore, any structure correlation of .395 (half of the value of .790) or greater would be considered meaningful in this analysis. All three independent variables - high school GPA, college GPA, and on/off-campus living - met this criterion in the analysis.

Step Four of Discriminant Analysis

The final step in the discriminant analysis was to assess the predictive accuracy of the discriminant function. Reviewing the classification of the cases completed this analysis. Table

39 shows that the discriminant model correctly classified 95.7% of the cases grouped by the dependent variable, retention – which was defined as whether students who were in the Fall 2013 entering freshman cohort and were enrolled in the Spring 2015 semester did or did not persist from the second to the third year at a public research university located in the southern United States.

Table 39 Classification of Cases of Students Who Did and Did Not Persist From the Second to the Third Year at a Public Research University in the Southern Region of the United States.

Actual Group	Number of Cases	Predicted Group			
		Did Persist		Did Not Persist	
		<u>n</u>	%	<u>n</u>	%
Did Persist	653	652	99.8	1	.2
Did Not Persist	29	28	96.6	1	3.4

Note. Percent of cases correctly classified: 95.7%

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

The primary purpose of this study was to determine the influence of financial knowledge on student retention from the second to the third year at a public research university in the southern region of the United States. The dependent variable of this study was retention, which was defined as whether students who were in the Fall 2013 entering freshman cohort and were enrolled in the Spring 2015 semester did or did not persist from the second to the third year.

The following research objectives were formulated to guide the study:

1. To describe students who did persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics. The characteristics included:
 - a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. Act score;
 - g. High school GPA;
 - h. Major;
 - i. College GPA;
 - j. Pell grant recipient;
 - k. Varsity student athlete;
 - l. Employment status;
 - m. Work experience;
 - n. Loan debt;

- o. Credit card debt;
 - p. First-generation college student;
 - q. Household income (family).
2. To describe students who did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics. The characteristics included:
- a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. Act score;
 - g. High school GPA;
 - h. Major;
 - i. College GPA;
 - j. Pell grant recipient;
 - k. Varsity student athlete;
 - l. Employment status;
 - m. Work experience;
 - n. Loan debt;
 - o. Credit card debt;
 - p. First-generation college student;
 - q. Household income (family).

3. To describe students who did persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge.
4. To describe students who did not persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge.
5. Compare students who did and did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics and their level of financial knowledge. The variables included:
 - a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. Act score;
 - g. High school GPA;
 - h. Major;
 - i. College GPA;
 - j. Pell grant recipient;
 - k. Varsity student athlete;
 - l. Employment status;
 - m. Work experience;

- n. Loan debt;
 - o. Credit card debt;
 - p. First-generation college student;
 - q. Household income (family);
 - r. Financial knowledge.
6. Determine if the selected demographic characteristics and financial knowledge significantly contribute to the proposed second to third year retention model. The variables included:
- a. Race;
 - b. Gender;
 - c. Age;
 - d. Resident/nonresident;
 - e. On/off-campus living;
 - f. Act score;
 - g. High school GPA;
 - h. Major;
 - i. College GPA;
 - j. Pell grant recipient;
 - k. Varsity student athlete;
 - l. Employment status;
 - m. Work experience;
 - n. Loan debt;
 - o. Credit card debt;

- p. First-generation college student;
- q. Household income (family);
- r. Financial knowledge.

Summary of Methodology

The target population was defined as students in the Fall 2013 entering freshman cohort who were enrolled in the Spring 2015 semester at a public research university in the southern region of the United States. The accessible population for this study was defined as the same as the target population. Subjects chosen for the study were selected by sampling 100 percent of the accessible population.

The population was accessed through the use of the e-mail address of each student in the Fall 2013 freshman cohort who was enrolled in the Spring 2015 semester available from the university's electronic student information system. The defined population was 4,407 students and the entire population was used for the study.

Therefore, 4,407 students were selected as the sample for this study. Of these 4,407 students, 695 or approximately 16 percent responded to the survey instrument. Of the 695 students who responded, 665 students did persist from the second to the third year at a public research university in the southern region of the United States. The remaining 30 students who responded to the survey did not persist from the second to the third year.

The selected demographic characteristics that were chosen for measurement were determined by a review of related literature. The financial knowledge questions were compiled through three methods: (1) three questions provided by Annamaria Lusardi, (2) five questions provided by Sonya Britt, and (3) five questions developed by the researcher through a review of

related literature. Both Lusardi and Britt are widely published experts in the field of financial literacy (Huston, 2010; Durband & Britt, 2012).

The data were collected from two sources – the survey instrument described herein and data collected from the university’s electronic information system. The survey instrument was distributed via e-mail to the accessible population; this e-mail included a cover letter, a request to participate, and a link to the survey instrument. For the selected demographic characteristics, the study institution’s university registrar provided the university’s system data in a downloadable format after permission for this study was requested from and granted by the Institutional Review Board.

Summary of Findings

The findings in this study are discussed by objective.

Objective One

This objective was to describe students who did persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics.

1. Demographic Information

The majority of the students who did persist were White ($n = 466$, 70.2%), and the second largest percentage of students were Black or African American ($n = 80$, 12.0%). Of the 665 students who did persist from the second to third year at a public research university in the southern region of the United States, the majority or 471 students (70.8%) were female while 194 students (29.2%) were male. The average age of students who did persist was 20 years ($SD = .38$). Students who were residents of the state in which the study institution was located

comprised a large majority of the students ($\underline{n} = 568$, 85.4%) who did persist with the remaining 97 students (14.6%) not being residents of the state.

A majority of the students who did persist did not live on-campus ($\underline{n} = 517$, 77.7%) while the remaining students ($\underline{n} = 148$, 22.3%) did live on-campus. A minority or 10 students (1.5%) were student athletes. Examination of the education of the parents of the 665 students who did persist revealed that 213 or 32.0% of the students were first-generation college students while the remaining 452 or 68.0% of the students had a mother/guardian or father/guardian or both parents/guardians with a four year college degree or higher.

2. Academic Information

In objective one, the ACT score, high school GPA, and college GPA were examined and resulted in the following means (M), standard deviations (SD), and ranges (R):

- ACT score: $M = 26.38$; $\underline{SD} = 3.65$; $R = 16$ to 35
- High school GPA: $M = 3.601$; $\underline{SD} = .328$; $R = 2.500$ to 4.000
- College GPA: $M = 3.245$; $\underline{SD} = .518$; $R = 1.739$ to 4.000

Of the 665 students who did persist from the second to the third year at a public research university in the southern region of the United States, the largest group of students ($\underline{n} = 213$, 32.0%) had college GPAs in the 3.500 to 3.999 category with nearly the same number of students ($\underline{n} = 212$, 31.9%) having college GPAs in the 3.000 – 3.499 category.

For the students who did persist, the high school GPA category with the largest number of students ($\underline{n} = 190$, 29.0%) was 3.750 – 3.999 category. The range of majors for students who did persist was broad with approximately 50% of the students majoring in 10 different degree programs: Kinesiology, Biology, Mass Communication, Psychology, Accounting, Finance, Marketing, Chemical Engineering, Mechanical Engineering, and Petroleum Engineering.

Kinesiology ($\underline{n} = 73$, 11.0%) was the major with the largest percentage of students who did persist.

3. Financial and Work Information

The first characteristic of financial information that was examined in this objective was whether or not the students who did persist were pell grant recipients. The majority of the students ($\underline{n} = 520$, 78.2%) did not receive a pell grant. Loan debt was also examined for these students, and 62.0% or 412 students reported no loan debt. The largest category of loan debt for students who did report some loan debt was \$1 - \$14,999 ($\underline{n} = 168$, 25.3%).

The majority of students ($\underline{n} = 522$, 83.0%) who did persist reported that they held no credit card debt. Students also reported on their household income (family), and the largest group ($\underline{n} = 312$, 46.9%) reported that their family income was more than \$75,000. The smallest group ($\underline{n} = 44$, 6.6%) reported that their family income was less than \$25,000.

Additionally, employment and work experience information was collected on the 665 students who did persist from the second to third year at a public research university in the southern region of the United States. Approximately one-third of students ($\underline{n} = 225$, 33.8%) worked 10 – 19 hours per week while a little more than one-quarter of students ($\underline{n} = 176$, 26.5%) reported they did not work or worked 0 hours per week. Work experience was determined to be 3 – 4 years for the largest percentage of students ($\underline{n} = 252$, 37.9%) while the second largest group ($\underline{n} = 209$, 31.4%) reported work experience of 1 – 2 years.

