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RELATIONSHIP OF EXPECTED FAMILY CONTRIBUTION TO STUDENT SUCCESS AT

BELHAVEN UNIVERSITY:

A Dissertation
presented in partial fulfillment of requirements
for the degree of Doctor of Education
in the Department of Higher Education
The University of Mississippi

by

KEVIN A. RUSSELL

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ABSTRACT

This study examines the relationship of expected family contribution (EFC) with student success for 427 freshmen students enrolled at Belhaven University in the Fall of 2016 and 2017. Success is measured by grade point average (GPA) and credit hours completed during the student's freshman year. These two critical factors are used to determine a student's satisfactory academic process (SAP). While measuring SAP is important, the contradiction between the university SAP and the SAP required by the state of Mississippi to remain eligible to receive funding are often in conflict.

Linear regression was used to determine if there was a correlation of EFC to GPA and credit hours completed, while an independent sample t-test examined if the difference in actual GPA and credit hours completed means were significant when EFC was segmented between high and low ability to pay. The findings of this study affirm previous research that can provide administrators with actionable insights on professional practice.

DEDICATION

I dedicate this project to my refrigerator door. Upon completion of the first full draft of this dissertation at 7:02 am on Wednesday March 6, 2019, I returned to the kitchen to refresh my cup of Diet Mountain Dew. When I turned to open the refrigerator door I froze. I took a step back to look at the myriad of pictures that were posted on both panels. Then it hit me. The most important parts of my life on earth were magnetically affixed to this refrigerator. Faithfully gathered and added over the last twenty years as a type of memorial of all I hold dear.

My wife Linda Kay and my children Emily and Alex are the greatest gifts the Lord has given me. I am forever grateful for their continued love and support…and for the refrigerator door that displays my journey.

ACKNOWLEDGEMENTS

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I. INTRODUCTION AND CONCEPTUAL FRAMEWORK

INTRODUCTION

Since the founding of the first colleges in America, the role of higher education has continually evolved. The first three colleges in the British colonies of America were Harvard College, the College of William and Mary, and Yale College. At that time, all were established as ministerial training grounds from their respective church sponsors. The first institution of higher education, Harvard College, was established in 1636 out of strict Calvinist doctrine by Puritans who were fleeing religious persecution (Geiger, 2015). In the nearly 400 years since Harvard College was founded, there are now 4,617 colleges and universities in the United States that enroll 20.5 million students of all ages, types, and abilities (National Center for Educational Statistics, 2018).

Cabrera and La Nasa suggest that today's higher education system in America is a "meritocratic system in which socioeconomic factors play a secondary role to such factors as academic ability, preparation for college, and educational expectations" (2000, p. 13). In essence, the benefits of a college degree are open for intelligent, focused, and driven students to move socially upward beyond their current station in life. More recently, numerous critics have written books and filmed documentaries about an educational system that is generating poorly prepared students that are focused on receiving a needed credential with the least effort possible. (Arum & Roksa, 2011; Selingo, 2013; Rossi, 2014; Moe, 2014; Hersh & Merrow, 2005).

The Value of a College Degree

While the actual condition of higher education in America today is often debated, many families from all socio-economic classes view the attainment of a bachelor's degree and beyond as a key first step in advancing a student's personal and professional career. (Hurst, 2009). Statistics cited in the documentary *First Generation* suggest that a completed 4-year college degree could return as much as 52 times its initial investment over the life of the graduate (Fenderson & Fenderson, 2011). A study by the Center on Education and the Workforce at Georgetown University (2009) found that the median lifetime earnings for a student earning a bachelor's degree was $2.3 million, $2.7 million for a master's degree, $3.3 million for a doctorate, and $3.6 million for a professional degree. Conversely, a high school graduate can expect $1.3 million and individuals with less than a high school diploma will garner $973,000 during their lifetime. More recently, a 2014 study by Pew Research found that on average graduates between the ages of 25-32 with a bachelor's degree earn 62.5% more than high school graduates ($45,600 to $28,000). Students that select a quantitative major in disciplines such as computer science, engineering, operations, physics, and finance will typically earn 3 to 4 times more than students earning a liberal arts degree (Hershbein & Kearney, 2014). The College Board estimates that the current cost of tuition and fees (room and board is excluded) ranges from $37,640 for a public four-year college to $129,640 for a private four-year college, the financial returns of the college investment can be calculated to be between $1.9 and $6.7 million in lifetime earnings depending on type of university attended (College Board, 2018). Considering the research, there appear to be significant economic benefits for students that persist to complete their college education.

The Cost Barrier

At the same time, one of the more significant barriers for many students to attend college is the cost of attendance. As the tuition at most colleges and universities continues to outpace inflation, students and their families may often find the gap between what they can pay and the total cost of attending college to be out of reach (Goldrick-Rab, 2016; Blumenstyk, 2015; McGee, 2015; Selingo, 2013). From 1980 to 2010 the overall price of higher education increased nearly 600%. This dramatic increase is more than any other major product or service in the country (Craig, 2015). There are numerous reasons for the extraordinary increases: dramatic shifts in state budget funding; increase in social mobility driven consumer focus; the advent of more and more college amenities and services; significant increases in administration and staff to fund the services; and the easy availability of federal funding sources to bridge the payment gap (Gieger, 2015; Blumenstyk, 2015; Labaree, 1997; Moe, 2014; Arum & Roksa, 2011). In many cases, first generation college students are less aware of both the costs of higher education and the options available to fund their education. Ann Hendrick, Executive Director of Get2College, a Mississippi based state-wide not-for-profit that works closely with families, noted that most parents are shocked at the cost of a 4-year education and uniformly have "…no plans, no savings, and no awareness of costs. They just assume that there are extra dollars available…somewhere (Hendrick, 2016)."

One result of the dramatic rise in the cost of attendance is a corresponding significant increase in student debt that has been required to cover the costs of education as well as the living expenses of students as they pursue their degree. The numbers are sobering. The Federal Reserve Bank reports total U.S. student loan debt for the 2017- 2018 academic year to be $1.48 trillion. When spread over 44.2 million borrowers, the average individual loan debt is

approximately $33,400. For Mississippi students, 58% graduate with some debt and the average debt per student is $30,437 (Institute for College Access and Success, 2018). While there is disagreement on the actual average national default rate, the data indicates that defaults have increased sharply (Moe, 2014; Stratford, 2015). A study by the Brookings Institute estimated that 17% of all students who entered college in 2004, and 28% of those who took on student loans defaulted by 2016 (Fain, 2018). Mississippi students, who already come from one of the poorer states in the nation, are ranked at the bottom (50th) for percent of loan default and the 9th worst (43rd) for overall student debt (Bernardo, 2016).

Gaining Access through the FAFSA

The step to become eligible for student grants and loans typically begins during the application process. When a prospective student identifies a college that they would like to attend, they are encouraged to complete the Free Application for Federal Student Aid (FAFSA). Michael Kofoed, a researcher specializing in the study of student debt, calls the FAFSA the gateway to college and the starting point for families to identify which educational option they will select (2017). Beyond securing federal assistance, a completed FAFSA is also often required to receive state, university, and private sponsored scholarships. Functionally, the FAFSA is five pages long with 128 questions that allow the federal government to determine each student's expected family contribution (EFC). In simple terms, the EFC is a summation of family income and savings that represents the government's estimate of how much the student's family unit can contribute toward funding their education (Novak & McKinney, 2011).

Because most college freshmen are claimed as dependents by their parent or guardian, both student and family income as well as assets must be considered. For the assets portion of the EFC to be excluded from consideration, the family unit must have an adjusted gross income of

less than $50,000. The income component of the EFC takes into consideration both the student

and family adjusted gross income after deductions for federal and state taxes paid, a social

security allowance, and an income protection allowance. The income protection allowance is a

function of the total number of family members and the number of college students in the

household. If the student does not qualify for the income only EFC (under $50,000), then the

government further adjusts the EFC for the student's and family's savings and net worth. The

student's net worth is multiplied by 0.20 and the family's discretionary net worth is multiplied by

0.12. The government then sums the contributions from income and assets to arrive at the final

EFC (Kofoed, 2017).

There are numerous concerns about the FAFSA. The most basic is the lack of knowledge

about the instrument and the necessity to complete the FAFSA annually in order to receive

financial assistance to pay for college. Kofoed estimates that the average total financial aid gap

between applicants and non-applicants is $9,741 and that nearly $24 billion in student assistance

are forgone by not completing the FAFSA (2017). Numerous studies have analyzed how not

completing the FAFSA initially, or forgetting to complete the FAFSA each year, has a powerful

and negative impact on a student's persistence to graduation (Bettinger, 2004; Dynarski, 2008;

Singell, 2004; Alon, 2011; Novack & McKinney, 2011). Many simply do not complete the

FAFSA because they do not think they will qualify for aid (Kantrowitz, 2009; Hendrick, 2016).