Objective Two

This objective was to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics.

1. Demographic Information

The majority of the students who did not persist were White ($\underline{n} = 16$, 53.3%), and the second largest percentage of students were Black or African American ($\underline{n} = 8$, 26.7%). Of the 30 students who did not persist from the second to third year at a public research university in the southern region of the United States, the majority or 23 students (76.7%) were female while 7 students (23.3%) were male. The average age of students who did not persist was 20 years ($\underline{SD} = .37$). Students who were residents of the state in which the study institution was located comprised a majority of the students ($\underline{n} = 21$, 70.0%) who did not persist with the remaining 9 students (30.0%) not being residents of the state.

A majority of the students who did persist did not live on-campus ($\underline{n} = 18$, 60.0%) while the remaining students ($\underline{n} = 12$, 40.0%) did live on-campus. A minority or 1 student (3.3%) was a student athlete. Examination of the education of the parents of the 30 students who did not persist revealed that 10 or 33.3% of the students were first-generation college students while the remaining 20 or 66.7% of the students had a mother/guardian or father/guardian or both parents/guardians with a four year college degree or higher.

2. Academic Information

In objective one, the ACT score, high school GPA, and college GPA were examined and resulted in the following means (M), standard deviations (SD), and ranges (R):

- ACT score: $M = 25.07$; $\underline{SD} = 3.23$; $R = 19$ to 32
- High school GPA: $M = 3.356$; $\underline{SD} = .385$; $R = 2.540$ to 4.000
- College GPA: $M = 2.768$; $\underline{SD} = .623$; $R = 1.583$ to 4.000

Of the 30 students who did not persist from the second to the third year at a public research university in the southern region of the United States, the largest group of students ($\underline{n} = 11, 36.7\%$) had college GPAs in the 3.000 to 3.499 category.

For the students who did not persist, the high school GPA category with the largest number of students was found in three different categories: 3.750 – 3.999, 3.000 – 3.249, and less than 3.000. These three categories each had six students or 20.6%. The range of majors for students who did not persist was broad, and the 30 students majored in 22 different degree programs with the largest percentage of student majoring in Pre-Nursing ($\underline{n} = 5, 16.7\%$).

3. Financial and Work Information

The first characteristic of financial information that was examined in this objective was whether or not the students who did not persist were pell grant recipients. The majority of the students ($\underline{n} = 24, 80.0\%$) did not receive a pell grant. Loan debt was also examined for these students and 40.0% or 12 students reported loan debt of \$1 - \$14,999.

The majority of students ($\underline{n} = 26, 86.7\%$) who did not persist reported that they held no credit card debt. Students also reported on their household income (family), and the largest group ($\underline{n} = 12, 40.0\%$) reported that their family income was more than \$75,000. The smallest group ($\underline{n} = 3, 10.0\%$) reported that their family income was \$50,000 - \$74,999.

Additionally, employment and work experience information was collected on the 30 students who did not persist from the second to third year at a public research university in the southern region of the United States. A little more than 25 percent of the students ($\underline{n} = 8, 26.7\%$) worked either 0 hours per week or 10 – 19 hours per week. Work experience was determined to be 3 – 4 years for the largest percentage of students ($\underline{n} = 12, 40.0\%$) while the second largest group ($\underline{n} = 8, 26.7\%$) reported work experience of 5 years or more.

Objective Three

This objective was to describe students who did persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge. An instrument consisting of 13 financial knowledge questions was distributed to the population. The 13 items consisted of nine true/false questions and four multiple-choice questions. The multiple-choice questions provided five answer choices for the students.

Of the 665 students who did persist, the mean score on the instrument was 68% ($SD = 14.66$) with a score range from 15% to 100%. The item that was answered correctly by the largest percentage of students ($n = 629$, 94.6%) was “Question 3: The budgeting process starts with establishing financial goals.” The second highest percentage correct ($n = 593$, 89.2%) was for “Question 2: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.” The two questions that were answered correctly by the lowest percentage of students were questions on retirement plans and taxes – “Question 4: A 401 (k) retirement plan is a defined benefits plan.” ($n = 173$, 26.9%) and “Question 12: If you qualify for both options but can only claim one, is it generally better to utilize a tax credit or a tax deduction?” ($n = 132$, 19.8%).

Objective Four

This objective was to describe students who did not persist from the second to the third year at a public research university in the southern region of the United States based on their level of financial knowledge. An instrument consisting of 13 financial knowledge questions was distributed to the population. The 13 items consisted of nine true/false questions and four

multiple-choice questions. The multiple-choice questions provided five answer choices for the students.

Of the 30 students who did not persist, the mean score on the instrument was 67% ($SD = 15.30$) with a score range from 23% to 92%. The item that was answered correctly by the largest percentage of students ($n = 30, 100.0\%$) was “Question 3: The budgeting process starts with establishing financial goals.” The second highest percentage correct ($n = 29, 96.7\%$) was for “Question 2: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.” The two questions that were answered correctly by the lowest percentage of students were questions on retirement plans and taxes – “Question 4: A 401 (k) retirement plan is a defined benefits plan.” ($n = 7, 23.3\%$) and “Question 12: If you qualify for both options but can only claim one, is it generally better to utilize a tax credit or a tax deduction?” ($n = 7, 23.3\%$).

Objective Five

This objective was to compare students who did and did not persist from the second to the third year at a public research university in the southern region of the United States on selected demographic characteristics and their level of financial knowledge. Of the eighteen independent variables that were used in the comparisons, six variables were found to be significantly different by retention, using an a priori significance level of less than .05. These were as follows:

1. Loan Debt;
2. Resident/nonresident;
3. On/off-campus living;
4. Race;

5. College GPA;
6. High school GPA.

The variable, loan debt, was not found to be independent of the dependent variable, retention, based on a significant chi-square value [$X^2 (3, N = 695) = 15.296, p = .002$]. A higher percentage of students with loan debt of \$0 ($n = 412, 97.9\%$), \$1 - \$14,999 ($n = 168, 93.3\%$), and \$30,000 or more ($n = 32, 94.1\%$) did persist from the second to the third year than the percentage of students who had loan debt of \$15,000 - \$29,999 ($n = 53, 88.3\%$). Students who were residents of the state ($n = 568, 96.4\%$) in which the study institution was located did persist at a higher rate than students who were nonresidents of the state ($n = 97, 91.5\%$) in which the study institution was located [$X^2 (1, N = 695) = 5.276, p = .022$].

The results from the chi-square analysis [$X^2 (1, N = 695) = 5.100, p = .024$] of the variable, on/off-campus living, show that a higher proportion of students who lived off-campus ($n = 517, 96.6\%$) did persist from the second to the third year than the percentage of students who lived on-campus ($n = 148, 92.5\%$). The variable, race, was not found to be independent of the dependent variable, retention, based on a significant chi-square value [$X^2 (2, N = 695) = 6.088, p = .048$]. A higher percentage of students who were White ($n = 466, 96.7\%$) and All Other Races ($n = 119, 95.2\%$) did persist from the second to the third year than the percentage of students who were Black or African American ($n = 80, 90.9\%$).

A significant difference was found between students who did and did not persist on the variable, college GPA ($t_{693} = 4.881, p = <.001$). Students who did persist had a significantly higher college GPA ($M = 3.245, SD = .518$) than students who did not persist ($M = 2.768, SD = .623$). The variable, high school GPA, showed a significant difference between students who did and did not persist ($t_{680} = 3.912, p = <.001$). Students who did persist had a significantly

higher high school GPA ($\underline{M} = 3.601$, $\underline{SD} = .328$) than students who did not persist ($\underline{M} = 3.356$, $\underline{SD} = .385$)

Objective Six

This objective was to determine if the selected demographic characteristics and financial knowledge significantly contribute to the proposed second to third year retention model. There were three independent variables that entered the discriminant model producing an overall canonical correlation of $R_c = .224$. The three variables were:

1. High school GPA;
2. College GPA;
3. On/off-campus living.

The introduction of these three variables in the exploratory model correctly classified 95.7% of the original grouped cases. Therefore, this model produced a 91.4% improvement over chance that students could be correctly classified into the groups of those who did persist and did not persist.