A 2008 survey conducted on FastWeb.com revealed that 59.3% of non-filers believe they would

not qualify (Kantrowitz, 2009). Ann Hendrick, Executive Director of Get2College, noted that

most families have no idea what financial aid options are available for their income level. During

a personal interview, Hendrick shared a humorous and telling story of a proud Mississippi family

that was certain they would not qualify for assistance as their family income was nearly $42,000

(2016). After completing the FAFSA, it was determined that this family had an EFC of zero and was fully Pell eligible.

Even when students are made aware of the importance of the FAFSA, many will struggle with the complexity. When compared to the Internal Revenue Service's 1040EZ form of one page and 37 questions and the 1040 form of two pages and 118 questions, the FAFSA is longer and more complex. For first-generation students and families from lower socio-economic backgrounds, the daunting task of completing the FAFSA without outside assistance can be terribly intimidating (Bettinger, 2004; Owen & Westlund, 2016). Other challenges faced by students include not having all required documents, parents not filing their income tax returns, previous denial of financial aid, and one spouse or ex-spouse not completing their portion of the document (Page & Castleman, 2016; Kantrowitz, 2009; Kofoed, 2017; Dynarski, 2008; Singell, 2004).

Upon completion of the FAFSA and the determination of the student's EFC, the financial aid office at the college the student is interested in attending will develop a funding package. Typically a student award will include a combination of institutional merit and need-based aid, government grants, subsidized and un-subsidized government loans; private loans and grants, and federal work study in the form of college jobs. The remaining amount that the family must provide is commonly known as the "funding gap." Each family will have to find additional dollars to cover the funding gap or the student may seek additional off-campus work.

Persisting after Enrollment

Even under this difficult to understand financial rubric, most students will finally enroll into classes for their first year of study. Researchers, consultants, and college administrators all desire to better understand how college students persist in college. It is in the best interest of the

student's selected university to retain the student each term until graduation. Braxton notes that the study of student departure has been a topic of interest for nearly 80 years (2000). Researchers such as Tinto, Pascarella, Terenzini, McLendon, Braxton, and Cabrera, among others have written extensively on student persistence and success in order to help colleges improve their student retention practices. It is not surprising that universities invest significant time and resources to understand the drivers of student persistence, considering that 41.9% of first-year students enrolled in 2-year public community colleges and 34.6% of first-year students at four-year public universities depart after their first year of courses (American College Testing Program, 2018).

For the purposes of this study, persistence will be defined as one student re-enrolling at a single institution from their current term to the next until they ultimately graduate. This point is fairly straightforward as a student enrolls in fall term 2018 and persists to spring term 2019. However, student success can be defined in many ways ranging from academic attainment measured by student performance such as grade point average (GPA); acquisition of general education markers (such as certificates and badges); the development of academic and personal competencies (writing and speaking); the development of cognitive skills and intellectual dispositions; occupational attainment; citizenship training; extracurricular performance; and other benchmarks (Braxton, 2008).

Measuring Success: GPA and Credit Hours Completed

As a measure of student success, GPA is a highly identifiable and measurable performance tool that allows administrators to track the continued progress of each student. A student's GPA is calculated by multiplying the academic points received in a course by the course hours earned. All of the academic points earned by a student in a single semester are

summed and divided by the number of hours completed in the semester to arrive at the student's semester GPA.

A student receives a GPA for the semester and also a cumulative GPA for their entire academic effort towards graduation. Once tallied, the GPA serves as perhaps the single most important factor in determining a student's academic progress. An above average GPA will identify a student for academic honors and awards. A substandard GPA will point to potential concerns that the student must address in order to continue (Porter, 2017). The GPA is the key measure that is used by employers to hire students, by honorary and civic organizations for membership, by the university to determine eligibility for extracurricular activities, and by graduate and professional schools to make admission decisions. Beyond a standardized test, which primarily measures raw intelligence, a GPA is often viewed as a measure that combines intelligence with a student's work ethic. There are many highly intelligent students with low GPA's; however, it is roundly recognized that a student with a high GPA is both hard working and intelligent (Lindsay, 2017). Of course the quality of the academic program, the difficulty of the coursework taken, and the overall distribution of grades can increase or decrease the perception of an achieved GPA. Regardless, the GPA remains a highly accepted and comprehensive means of determining academic strengths and weaknesses of a student and a powerful tool for student success.