Conclusions, Implications, and Recommendations

From the findings of this study, the researcher derived the following conclusions, implications, and recommendations:

Conclusion One

Financial knowledge did not have an impact on student retention from the second to the third year. This conclusion is based on the finding that the independent variable, financial knowledge, was not found to be related to the dependent variable, retention. Additionally, the study found that the mean score on the instrument for the 665 students who did persist was 68% ($\underline{SD} = 14.66$) while the mean score on the instrument for the 30 students who did not persist was

67% ($SD = 15.30$). Another finding that supports this conclusion was revealed in that the independent variable, financial knowledge, did not enter as a significant explanatory factor in the discriminant analysis.

This conclusion does not support the possible connection between student success and financial management skills that Cummins et al. (2009) found in their research. Several research studies discuss the importance of financial literacy and student financial habits, but few studied retention, specifically from the second to the third year (Nororvilitis et al., 2006 & Cude et al., 2006). Other studies have explored the connection between financial knowledge and various other components of a student's collegiate experience including the work of Robb and Sharpe (2009) when they evaluated how financial knowledge impacts credit card habits. There is also a lack of research on how financial knowledge impacts student retention.

Based on this conclusion, the researcher recommends further study on the financial knowledge variable. Although no relationship between financial knowledge and retention was found in this study, dozens of colleges and universities are creating financial literacy, financial knowledge, and financial wellness programs; and, more information about the financial knowledge of students should be known. These data would help universities evaluate the current condition of student knowledge and better position the universities to understand the assessment and outcomes of the programs.

The researcher also recommends further study on financial knowledge and its influence on student retention. The results of this study may have been skewed by the possibility this sample was non-representative of the population. The population persisted at a rate of approximately 90 percent while the sample persisted at a rate of approximately 96 percent or a difference of approximately six percent. The researcher recommends data collection from other

colleges and universities as well as other classes of students beyond students in their fourth semester. The researcher expects this study is the beginning of what will be multiple efforts to better understand how financial knowledge does or does not impact retention in the first two years of the collegiate experience.

Conclusion Two

A model was found that increased the researcher's ability to correctly classify university students on whether the student did or did not persist from the second to the third year. This conclusion is based on the finding that the use of three variables in the discriminant model correctly classified 95.7% of the students on their retention status. The three variables were: high school GPA, college GPA, and on/off-campus living.

Much of the literature supports the connection between the academic factors of high school GPA and college GPA with retention. Murtaugh et al. (1999) discussed in their research how a strong predictor of retention was high school GPA and other pre-college academic factors. Within this study, the first factor to enter into the discriminant analysis was high school GPA while the second entry into the model – college GPA – is also supported in the literature. Murtaugh et al. (1999) researched the connection between first semester college grades and retention and found a correlation. Lutta (2008) found a similar outcome in his study of over 4,000 sophomores when he determined the first semester college GPA had a significant impact on retention.

Interestingly, there is a depth of research that disagrees with the finding in this study that described how on-campus living is a negative influencer on the discriminant model that evaluated student retention from the second to the third year. According to Schudde (2011), students who lived on-campus persisted at a higher rate than those students who lived off-

campus. Schudde (2011) does note that the demographic characteristics of the student can have a large impact on retention as well and may impact the on/off-campus evaluation. However, many of the previous studies evaluated retention from the first to the second year rather than from the second to the third year as was assessed in this study. Specifically, the study institution reports a nearly five percent increase in student retention from the first to the second year for students who do live on-campus compared to students who do not (LSU Residential Life, 2014).

Although the model was relatively strong at 95.7%, it did not predict 4.3% of the cases and the researcher recommends refinement of the model to increase the ability of an institution to correctly classify students on retention. Other variables for inclusion in further refinement of the model should include whether or not the student changed major, student involvement in campus activities, credit hours carried per semester, and whether or not the student was on a scholarship and which type of scholarship. Additionally, the researcher recommends more study to understand any differences between first year and second year retention and the variable, on/off-campus living. Additional data should be collected in future research to understand if the data in this study was skewed by a biased response group or other factors or is the connection between on and off-campus living and retention different than what is traditionally discussed in practice and in the literature where a positive correlation is almost always argued.

Conclusion Three

University students who had stronger academic performance persisted at a higher rate than students with weaker academic performance. This conclusion is based on the finding that the mean high school GPA was 3.601 ($SD = .328$) for students who did persist and the mean high school GPA was 3.356 ($SD = .385$) for students who did not persist. Likewise, one of the findings detailed a difference in the mean college GPA for the students who did and did not

persist – students who did persist from the second to the third year had a mean college GPA of 3.245 (SD = .518) while students who did not persist had a mean college GPA of 2.768 (SD = .623). There was a significant difference found between students who did and did not persist on these two variables – college GPA ($t_{693} = 4.881$, $p = <.001$) and high school GPA ($t_{680} = 3.912$, $p = <.001$). However, the third primary academic performance factor, ACT score, was not found to be significantly different for the two groups based on the dependent variable, retention. The mean ACT score for students who did persist from the second to the third year was 26.38 (SD = 3.65) and 25.07 (SD = 3.23) for students who did not persist.

According to Murtaugh et al. (1999), a student's academic ability has a large impact on whether or not a student persists. Much of the research discusses first to second year retention, but Lutta (2008) discussed retention from the second to third year specifically and how GPA, as an academic factor, impacted retention from the second to the third year. In Lutta's 2008 study, high school GPA did influence retention at the same study institution the researcher analyzed for this study.

The researcher recommends colleges and universities use the high school GPA as one of the key metrics to evaluate student needs. Regardless of whether or not every study shows this variable as a significant factor of influence on retention, it is an easily retrieved data point and one that can be used in student success analyses. Universities should target transition programs towards students based on academic performance as defined by the high school GPA. Transition programs include activities like boot camps, academic orientation sessions, and other pre-college enrollment programs dedicated to preparing students for success in college. Many of these transition programs reside in student affairs divisions. Umfress (2010) found that investments in student affairs positively impacted student retention.

Conclusion Four

University students who lived off-campus were retained at a higher rate than students who lived on-campus. This conclusion is based on the finding that a higher proportion of students who lived off-campus ($\underline{n} = 517$, 96.6%) did persist from the second to the third year than students who lived on-campus ($\underline{n} = 148$, 92.5%). The chi-square analysis of the variable, on/off-campus, determined it to be significantly different [$X^2 (1, \underline{N} = 695) = 5.100, p = .024$].

This conclusion disagrees with much of the available research. According to Schudde (2011), students who lived on-campus persisted at a much higher rate than students who lived off-campus. The study institutions' own data detailed how the retention rate of students in their first year was nearly five percent higher for students who live on-campus compared to students who lived off-campus (LSU Residential Life, 2014).

This conclusion deserves much more study. The researcher suggests additional research focused on this variable and retention. More data needs to be collected to ensure that these results were not skewed by the small sample size ($\underline{n} = 30$) of the students who did not persist from the second to the third year. The researcher also recommends more study on any differences in the retention rate for students who live on-campus in the first and second year. The research is deep for on/off-campus living and impact on retention in the first year, but much more research should be done evaluating any impact on retention from the second to the third year. This conclusion, should it hold in other studies, has the potential to have a significant impact on colleges and universities as the building boom of campus residence halls continues, and one of the main reasons colleges use to support this building is related to higher retention rates for its students.

Conclusion Five

The amount of loan debt did have an impact on student retention from the second to the third year. This conclusion is based on the finding that a higher proportion of students with loan debt of \$0 ($\underline{n} = 412$, 97.9%), \$1 - \$14,999 ($\underline{n} = 168$, 93.3%), and \$30,000 or more ($\underline{n} = 32$, 94.1%) did persist from the second to the third year than the proportion of students who had loan debt of \$15,000 - \$29,999 ($\underline{n} = 53$, 88.8%). The chi-square analysis of the variable, loan debt, determined it to be significantly different [X^2 (3, $\underline{N} = 695$) = 15.296, $p = .002$].

Other research has evaluated the impact of financial factors and considerations on retention. St. John et al. (2000) found a relationship between financial concerns and academic performance. Although not found in this study, Bettinger (2004) found a positive connection between a student being a pell grant recipient and student retention. Additionally, Jensen (1981) found there was a positive relationship between aid and persistence.

The most interesting component of this conclusion is beyond the impact of financial factors on retention. It involves the difference in retention rates for students with \$15,000 - \$29,999 and all other level of debt. The researcher recommends further research to determine if the findings of this study can be replicated in other studies. This is beyond the research that describes the impact of financial factors on retention. More research needs to be completed that evaluates whether or not a certain level of loan debt incentivizes students to finish because they believe they have no other choice. If other studies find a similar amount of loan debt that actually has a positive impact on retention, studies should evaluate if it is based on the price at the student's institution of study, student's perception of earnings or payback potential, or some other factor.