Once enrolled in college, a student is often required to maintain a minimum grade point average (GPA) and credit hours completed in order to remain eligible for certain grants and scholarships. Both Federal and State governments have developed minimum satisfactory academic progress (SAP) marks for a student to maintain. In order to achieve satisfactory academic progress at Belhaven University, a student must maintain a 2.0 and complete at least

67% of their final registered academic hours. Therefore, a student taking 12 hours must successfully pass 9 hours and maintain an overall GPA of 2.0. In addition to these Belhaven University requirements, the state of Mississippi has mandated that a student must complete a minimum of 15 academic hours. Thus it often happens that a student meets eligibility by Belhaven standards, but may lose state aid due to falling short on the state of Mississippi requirements. Goldrick-Rab (2016) points out that many students that try to juggle financing their college education with loans, grants, scholarships, and part-time jobs are penalized for deciding to take only 12 hours in order to focus on fewer credit hours. Too often the students that need the funds the most are hurt by attempting to balance their school, work, and finances strategically. In short, students fall in to a type of survival trap. In order to better support themselves through college, a student takes few credit hours, but in doing so also deprives themselves of additional financial aid opportunities, adequate study time, enhanced academic support and a more integrated college experience.

Research Focus

This study will examine the relationship of an entering freshman's expected family contribution and first year success as measured by grade point average and credit hours completed at Belhaven University, a regional liberal arts university in Mississippi. The research will examine the relationship between these quantitative measures and the magnitude of any identified correlation.

Moving forward, this manuscript will examine the researcher's positionality that is brought to this problem of practice. The next section will summarize the principles of the Carnegie Project on the Education Doctorate (CPED) and how this study aligns with potential issues of social justice, equity, and ethics. The conceptual framework and literature review

portion of this manuscript will discuss the rationale for this research effort and overview the literature that will underpin the project: financial aid policy in the United States and relevant student success literature concerning freshman grade point average and the number of credit hours attempted. The final section will review the methodology that will be employed to investigate this problem of practice.

PERSONAL AND PROFESSIONAL POSITIONALITY

In constructing my positionality, I have considered my background, professional practice, and future plans. I am humbled to consider that who I am as a husband, father, friend, and administrator are all impacted from the environment from which I have evolved.

Background

I was born in 1962 in Memphis, Tennessee, making me one of the last children of the baby-boom generation. Middle-class Caucasian parents adopted me in January of 1963. I also have an adopted brother who is three years younger than me. My father was an independent optometrist and my mother was a homemaker for the majority of my youth. My family lived in a comfortable suburb of East Memphis called Fox Meadows that displayed all the vestiges of middle-class America: new construction ranch homes, sidewalks, a neighborhood school and a community park. I had little to no exposure to anyone who looked different than me, other than Janice, the African-American lady who came to help my mother clean the house every other week.

I will always remember the day in April 1968 when my father came home early and told my brother and me that we were not to go out of the house for the next several days. We were not even allowed to play in the backyard. I was confused and did not understand why. My mother explained that it was because a famous black man had been killed who was trying to help the garbage collectors in Memphis. She told me that many people were very angry about the senseless murder and that we needed to remain in the house. I recall not understanding why

someone would hurt another person. I truly did not see race at that time. I also had no idea who Dr. Martin Luther King, Jr. was, little less the significance of his assassination.

To the best of their ability, my parents tried to teach us that all people were created by a loving God and should be treated the same. It was only a few months later that I remember hearing neighborhood children and their parents using the n-word to describe people of color. Not knowing better, I mimicked my friend's language at home that night. Shortly after my hurtful words were uttered, I received one of only three weeping willow switch spankings during my lifetime. Message understood, loud and clear.

In today's terms, I was clearly raised in an environment of privilege compared to many in my hometown. Far from wealthy, but never wanting for any material good, I was greatly blessed by my parents who made many personal sacrifices for my brother and me. As a college-level basketball athlete, my only interaction with African-Americans was either in high school competitions or when playing on summer Amateur Athletic Union basketball teams. My perspectives changed when I arrived as a freshman on an athletic scholarship at Ole Miss in 1981. I lived in a residence hall wing with eight white and eight black athletes. Living in Vaught Hall, then an all-male full-service athletic residence and cafeteria, was an eye-opening experience where I actually began to have deep and meaningful conversations with students that had dramatically different backgrounds from me.