Student debt is one of the principle issues that higher education institutions must evaluate. Student loan debt now exceeds \$1 trillion and continues to grow (The Domestic Policy Council & The Council of Economic Advisors, 2014 & Chopra, 2013). Pell grant funding continues to grow. At the same time, the price charged by colleges and universities for their services has grown by nearly double-digits over the last decade (Odland, 2012). There is evidence to suggest that institutions are now transitioning toward investing more in need-based scholarship programs as identified by the study institutions' Pelican Promise scholarship program targeted to students with need. Other colleges and universities are following. The University of Kentucky has committed nearly 10 percent of its \$100 million dollar annual scholarship budget in fiscal year 2015 to need-based scholarships. Universities need improved loan counseling and coaching programs. An effective financial wellness program can enhance these initiatives.

Conclusion Six

University students who were residents of the state in which the study institution was located persisted from the second to the third year at a higher rate than nonresidents. This conclusion is based on the finding that a higher proportion of students who were residents of the state ($\underline{n} = 568, 96.4\%$) in which the study institution was located did persist at a higher rate than students who were nonresidents of the state ($\underline{n} = 97, 91.5\%$) in which the study institution was located. The chi-square analysis of the variable, resident/nonresident, determined it to be significantly different [$X^2 (1, \underline{N} = 695) = 5.276, p = .022$].

This conclusion is supported in the research. Murtaugh et al. (1999) found similar results about retention rates being higher for resident students as compared to nonresidents. The conclusion is implicitly supported by much of Tinto's work that describes the connection between student engagement and student success (Tinto, 1975). Students who are nonresidents

are more likely to need additional interactions and interventions to help become engaged. These students are less likely to have a large support network of family and friends and may be away from home for the first time in their life.

Colleges and universities have an obligation to positively attack the findings detailed in this conclusion. As colleges and universities continue to focus on ways to generate more revenues, there is a significant trend toward recruiting more nonresidents as they pay two to three times what a resident pays in tuition and fees. The limited number of states who have growing high school enrollments highlight the need for a higher focus on nonresidents. The supply of students is being reduced while the demand is increasing. Some universities located in the southern region of the United States now have an undergraduate enrollment that is greater than 50 percent nonresidents. Notwithstanding the public policy issues this may raise, these institutions have a commitment to provide transition programs and student engagement programs that assist in the transition of nonresidents. Colleges and universities should consider a variety of interventions including first year experience programs designed for nonresidents, residential life programs and living environments where this element of diversity is recognized and celebrated, and other social integration programs focused on this student factor. Some of the most successful programs reside in residential learning communities where residents and nonresidents live and learn together.

Conclusion Seven

University students whose race was Black or African American persisted at a lower rate from the second to the third year than other races. This conclusion is based on the finding that a higher proportion of students who were White ($\underline{n} = 466$, 96.7%) and All Other Races ($\underline{n} = 119$, 95.2%) did persist from the second to the third year than the proportion of students who were

Black or African American ($n = 80$, 90.9%). The difference was determined to be statistically significant [$X^2 (2, N = 695) = 6.088, p = .048$].

This conclusion is consistent with other studies on retention that determined there was a relationship between race and retention (Ishler and Upcraft, 2005). Retention rates for minority students are generally lower than rates for students in the majority (Ishler and Upcraft, 2005). The need for further study of this characteristic is even more important when the fact that minority races are becoming a larger percentage of the total college population is considered (Reason, 2003). Colleges and universities must work to overcome this gap in student success; this is not a new problem.

There may be no more important public policy issue than this gap in student success based on race. The researcher recommends further research to determine the causes of this gap and the development of targeted programs focused on student success. The researcher suggests consideration should be given for which of the targeted interventions are working for other at-risk populations such as nonresidents. Once successful programs are identified for these populations, colleges and universities should pilot similar programs for minority students. This single factor or gap in success has as many long-term impacts as it does have short-term ones. Students who do not persist earn less, are less healthy, and encounter numerous other negative factors (Baum et al., 2013 & Hout, 2012). This issue must be better understood and additional research is necessary. This gap must be closed or colleges and universities will not be able to achieve the positive outcomes the states that support public universities deserve or the outcomes the United States of America needs to be competitive for decades to come.

REFERENCES

- Adams, R. L. (2006). Financial Literacy and Retention. *American Association of Collegiate Registrars and Admissions Officers*, 81 (2), 63-64.
- Ashton, B. (2015). *Understanding the Beginning Stages of a Financial Education Program*. Columbus: The Ohio State University.
- Astin, A. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25, 297-308.
- Baton Rouge Area Chamber. (2015). *Economic Development*. Retrieved March 26, 2015, from Baton Rouge Area Chamber: http://www.brac.org/ecodev/regional_parishoverview.asp.
- Baum, S., Ma, J., & Payea, K. (2013). *Education Pays 2013: The Benefits of Higher Education for Individuals and Society*. CollegeBoard.
- Baum, S., & Payea, K. (2005). *Education Pays 2004: The Benefits of Higher Education for Individuals and Society*. CollegeBoard.
- Baylor, E. (2014). *State Disinvestment in Higher Education Has Led to an Explosion of Student-Loan Debt*. Washington, DC: Center for American Progress.
- Bean, J. P. (1985). Interaction effects based on class level in an explanatory model of college student dropout syndrome. *American Educational Research Journal*, 22(1), 35-64.
- Bettinger, E. (2004). How Financial Aid Affects Persistence. In *College Choices: The Economics of Where to Go, When to Go, and How to Pay For It*. University of Chicago Press.
- Bidwell, A. (2014, December 19). Obama Administration Seeks Input on College Ratings Draft. *U.S. News and World Report*.
- Boyd, D., & Dadayan, L. (2013). The State Budget Crisis Task Force and Fiscal Challenges Ahead. *The Council of State Governments*.
- Brown, M., & Caldwell, S. (2013, April 17). *Young Student Loan Borrowers Retreat from Housing and Auto Markets*. Retrieved December 1, 2014, from Federal Reserve Bank of New York: <http://libertystreeteconomics.newyorkfed.org/2013/04/young-student-loan-borrowers-retreat-from-housing-and-auto-markets.html#.VQ7JBhDF9X8>.
- Chan, R., Brown, G., Ludlow, L., & Noguera, J. (2015, July 8). The Public and Civic Purpose of Higher Education: Exploring the "Non-Economic" Benefits for Completing a College Degree. Retrieved August 21, 2015.

- Chen, H., & Volpe, R. P. (1998). An Analysis of Personal Financial Literacy Among College Students. *Financial Services Review* , 7 (2), 107-128.
- Chen, H., & Volpe, R. P. (2002). Gender Differences in Personal Financial Literacy Among College Students. *Financial Services Review* , 289-307.
- Chopra, R. (2013). Student Debt Swells, Federal Loans Now Top a Trillion. *Consumer Finance Protection Bureau*.
- Coalition of Higher Education Assistance Organizations. (2014). *Financial Literacy in Higher Education: The Most Successful Models and Methods for Gaining Traction*. COHEAO.
- Commerce Lexington. (2014). *Major Regional Employers*. Retrieved March 26, 2015, from Commerce Lexington: <http://www.locateinlexington.com/Data-Facts-Figures-Major-Employers.aspx>.
- Commonfund. (2015). *About Higher Education Price Index®(HEPI)*. Retrieved December 1, 2014, from Commonfund: <https://www.commonfund.org/CommonfundInstitute/HEPI/Pages/default.aspx>.
- Cude, Brenda J., Frances C. Lawrence, Angela C. Lyons, Kaci Metzger, Emily LeJeune, Loren Marks, and Krisanna Machtmes. 2006. "College Students' Financial Literacy: What They Know and What They Need to Learn". Research Report. Eastern Family Economics and Resource Management Association 102-109.
- Cummins, M. M., Haskell, J. H., & Jenkins, S. J. (2009). Financial Attitudes and Spending Habits of University Freshmen. *Journal of Economics and Economic Education Research* , 10 (1), 3-20.
- "Division I Academic Progress Rate (APR)." NCAA. Web. 5 March 2015.
- Droddy, J. J. (2009). *Do TOPS Eligibility Requirements Predict In-System College Retention?* (Doctoral dissertation). Retrieved March 26, 2015, from LSU ETD: <http://etd.lsu.edu/docs/available/etd-06062009-092103/>.
- Durband, D., & Britt, S. (2012). *Student Financial Literacy*. New York: Springer.
- Fry, R. (2014). The Growth in Student Debt. *Pew Research Center*.
- Goldberger, A.S. (1991). "Multicollinearity". A Course in Econometrics. Cambridge: Harvard University Press. pp. 245–53.
- Greenstone, M., & Looney, A. (2011). *Where is the Best Place to Invest \$102,000 -- In Stocks, Bonds, or a College Degree?* Washington, DC: Brookings Institution: The Hamilton Project.