Educationally, I had always attended private schools from kindergarten through 12th grade. Even with a neighborhood school steps away from our home and before court-ordered busing, my mother was convinced that attending a small Christian school would be better for us. I later learned that part of the reason stemmed from the fact that my adopted brother was diagnosed to have numerous learning challenges, so rather than have us attend different schools,

we were enrolled in a small private school in order to receive more attention from the teachers. Whatever the reason, I was happy at Christ the King Lutheran School. Shortly after my ninth grade year, I realized that the athletic competition at my school was well below my athletic talent level, so I asked my father if I could find another school that had a strong basketball program. I visited numerous high schools, but wound up selecting Memphis University School (MUS), an all boys college preparatory school. While I was fully aware that MUS was considered a school for the wealthy, I had no idea what the cost difference was compared to other schools in the area. Nor did I have any idea what sacrifices my parents made to allow me to attend. I only knew that MUS's basketball program and coach were the best in the city for a blossoming white athlete. The move paid off for me as I received an athletic scholarship to attend The University of Mississippi, and along the way received a tremendous college preparatory education. The academic rigor and instruction I received at MUS prepared me well for college. With minimal effort, I was able to graduate with honors in four years.

My first realization of the sacrifices made by my parents came as I was transferring from Ole Miss to Millsaps College in January 1982. While I enjoyed my time at Ole Miss, there was a coaching change between my freshmen and sophomore years. Further, I severely strained my knee ligaments in fall practice and it became clear to me that if I wanted to continue to play basketball in college, I would need to move to a less competitive environment than the Southeastern Conference. When I enrolled at Millsaps, a Division III non-athletic aid school, I asked my father how we would pay the tuition balance of $5,000. He calmly told that he would just add the balance to his second mortgage loan that he had used to fund my education at MUS. I remember being totally surprised and humbled. I told him that I would pay the balance going forward if he would co-sign on a subsidized Stafford loan. Looking back, I now realize just how

blessed I was. The fact that my father was able to secure a home equity loan, gave me access to an exemplary education and exposure to well-networked individuals that have benefited me in countless ways. I had access and benefits that placed me in a small minority in this country.

Professional Practice

The benefits that I have reaped by way of my education and the birth of my children are largely responsible for why I shifted my vocation from the private business sector to work in education twenty-five years ago. First, I have personally seen the advantages of education in my life. I experienced all three of Labaree's (1997) educational roles: the benefits of a broad liberal education for better citizenship, the vocational training that positioned me to contribute at leadership levels, and the upwardly mobile personal, social, and educational credentials that have allowed me to pass on these benefits to both of my children. In my role as Vice President for Enrollment and Marketing at Belhaven University, I am able to impact and encourage educational access for dual enrolled high school students, traditional-aged college students, adult learners, and graduate students. Further, I not only have a passion for education in general, but also for the Christian mission that drives the ethos of Belhaven University. As a person of faith, I view my work as a calling, not just a job.

During my tenure in education, I have witnessed students abusing debt to excess in ways that I know will adversely impact them for many years. I often struggle with the fact that the margin of error for many of the families that enroll at Belhaven University is very small, and thus I have become a strong advocate for dramatically enhanced retention and support programs for entering students. I do not want to see any students drop out due to lack of support, counsel, or advising. The courses, dialogue and interactions of the doctoral program in education at the University of Mississippi have greatly enhanced my understanding and appreciation for the

challenges and marginalization that first-generation and lower socio-economic families encounter. I will forever be better because of this program. I selected this dissertation topic for the simple fact that I want to more completely understand the impact that family income has on Belhaven's own students as they persist.

From a bias and assumptions perspective, I identify as a moderate conservative. I would say that I am a moderate on most social issues, but lean slightly right of center fiscally. I am a strong advocate for instilling personal pride and responsibility into all, but I am also very mindful and understanding of the disadvantages and hurdles that many people inherit at no fault of their own. I believe strongly in giving all who need it a hand up, so long as it does not become a terminal hand out. Politically, I find myself as one who would like to see more cooperation across party lines versus the steady flow of wedge issues that both parties employ to maintain their base of power. A student of history, I also believe that the personal rhetoric and divisiveness we now see is different, but perhaps no worse than in the 19th and 20th centuries. It is merely accessible so much faster that it allows people to be righteously indignant all the time. I believe that unbiased journalism does not exist. That is why I regularly read both CNN and Fox News and split the reports down the middle to draw my own conclusions.

As I begin this study, I believe there will be a correlation between family income as measured by expected family contribution (EFC) and student success as measured by grade point average. I am most interested in the magnitude of the relationship and the variance across the EFC spectrum. I am also very interested to understand what, if any, relationships exist between completed credit hours based on expected family contribution. Because of my senior level position at the University, I have sought the approval of the President, the University Cabinet, and the Institutional Research Department for my project. All data will be aligned with

anonymous student identification numbers and I will not be in contact with or aware of the identities of individual students.