- Greenstone, M., Looney, A., Patashnik, J., & Yu, M. (2013). *Thirteen Economic Facts about Social Mobility and the Role of Education*. Washington, DC: Brookings Institution: The Hamilton Project.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th Edition ed.) Upper Saddle River, New Jersey: Pearson Prentice Hall.
- Hamilton, W. (2013, December 13). Millions of Americans lack basic financial literacy, studies show. *LA Times*. Retrieved August 5, 2015.
- Heller, D. E. (2013). Does Federal Financial Aid Drive Up College Prices?. *American Council on Education*.
- Hout, M. (2012). Social and Economic Returns to College Education in the United States. *Annual Review of Sociology* , 379-400.
- Huston, S. J. (2010). Measuring Financial Literacy. *The Journal of Consumer Affairs* , 44 (2), 296-316.
- Ishitani, T. (2006). Studying Attrition and Degree Completion Behavior among First-Generation College Students in the United States. *The Journal of Higher Education*, 77(5), 861-885.
- Ishler, J. L.C., & Upcraft, M. L. (2005) In M. L. Upcraft, J. N. Gardener, & B. O. Barefoot, (Eds.). *Challenging and supporting the first-year student: A handbook for improving the first year of college*. San Francisco: Jossey-Bass.
- Jensen, E. L. (1981). Student Financial Aid and Persistence in College. *The Journal of Higher Education* , 52 (3), 280-294.
- LSU Residential Life. (2014). Retention to 2nd Year. Baton Rouge, LA, USA.
- Lewis-Beck, M. S. (1980). *Applied Regression: An Introduction*. Sage University Paper Series on Quantitative Applications in Social Sciences, 07-022. Newbury Park, CA: Sage.
- Lucca, D.O., Nadauld, T., & Shen, K. (2015). Credit Supply and the Rise in College Tuition: Evidence from the Expansion in Federal Student Aid Programs. *Federal Reserve Bank of New York*.
- Lusardi, A., & Mitchell, O. S. (2011). Financial literacy and retirement planning in the United States. *Journal of Pension Economics and Finance* , 10 (4), 509-525.
- Lusardi, A., & Mitchell, O. S. (2014). The Economic Importance of Financial Literacy: Theory and Practice. *Journal of Economic Literature* , 42 (1), 5-44.

- Lutta, J. (2008). Factors that influence traditional-age college students to re-enroll in their third year at a research extensive university in the southern region of the United States. (Doctoral dissertation). Retrieved April 30, 2015, from LSU ETD: <http://etd.lsu.edu/docs/available/etd-08292008-085519/>.
- Lyons, A. C. (2004). A profile of financially at-risk college students. *The Journal of Consumer Affairs*, 38(1), 56-80.
- Maciag, M. (2013, October 29). Cost of College Continues to Skyrocket While Policymakers Seek Solutions. *Governing.com*.
- McCarthy, C. (2004, July). Encouraging Student Retention: a study of student retention practices. In *Proceedings of the 17th Annual NACCO Conference* (pp. 371-374).
- Mitchell, M., & Leachman, M. (2015). Years of Cuts Threaten to Put College Out of Reach for More Students. *Center on Budget and Policy Priorities*.
- Mitchell, M., Palacios, V., & Leachman, M. (2014). *States Are Still Funding Higher Education Below Pre-Recession Levels*. Washington, DC: Center on Budget and Policy Priorities.
- Mortenson, T. G. (2012). *State Funding: A Race to the Bottom*. Washington, DC: American Council on Education.
- Mulhere, K. (2014, November 13). Tuition and Borrowing Growth Slows. *Inside Higher Ed*.
- Murtaugh, P. A., Burns, L. D., & Schuster, J. (1999). Predicting the retention of university students. *Research in Higher Education*, 40(3), 355-371.
- NACUBO. (2014). *2013 NACUBO Tuition Discounting Study*. Retrieved August 1, 2015, from NACUBO: <http://www.nacubo.org/Documents/about/pressreleases/2013TDSPressRelease.pdf>.
- National Conference of State Legislatures. (2015, January 13). *Performance-Based Funding for Higher Education*. Retrieved March 23, 2015, from National Conference of State Legislatures: <http://www.ncsl.org/research/education/performance-funding.aspx>.
- National Science Foundation. (2012, Novemer). *Universities Report Highest-Ever R&D Spending of \$65 Billion in FY 2011*. Retrieved November 5, 2014, from National Science Foundation: <http://www.nsf.gov/statistics/infbrief/nsf13305/>.
- National Science Foundation. (2014). *Federal Funding for Basic Research at Universities and Colleges Essentially Unchanged in FY 2012*. Arlington, VA: National Science Foundation.
- Noel-Levitz. (2009). *2009 Student Retention Practices and Strategies at Four-Year and Two-Year Institutions*. Noel-Levitz.

- Norvilitis, J. M., Merwin, M. M., Osberg, T. M., Roehling, P. V., Young, P., & Kamas, M. M. (2006). Personality Factors, Money Attitudes, Financial Knowledge, and Credit-Card Debt in College Students. *Journal of Applied Social Psychology*, 36 (6), 1395-1413.
- Odland, S. (2012, March 24). College Costs Out of Control. *Forbes*.
- Oliff, P., Palacios, V., Johnson, I., & Leachman, M. (n.d.). *Recent Deep State Higher Education Cuts May Harm Students and the Economy for Years to Come*. Retrieved March 1, 2015, from www.cbpp.org: <http://www.cbpp.org/cms/?fa=view&id=3927>.
- Peltier, G. L., Laden, R., & Matranga, M. (1999). Student persistence in college: A review of research. *Journal of College Student Retention*, 1(4), 357-376.
- Porter, M. (2007). *Colleges and Universities and Regional Economic Development: A Strategic Perspective*. Cambridge: Forum for the Future of Higher Education.
- Purdie, J. R. (2007). Examining the academic performance and retention of first-year students in living-learning communities, freshmen interest groups and first year experience courses. (Doctoral dissertation, University of Missouri, Columbia). Retrieved August 23, 2015 from: <https://mospace.umsystem.edu/xmlui/bitstream/handle/10355/4710/research.pdf?sequence=3>.
- President's Advisory Council on Financial Literacy. (2009). *2008 Annual Report to the President*. Washington, DC: U.S. Government.
- Reason, R. D. (2003). Student variables that predict retention: Recent research and new developments. *NASPA Journal*, 40(2), 172-191.
- Riggert, S. C., Boyle, M., Petrosko, J. M., Ash, D., & Rude-Parkins, C. (2006). Student Employment and Higher Education: Empiricism and Contradiction. *Review of Educational Research*, 76 (1), 63-92.
- Robb, C. A., Moody, B., & Abdel-Ghany, M. (2011). College Student Persistence to Degree: The Burden of Debt. *Journal of College Student Retention*, 13 (4), 431-456.
- Robb, C. A., & Sharpe, D. L. (2009). Effect of Personal Financial Knowledge on College Students' Credit Card Behavior. *Journal of Financial Counseling and Planning*, 20 (1), 25-43.
- Roberts, J., & Styron, Jr., R. (2010). Student satisfaction and persistence: factors vital to student retention. *Research In Higher Education Journal*, 6, 1-18.
- Robinson, R. (2004). Pathways to Completion: Patters of Progression through a University Degree. *Higher Education*, 47 (1), 1-20.