Future Plans

I do not have a clear sense of what my future career moves will be. However, in a spiritual sense, I have no doubt that I am being prepared for a new or expanded role. Since I began this doctorate, my responsibilities at Belhaven University have been dramatically increased. I am now responsible for 98% of the tuition revenue generated for the university. While this responsibility was not expected three years ago, as I applied for admission to the doctoral program in February of 2016, I had a strong sense that I needed to prepare myself for new unknown roles. I do not know if my current assignment will be my last stop or a stepping-stone to a new chapter, but I am extremely humbled and excited about the journey I am traveling. My doctoral study has rekindled my passion for learning and has challenged me to more critically examine the impact I can make.

CARNEGIE PROJECT ON THE EDUCATION DOCTORATE

The Carnegie Project on the Education Doctorate (CPED) is a consortium of over 100 colleges and universities that have developed their professional doctorate in education programs around the questions of equity, ethics, and social justice (CPED, 2018). The problem of practice that I have selected for my dissertation is a persistent and specific issue that is embedded in my work at Belhaven University as we seek to assist all students, but in particular first generation, and often lower socioeconomic status students. As we endeavor to provide improved access, facilitate student persistence, and strategically assist our first-time students, we are constantly searching for handles that will allow us to develop programs of support and assistance. It is my hope that this study will have direct implications to provide insights to further assist first-generation students and students of color at Belhaven University. This study will consider the relationship between a student's expected family contribution and the resulting grade point average and successful completion of credit hours towards graduation. I hope to learn if current expected family contribution could serve as an indicator of future success as well as the appropriate beginning course load.

CONCEPTUAL FRAMEWORK

At its core, the conceptual framework of this dissertation is guided by the research of student success and persistence literature. In this research, student success is measured by a student's grade point average and credit hours completed. These two factors are strong determinants of how a student will be able to academically progress through their collegiate experience.

Student Persistence and Success

In the current economic climate, the importance of student persistence to allow colleges and universities to sustain their financial viability has never been more important. Unmonitored student departure from a university can completely destabilize the institutional budget, long-term enrollment plans, and public perceptions of quality (Braxton, Doyle, Hartley, Hirschy, Jones, & McLendon, 2014). From a student perspective, whenever a student does not persist in their academic studies, the chance that they will not return to complete their degree dramatically increases. Further, the former student will have a more difficult time paying off their student loan due to the typically lower wages they will earn without a bachelors degree (Lee & Mueller, 2014). Student persistence is in the best interest of both the student and the university.

Vincent Tinto is considered one of the foremost expert researchers on the topic of understanding student departure. His research has been cited more than any other scholar in the world (Braxton, Hirschy, & McClendon, 2004). Tinto is an advocate that colleges and universities should study and implement actions that will improve student persistence to

graduation. Only with a coherent framework for institutional action will universities be able to reduce student departure (Tinto, 2012). Tinto discusses four key conditions for student success that must be present: high expectations of student success; critical academic support during the first-year of enrollment; frequent assessment and feedback that allow behavioral adjustment; and academic and social involvement (Tinto, 2012). While Tinto's theory is almost exclusively focused on residential college students, Braxton, Hirschy, and McClendon also promote that colleges and universities should develop dual strategies for residential and commuter students as they note that commuter students experience a different set of issues around family, work, college, and finances (2014). This assertion is true for an institution like Belhaven University where the traditional population is equally split between residential and commuter populations. Regardless of the housing situation of the student, first time enrolled students are highly vulnerable to departure during the first year as 41.9% of first-year students enrolled in community colleges and 34.6% of first-year students at four-year colleges and universities depart after their first year (American College Testing Program, 2018). Many scholars including Mortenson (2005), Tinto (1987; 2012), and Braxton, et. al (2004; 2014) all point to the strategic development of first- to second-year retention efforts and challenge colleges and universities to institute targeted initiatives based on internal research and best practices.

Habley, Bloom, and Robbins (2012) offer institutions a framework to consider student persistence based on four key perspectives: economic, organizational, psychological, and sociological. The economic perspective is based on the fact that the costs of attending a college or university coupled with a student or family's ability to pay has a significant influence on persistence and student success and is found in the work of St. John, Cabrera, Nora, and Asker (2000), Cabrera, Nora, and Castaneda (1993), Cabrera, Stampen, and Hansen (1990), and St.

John (1994). The economic perspective is closely aligned with the focus of this research. The

organizational structure (Berger and Braxton, 1998; Tinto, 1987) is represented by the actions

and policies of administrators, faculty, and staff that have a direct impact on student persistence.