- Schudde, L.T. (2011). The Casual Effect of Campus Residency on College Student Retention. *The Review of Higher Education* , 34 (4), 581-610.
- Shierholz, H., Sabadish, N., & Finio, N. (2013). *THE CLASS OF 2013 Young graduates still face dim job prospects*. Washington, DC: Economic Policy Institute.
- Seidman, A. (Ed.). (2012). *College Student Retention: Formula for student success* (2nd ed.). Rowman & Littlefield.
- Simple Stock Investing. (n.d.). *S&P 500: Total and Inflation-Adjusted Historical Returns*. Retrieved March 21, 2014, from Simple Stock Investing: <http://www.simplestockinvesting.com/SP500-historical-real-total-returns.htm>.
- State Higher Education Executive Officers. (2014). *State Higher Education Finance FY 2013*. State Higher Education Executive Officers.
- St. John, E. P., Cabrera, A. F., Nora, A., & Asker, E. H. (2000). Economic influences on persistence reconciled: How can finance research inform the reconceptualization of persistence models? In J. M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 29-47). Nashville, TN: Vanderbilt University Press.
- St. John, E. P., Cabrera, A. F., Nora, A., & Asker, E. H. (2001). Economic perspectives on student persistence. In J. Braxton (Ed.), *Rethinking the student departure puzzle*. Nashville, TN: Vanderbilt University Press.
- Sum, A., Khatiwada, I., McLaughlin, J., & Palma, S. (2009, October). *The Consequences of Dropping Out of High School*. Retrieved November 2, 2014, from http://www.northeastern.edu/clms/wp-content/uploads/The_Consequences_of_Dropping_Out_of_High_School.pdf.
- Thayer, P. (2000). Retaining first generation and low income students. *Opportunity Outlook*, 2-8. (ERIC Document Reproduction Service No. EJ616662).
- The Domestic Policy Council & The Council of Economic Advisors. (2014). *Taking Action: Higher Education and Student Debt*. Washington, DC: The White House.
- The Economist. (2014). *Is college worth it?*. Retrieved August 22, 2015, from The Economist: <http://www.economist.com/news/united-states/21600131-too-many-degrees-are-waste-money-return-higher-education-would-be-much-better>.
- The Institute for College Access & Success . (2013). *Aligning the Means and the Ends: How to Improve Federal Student Aid and Increase College Access and Success*. Washington, DC: The Institute for College Access & Success .
- The Land-Grant Tradition. (2012). Retrieved August 22, 2015, from <http://www.aplu.org/library/the-land-grant-tradition/file> .

- Thomas, L. (2002). Student retention in higher education: the role of institutional habitus. *Journal of Educational Policy*, 17 (4), 423-442.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89-125.
- Tinto, V. (2006). Research and Practice of Student Retention: What Next? *Journal of College Student Retention*, 1-19.
- Umfress, J. (2010). An Analysis of Expenditures on Student Affairs / Services and College Student Retention at Four-Year Colleges and Universities in the United States. All Dissertations. Paper 518.
- United States Government Accountability Office. (2014). *HIGHER EDUCATION State Funding Trends and Policies on Affordability*. Washington, DC: United States Government Accountability Office.
- US Census Bureau. (2013). *After a Recent Upswing, College Enrollment Declines*, *Census Bureau Reports*. Washington, DC: US Government.
- US Department of Education. (2015). *Federal Student Aid*. Retrieved February 1, 2015, from US Department of Education: <https://studentaid.ed.gov/types/grants-scholarships/pell#how-much-money>.
- US Department of Education. (2015). *Federal Pell Grant Program*. Retrieved August 28, 2015, from US Department of Education: <http://www2.ed.gov/programs/fpg/index.html>.
- US News and World Report. (2014). *How U.S. News Calculated the 2015 Best Colleges Rankings*. Retrieved August 15, 2015, from US News and World Report: <http://www.usnews.com/education/best-colleges/articles/2014/09/08/how-us-news-calculated-the-2015-best-colleges-rankings>.
- Wetzel, J. N., O'Toole, D., & Peterson, S. (1999). Factors Affecting Student Retention Probabilities: A Case Study. *Journal of Economics and Finance*, 23 (1), 45-55.
- Wohlegemuth, D., Whalen, D., Sullivan, J., Nading, C., Shelley, M., & Wang, Y. (2007). Financial, Academic, and Environmental Influences on the Retention and Graduation of Students. *Journal of College Student Retention*, 8 (4), 457-475.
- Zaback, A., Carlson, A., & Crellin, M. (2012). The Economic Benefit of Postsecondary Degrees. *State Higher Education Executive Officers*.

APPENDIX A: SURVEY INSTRUMENT ONE

Survey:

Thank you very much for taking the survey. **The results will be used to help LSU and other universities improve their student financial knowledge programs.** The survey is 20 questions and will take *less than 10 minutes*. Your responses will be confidential.

I. Financial Knowledge Questions – 13 questions

A. True/False Questions – Do you think the following statement is true or false?

1.

Q: Buying a single company's stock usually provides a safer return than a stock mutual fund.

A: [True; False]

2.

Q: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.

A: [True; False]

3.

Q: The budgeting process starts with establishing financial goals.

A: [True; False]

4.

Q: A 401 (k) retirement plan is a defined benefits plan.

A: [True; False]

5.

Q: You can obtain at least one free copy of your credit report each year.

A: [True; False]

6.

Q: Higher insurance deductibles lead to lower insurance premiums.

A: [True; False]

7.

Q: Social security is sufficient to meet retirement needs.

A: [True; False]

8.

Q: An annuity is a contract issued by a financial institution that guarantees a series of payments for over a lifetime.

A: [True; False]

9.

Q: A mutual fund is an investment company that invests its shareholders' money in a diversified portfolio of securities.

A: [True; False]

B. Multiple Choice Questions – Please choose the best answer.

10.

Q:

Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

A: [More than \$102; Exactly \$102; Less than \$102; Do not know; Refuse to answer]

11.

Q: Which of the following makes up the largest component of a credit score?

A: [Payment history; Length of credit history; New credit; Credit mix – type of credit; Credit utilization – amount owed]

12.

Q: If you qualify for both options but can only claim one, is it generally better to utilize a tax credit or a tax deduction?

A: [A tax credit; A tax deduction; They are the same; Do not know; Refuse to answer]

13.

Q: Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

A: [More than today; Exactly the same; Less than today; Do not know; Refuse to answer]

II. Demographic Information – 7 questions

A. Multiple Choice Questions – Please choose the best answer.

14.

Q: How many hours per week do you work?

A: [0; Less than 10 hours; 10 - 19 hours; 20 – 29 hours; 30 hours or more]

15.

Q: How many years of work experience do you have? Include full- or part-time experience, internships, etc.

A: [0; Less than 1; 1-2; 3-4; 5 or more]

16.

Q: What is the approximate balance of your student loan debt?

A: [0; \$1-\$14,999; \$15,000-\$29,999; \$30,000-\$49,999; more than \$50,000]

17.

Q: What is the approximate balance of your personal credit card debt?

A: [0; \$1-\$1,499; \$1,500-\$2,499; \$2,500-\$3,499; more than \$3,500]

18.

Q: What is the highest level of education attained by your mother/guardian?

A: [Less than high school; High school graduate or GED; Some college; Four year college degree or higher; Do not know]

19.

Q: What is the highest level of education attained by your father/guardian?

A: [Less than high school; High school graduate or GED; Some college; Four year college degree or higher; Do not know]

20.

Q: What is your family's personal income last year?

A: [Less than \$25,000; \$25,000 - \$49,999; \$50,000 - \$74,999; more than \$75,000; Do not know]

APPENDIX B: SURVEY INSTRUMENT TWO

Instrument Two

Demographic Information – To Be Provided by Office of the University Registrar from the electronic student information system – 12 items and the official university e-mail address of students in the Fall 2013 cohort in the 4th semester (~4,400 students).

1.

Q: What is your race?

A: Descriptive statistic provided by LSU Office of the University Registrar.

2.

Q: What is your gender?

A: Descriptive statistic provided by LSU Office of the University Registrar.

3.

Q: What is your age?

A: Descriptive statistic provided by LSU Office of the University Registrar.

4.

Q: Are you a resident or nonresident U.S. or nonresident INTL?

A: Descriptive statistic provided by LSU Office of the University Registrar.

5.

Q: Do you live on-campus or off-campus?

A: Descriptive statistic provided by LSU Office of the University Registrar.

6.

Q: What was your ACT score?

A: Descriptive statistic provided by LSU Office of the University Registrar.

7.

Q: What was your high school GPA?

A: Descriptive statistic provided by LSU Office of the University Registrar.

8.

Q: What is your college major?

A: Descriptive statistic provided by LSU Office of the University Registrar.

9.

Q: What is your college GPA?

A: Descriptive statistic provided by LSU Office of the University Registrar.

10.

Q: Are you currently a recipient of a pell grant?

A: Descriptive statistic provided by LSU Office of the University Registrar.

11.

Q. Are you a varsity student athlete?

A. Descriptive statistic provided by LSU Office of the University Registrar.

12.

Retention information for Fall 2013 Cohort – from second to third year.