The psychological perspective emphasizes the characteristics and processes that distinguish

between persistence and departure and are targeted down to the individual student and college

level (Baird, 2000). Characteristics could include academic aptitude, motivational states,

personality traits, and student development theories. Finally the sociological perspective stresses

the significant influence that a university's social structure and forces may have on student

persistence (Braxton, 2000; Tinto 1986).

Grade Point Average as a Measure

The grade point average (GPA) is a highly measurable performance tool that allows

students and administrators to track academic progress as the student persists through college.

As a student transitions from high school to college, the high school GPA has proven to be

highly predictive of future college performance (Belfield & Crosta, 2012). A student's GPA is

simply calculated by dividing the total amount of grade points earned by the total amount of

credit hours attempted. A student receives a GPA for the semester and also a cumulative GPA

for their entire academic effort towards graduation. Once tallied, the GPA serves as perhaps the

single most important factor in determining a student's academic progress. The GPA is the key

measure that is used by employers to hire students, by honorary and civic organizations for

membership, by the university to determine eligibility for extracurricular activities, and for

acceptance into graduate and professional schools (Lindsay, 2017). The quality of the academic

program, the difficulty of the coursework taken, and the overall distribution of grades can

increase or decrease the perception of an achieved GPA. Nonetheless, the GPA remains a highly

accepted and comprehensive means of determining academic strengths and weaknesses of a student and a powerful tool for student success.

The efficacy of college GPA as a predictor of persistence and student success has been supported in numerous research studies including Stewart, Lim, & Kim (2015) and Cabrera, Nora, & Castaneda (1993). These findings indicate first year GPA was a direct predictor of continued success. Further, students who were academically prepared to take college level work were more likely to persist than those that were placed in mandatory remedial coursework. Each study also suggests that a variety of college support services such as tutoring, mentoring, counseling, early intervention systems, and adequate financial aid assistance will improve academic deficiencies and increase persistence beyond the first year.

Credit Hours Completed

In order to graduate from a college or university, a student must typically accrue between 120 – 130 academic credit hours. After much debate with college and university lobbying associations, the federal government currently defines a college credit hour as:

1. One hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately fifteen weeks for one semester or trimester credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or

2. At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours (National Association of Independent Colleges and Universities, 2018).

A full-time student will take between 12 – 18 hours of course work each semester. With at least 120 credit hours required to achieve a bachelor's degree, in order to graduate on time, there is a growing movement to encourage students to take at least 15 credit hours per semester. Complete College America (CCA), an independent non-profit association that rallies states and municipalities to adopt a focus of challenging students to continually "Take 15" in order to graduate has developed convincing rationale for their proposition. With 39 state partners to date, CCA's research indicates that only 19% of college students graduate in four years. Worse, only 5% of students that begin at a community college complete their associate's degree in two years (CCA, 2018). CCA estimates that more than 31 million Americans have some college, but have not completed a degree and are not actively enrolled in college (2018). In Mississippi, 127,000 students are estimated to be within a few hours of graduation and 32,000 students may have already completed a degree by hours, but have not received a diploma (Complete 2 Compete, 2018). CCA has identified that too many students are enrolled in less than fifteen hours during their first year, often at the recommendation of a counselor that advises the student to ease into their college work (2018). Students are often unclear about which courses to take and do not realize that the remedial courses necessary for them to grasp college concepts do not count towards their graduation credits. CCA's program includes "Momentum Pathways" that provide support and guidance for students to stay on track by assuring they receive clear and simple semester-by-semester plans to provide a path to on-time graduation (CCA, 2018).

In addition to Complete College America, other studies have added to the growing chorus to encourage students to take a minimum of 15 hours per semester. A Columbia University Study conducted by Belfield, Jenkins, and Lahr (2016) illustrated that there were positive economic impacts on both credit and degree completion by holding to the minimum 15-hour

target. The 15-hour target benefited the students as they not only graduated on time, but also allowed them to pay between 4-14% less per credit and between 9-19% less for their entire degree in tuition and fees. The savings for the students actually allowed the colleges and universities to produce additional revenue as students continue to persist (Belfield, et. al., 2016). The Columbia study was based on information provided from the Tennessee Board of Regents and further reinforced that when students fail to take a sufficient number of credits, it negatively affects their momentum to obtain a degree.