APPENDIX C: APPROVAL FOR THE USE OF CERTAIN QUESTIONS FROM DR. LUSARDI

Saturday, August 8, 2015 at 10:56:14 PM Eastern Daylight Time

Subject: Re: Financial Knowledge and College Student Persistence; Student Request

Date: Saturday, March 14, 2015 at 2:55:59 PM Eastern Daylight Time

From: Monday, Eric N

To: Annamaria Lusardi

Thank you very much. Appreciate the quick response, approval and articles.

Eric

Eric N. Monday
UK Executive Vice President for
Finance and Administration
859.257.1841

On Mar 14, 2015, at 14:25, Annamaria Lusardi <alusardi@gwu.edu> wrote:

Eric:

you can use these questions. You can refer to the latest use of these questions in the 2009 National Financial Capability Study (the paper is attached) and also to the international comparison we have done on these 3 questions in the Journal of Economic Literature (also attached).

Best regards,

anna

On Fri, Mar 13, 2015 at 11:24 PM, Monday, Eric N <emonday@uky.edu> wrote:

Dr. Lusardi,

My name is Eric Monday and I'm writing to you in my capacity as a PhD student at Louisiana State University (LSU). I'm completing my studies in Human Resource Education and my research is focused on financial knowledge and its impact on student persistence. I also work in higher education and currently serve as Executive Vice President for Finance and Administration at the University of Kentucky (UK). I have a deep passion for financial literacy and founded the LSU Student Financial Management Center in 2009 and am working to start a Student Financial Wellness Center at UK.

My research question for my dissertation is: Does financial knowledge impact student persistence from sophomore to junior year at a public research university. Through my review of relevant literature, I discovered your many works. They are impressive. I just finished listening to your recent presentation at European Money Week.

I'm working on my instrument that will be given to the sophomore class later this semester at LSU. This instrument will include many demographic and descriptive questions as well as questions to determine financial knowledge. I've become familiar with the three primary questions you and your colleagues have used in the various instruments you have tested and have also reviewed Chen and Volpe's instrument entitled "Survey of Personal Financial Literacy" which was used in 1998.

I would like to utilize the three basic questions you created and used since, I believe, the 2004 HRS study and the two additional questions that you have used in other instruments. Specifically, the following questions:

Page 1 of 2

1. *Suppose you had \$100 in a savings account and the interest rate was 2 percent per year. After five years, how much do you think you would have in the account if you left the money to grow?*
2. *Imagine that the interest rate on your savings account was 1 percent per year and inflation was 2 percent per year. After one year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?*
3. *Do you think that the following statement is true or false? "Buying a single company stock usually provides a safer return than a stock mutual fund."*
4. *Suppose you had \$100 in a savings account and the interest rate is 20 percent per year and you never withdraw money or interest payments. After five years, how much would you have on this account in total?*
5. *If the interest rate falls, what should happen to bond prices?*

May I receive your permission to utilize these questions in my study? I would be pleased to provide any desired and or necessary citations in the instrument.

Should you provide such permission, could you share or direct me to the appropriate references to any psychometric research and or content validity research on the questions?

I appreciate your time. Should you have questions or desire additional information, I can be available at your convenience. Thank you very much.

Eric

Eric N. Monday
PhD Student, LSU
Emonday@uky.edu

--

Annamaria Lusardi
Academic Director, Global Financial Literacy Excellence Center (GFLEC)
Denit Trust Distinguished Scholar & Professor of Economics and Accountancy
The George Washington University School of Business
Duquès Hall, Room 450E
2201 G Street, NW
Washington, D.C. 20052
Tel: 202.994.8410
Fax: 202.994.8289
E-mail: alusardi@gwu.edu

<Financial_Literacy_US.pdf>

<JEL_FinLit.pdf>

APPENDIX D: E-MAIL FROM DR. BRITT

Wednesday, August 26, 2015 at 11:26:31 PM Eastern Daylight Time

Subject: Fwd: Dissertation
Date: Tuesday, March 24, 2015 at 10:41:57 PM Eastern Daylight Time
From: Frances C Lawrence
To: Monday, Eric N

Sent from my iPad

Begin forwarded message:

From: Sonya Britt <sbritt@ksu.edu>
Date: December 8, 2014 at 9:34:36 AM CST
To: Frances C Lawrence <flawrence@lsu.edu>, Eric N Monday <emonday@lsu.edu>
Subject: RE: Dissertation

Hello Eric,
I have consistently used the following six items to measure objective financial knowledge for the last five years.

Please circle what you consider to be the correct answer.		
You may obtain at least one free copy of your credit report each year. (CREDITREPORT)	TRUE	FAI
Higher insurance deductibles lead to lower insurance premiums. (DEDUCTIBLE)	TRUE	FAI
An annuity is a contract issued by a financial institution that guarantees a series of payments for over a lifetime. (ANNUITY)	TRUE	FAI
A mutual fund is an investment company that invests its shareholders' money in a diversified portfolio of securities. (MF)	TRUE	FAI
Social security and company pension plans are sufficient to meet retirement needs. (SS)	TRUE	FAI
Over 20 years, you will earn more money to invest in bonds compared to stocks. (STOCKVSBOND)	TRUE	FAI

A shorter measure that is frequently used in larger databases is one developed by Lusardi. See http://www.dartmouth.edu/~alusardi/Papers/Lusardi_Informed_Consumer.pdf

- 1) Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: more than \$102, exactly \$102, less than \$102?
- 2) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?
- 3) Do you think that the following statement is true or false? "Buying a single company stock usually provides a safer return than a stock mutual fund."

Page 1 of 3

Sandra Huston (Sandra.huston@ttu.edu) has developed the best measure that I know of for financial literacy, but it is a little lengthy. She wrote about it in the summer 2010 issue of Journal of Consumer Affairs. I'm having a difficult time finding the assessment items, but she could probably direct you to the correct location.

Best of luck as you finish your dissertation! Fran sure does talk highly of you! Let me know if I can be of further assistance.
Sonya

Sonya Britt, Ph.D., CFP®
Kansas State University
Personal Financial Planning
Program Director and Associate Professor
317 Justin Hall
Manhattan, KS 66506
785-532-3541
ipfp.k-state.edu
www.facebook.com/KStateIPFP
@KStateIPFP

From: Frances C Lawrence [<mailto:flawrence@lsu.edu>]
Sent: Saturday, November 22, 2014 11:48 AM
To: Eric N Monday
Cc: Sonya Britt
Subject: Dissertation

Eric,

I talked to Sonya Britt, at K State during this week's AFCPE meeting. She is willing to share the instrument she used to measure financial literacy and is expecting you to touch base.

Have a great weekend.

Fran

Frances C. Lawrence, Ph.D.
Gerald Cire and Lena Grand Williams Alumni Professor
Director, CFP Board-Registered Program

Department of Finance
www.business.lsu.edu/cfp
www.facebook.com/lrucfp

E. J. Ourso College of Business
Louisiana State University
Business Education Complex, Room 2902
Baton Rouge, LA 70803
225-578-1726
225-281-3660
flawrence@lsu.edu

APPENDIX E: CONSENT SCRIPT

Consent Script

Survey Details

1. Study Title: LSU Student Financial Knowledge Survey: Does financial knowledge impact student retention from the second to the third year at a public research university in the southern region of the United States?

2. Performance Site: LSU

3. Investigators: The following investigators are available for questions about this study, M-F, 8:00 a.m. - 4:30p.m.

Mr. Eric N. Monday – 859.576.6325

Dr. Michael F. Burnett – 225.578.2362

4. Purpose of the Study: The purpose of this research project is to determine whether there is an association between financial knowledge and student retention.

5. Subject Inclusion: Fall 2013 Freshman Cohort in their 4th semester (~4,400 students left of 5,498 official cohort)

6. Number of subjects: ~4,400

7. Study Procedures: The study will be conducted via an electronic survey. The approximately 4,400 students will receive an email from Student Life and Enrollment Services and Eric N. Monday. The email will come from emonday@lsu.edu. Students will have approximately 25 days to respond to the survey. The survey instrument includes 20 items and is expected to take less than 10 minutes to complete.

The researcher will receive the email address of approximately 4,400 students in the cohort from the LSU Office of the University Registrar; this is considered directory information. Researcher will also be requesting information on the survey respondents from the LSU Office of the University Registrar; such request will be for data only from respondents who have consented to such release. These data include: (1) race, (2) gender, (3) age, (4) residency status, (5) on/off campus living, (6) ACT, (7) High school GPA, (8) College major, (9) College GPA, (10) Pell grant recipient, (11) student athlete, and (12) retention in Fall 2015.

Researcher investigated the use of a digital signature for the Qualtrics survey product. Although this option is not offered, Qualtrics offers the latest in security procedures for the safety and storage of the data. LSU holds a site license for the use of the software and has evaluated its safety and security when it considered the procurement of the product. The researcher will follow the best practices as identified on the Qualtrics website to limit access to the survey from search engines and for other recommendations made throughout the website documentation. Researcher has also emailed Qualtrics for all of its security documentation as referenced on the following Qualtrics website -

<http://www.qualtrics.com/university/researchsuite/research-resources/other-resources/faqs/#irb>

8. Benefits: 8 students will win gift cards to either LSU Dining or Barnes & Noble at LSU – students’ choice. 4 students who submit survey in early submittal timeline will win \$100 gift cards while an additional 4 students will win \$50 gift cards by submitting the survey by the deadline.

9. Risks: The only study risk is the inadvertent release of confidential information found in the survey instrument. However, every effort will be made to maintain the confidentiality of your records. Files will be kept on a secure flash drive secure which will be located in a locked security bag in a locked file draw.

10. Right to Refuse: Students may choose not to participate or to withdraw from the study at any time without penalty or loss of any benefit to which they might otherwise be entitled.

11. Privacy: Results of the study may be published, but no names or identifying information will be included in the publication. Student identity will remain confidential unless disclosure is required by law.

12. Institutional Review Board Information: This study has been exempted from Institutional Review Board (IRB) review in accordance with Federal regulations. The IRB, a university committee established by Federal law, is responsible for protecting the rights and welfare of research participants. If you have concerns or questions about your rights as a research participant, you may contact Dr. Dennis Landin, IRB, at (225) 578-8692 or irb@lsu.edu.

APPENDIX F: APPROVAL FROM THE LSU INSTITUTIONAL REVIEW BOARD

ACTION ON EXEMPTION APPROVAL REQUEST



TO: Eric Monday
Human Resource Education & Workforce Dev.

FROM: Dennis Landin
Chair, Institutional Review Board

DATE: April 20, 2015

RE: IRB# E9296

TITLE: LSU Student Financial Knowledge Survey: Does financial knowledge impact student retention from the second to the third year at a public research university?

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.5983
irb@lsu.edu | lsu.edu/irb

New Protocol/Modification/Continuation: New Protocol

Review Date: 4/17/2015

Approved X **Disapproved**

Approval Date: 4/20/2015 **Approval Expiration Date:** 4/19/2018

Exemption Category/Paragraph: C/P 1

Signed Consent Waived?: Yes

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

Protocol Matches Scope of Work in Grant proposal: (if applicable)

By: Dennis Landin, Chairman 

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –

Continuing approval is **CONDITIONAL** on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. SPECIAL NOTE:

**All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at <http://www.lsu.edu/irb>*

APPENDIX G: COVER LETTER TO POPULATION

Survey: E-mail Message (E-mail will be distributed via Qualtrics from EMONDAY@LSU.EDU e-mail address):

Subject: Important – Please complete the LSU Student Financial Knowledge Survey

On behalf of the Division of Student Life and Enrollment and the LSU Cale P. and Katherine Smith Student Financial Management Center at LSU, we want to invite you **to participate in an important survey for LSU students**. This survey is intended to measure college students' financial knowledge. The results will be used to help LSU and other universities improve their student financial knowledge programs.

The cost of college continues to rise and we are examining how best to help you and your fellow students understand financial issues. We are exploring how **financial knowledge impacts student success**. **Please help us. Your success is important to us.** The survey will take you less than 10 minutes.

As a small token of appreciation, we are giving four students \$100. If you complete the survey by Tuesday, April 28, 2015, you are eligible to win one of four - \$100 gift cards to either LSU Dining or Barnes & Noble at LSU – your choice.

<Survey Link >

Your responses will be confidential and will be used for this research project. Any questions may be submitted to emonday@lsu.edu

See detailed information regarding the survey below.

Kurt J. Keppler, Ph.D.
Vice President for
Student Life & Enrollment

Emily Hester
Assistant to the Vice President
Smith Student Financial Management Center

Eric N. Monday
LSU Ph.D. Student

**APPENDIX H: COMPLETE LIST OF MAJORS FOR STUDENTS WHO DID PERSIST
FROM THE SECOND TO THE THIRD YEAR AT A PUBLIC RESEARCH UNIVERSITY IN
THE SOUTHERN REGION OF THE UNITED STATES**

Valid	Frequency
KIN	73
BIOL	40
MC	37
PSYCS	33
ACCT	32
FIN	29
MKT	27
CHE	26
ME	19
PETE	18
COMD	14
GBUS	14
ENGL	13
ADP	12
BE	12
MGT	12
CSC	11
NREM	11
CE	10
CM	10
IS	10
TAM	10
BCH	9
ELED	8
ARCH	7
NFS	7
POLI	7
SPADM	7
CFS	6
CHEM	6

EVEG	6
HRE	6
ISDS	6
SOCL	6
CES	5
EE	5
IE	5
MATH	5
ANTH	4
HIST	4
LIBAR	4
PMDT	4
ATRN	3
ECONS	3
ITF	3
MBIO	3
PSYCS, SOCL	3
AGBU	2
CSC, MATH	2
DUALC	2
EEC	2
FREN	2
GEOLP	2
ID	2
MUSED	2
MUSIC	2
PHYS	2
PK3CT	2
PNURS	2
PPHAR	2
SPAN	2
STAR	2
ACCT, CM	1
AGED	1
ANTH, POLI	1

BCH, MBIO	1
BIOL, PHIL	1
CMST	1
CSC, EEC	1
CSC, PHYS	1
CSC, STAR	1
DH	1
ECONA	1
ECONS, MC	1
ENGL, LIBAR	1
ENGL, MBIO	1
ENGL, PHIL	1
ENSYS	1
FREN, HIST	1
INTL, ITF	1
INTL, PSYCS	1
LIBAR, MC	1
LIBAR, PSYCS	1
MC, SPAN	1
MC, THTR	1
MKT, SPADM	1
MUSED, MUSIC	1
PHIL	1
PLSYS	1
PSYCS, STAR	1
PSYCS, UNSE	1
THTR	1
Total	665

VITA

Eric Nathan Monday was born in Louisiana to Bill and Dori Monday. He grew up in a stable home in Slidell, Louisiana, and graduated from Slidell High School in 1991. After a wonderful experience at LSU including serving as LSU Student Body President in 1995-96, Mr. Monday completed his undergraduate studies in 1996 earning a bachelor of science degree in accounting.

Immediately following his graduation, Mr. Monday began his career at LSU in the Office of the Vice Chancellor for Student Affairs and served as Assistant to the Vice Chancellor for Mr. Norman F. Moore. Soon thereafter, Mr. Monday was promoted to a new position in the LSU Office of the Vice Chancellor for Finance and Administrative Services and Comptroller serving under the leadership of Mr. Ralph Gossard and Dr. Jerry Baudin. He would serve in this office from 1998 through 2012 and occupy various positions including Assistant to the Vice Chancellor, Assistant Vice Chancellor, Associate Vice Chancellor, Interim Director for Emergency Operations, Interim Vice Chancellor, and achieve the position of Vice Chancellor for Finance and Administrative Services and CFO in 2010 under the leadership of Dr. Michael Martin. During these years, Mr. Monday completed his first graduate degree and was awarded a masters degree in public administration in 2006.

Mr. Monday also had the tremendous opportunity to return to Student Affairs and serve as Interim Vice Chancellor for Student Life in 2008. These eighteen months were some of the most productive of his career and he served under the leadership of Dr. Astrid Merget. In 2012, Mr. Monday left LSU for a new opportunity at the University of Kentucky. Since December, 2012, Mr. Monday has served as the Executive Vice President for Finance and Administration under the leadership of Dr. Eli Capilouto.

LSU also provided Mr. Monday with the opportunity to meet his wife, Sybil Gale Corkern of Franklinton, Louisiana. They were married in 1998, and welcomed their first son, Jack, in 2003, and their second son, Hampton, in 2008. Mr. Monday is framed by many different experiences and opportunities but he considers his family to be his first priority.

Mr. Monday believes in the transformative power of higher education and specifically values the role public land grant flagship universities play in the success of this country. The need for successful public land grant flagship universities is great and Mr. Monday plays a small role in achieving this goal by working each day to put students first in every decision and to create the best environment for their success.