EAB, an enrollment, student services, and educational research company, conducted research with 137 partner schools in their Student Success Collaboration Group to determine if students actually benefited from taking 15 credit hours per term in their freshman year. The firm studied over 1.3 million first-time freshmen and compared outcomes for students that took between 12-14 credits per term across their freshmen year to those averaging 15 or more credits. The EAB study revealed several interesting results including that students who average 15+ credits across their first year ended with higher GPA's and higher retention rates than peers taking fewer credits. The 15+ credit hour student's GPA was 0.36 grade points higher at 3.04 versus 2.68 and their retention rate was nine percentage points higher at 90% versus 81%. The study showed that the hours benefited all students regardless of entering academic ability. Economically, students from lower socioeconomic backgrounds that often need to work to remain in school also performed better. The study revealed that Pell students who took 15+ credits were seven percentage points more likely to persist and had an end-of-year GPA that was 0.12 points higher than their Pell recipient peers who averaged only 12-14 credits per term in the first year. Finally, the study revealed that the 15+ credit hour students continued to average 15.9 credits per term through the remainder of their college studies while the 12-14 credit hour

students averaged only 13.5 credits per term and nearly one in six students who start with 12-14 credits will never take a 15+ credit load (Venit, 2017). Based on this study, it appears that once a student gets in the habit of taking 15+ or 12-14 credit hours in their first year, they will stick with their first year decision through out their college journey.

Not everyone agrees with the enthusiasm to push students towards taking 15+ credit hours per term. Karen Gross, former President at Southern Vermont College, specifically questions the EAB study on the basis of the detail that was released along with the results. Gross is concerned that there are many other causes at play in the EAB study and specifically would like to know more about the 137 institutions and the general characteristics of the students within the institutions. She also points out that students taking only 12 hours can see benefits as they adjust to being away from home or simply joining an unstructured academic environment, much different from high school (Gross, 2017).

While University of Wisconsin professor Sara Goldrick-Rab sees the effort to assure student graduation as laudable, she argues that the risk to lower income students remains significant if they increase their credit load and then fail to make satisfactory progress to retain their grants and scholarships. "Research clearly indicates that giving students more grant aid will help them complete degrees at higher rates. The money is necessary," she writes. "But what will happen if it comes at an additional price associated with being pushed to take more credits than they otherwise would have? Is this positive motivation, or a punitive approach driven by political requirements to ration financial aid" (Goldrick-Rab, 2016, Jan 19)? Karen Stout, the president and CEO of Achieving the Dream and former president of Montgomery County Community College, in Pennsylvania commented that "…the prospect that Congress would at some point try to make a 15-credit course load some form of minimum requirement for Pell Grants or other

types of federal aid would be a mistake and would penalize students struggling to manage school and work" (Fain, 2016). While there are salient points on both sides of this discussion, the math is simple. In order to achieve 120 credit hours, a student must take a minimum of 15 credits per semester to graduate in four years, unless they plan to take summer school each year.

ADDITIONAL LITERATURE REVIEW

This section will present relevant literature and research beyond the works cited in the conceptual framework section. Specifically, an overview of the history of higher education in the United States will be followed by discussion of expected family contribution and conclude with the concept of satisfactory academic progress.

Development of Higher Education in the United States

To more fully understand how higher education has evolved since the founding of our country, the 1997 research and discussion by David Labaree can be extremely helpful. In his article *Public Goods, Private Goods: The American Struggle Over Educational Goals,* Labaree posits that three educational goals have been at the core of the educational development and conflicts over the years: democratic equality, social efficiency, and social mobility. In simplest terms, the democratic equality goal promotes that colleges should focus on preparing a strong citizenry; the social efficiency goal would have the focus on preparing workers to take slotted positions within the workplace to best benefit the taxpayers; and the social mobility focus is targeted towards preparing individual student consumers to compete for increased social position and professional status (Labaree, 1997).

Democratic equality as citizen training. Looking more deeply at the democratic equality lens, this goal promotes the educational benefits to society of citizenship training, equal treatment, and equal access. Horace Mann noted in 1848, "Woe to the republic that rests upon no better foundations than ignorance, selfishness, and passion" (1957, p. 92). Mann's challenge to

educators was that an educated citizenry would be necessary for all members of society to play an important role in the shaping and preservation of our country. The hope among supporters of democratic equality was that this goal could counteract the self-centered focus of a rapidly growing capitalist economy by instilling in students a strong dedication to the public good (Kaestle, 1983; Cremin, 1980).

The landmark movements in pursuit of greater educational access, equity, and equality all originate from this educational goal. As it relates to the home of Belhaven University, perhaps in no state of the union is there a greater need for "education of the citizenry" than in the state of Mississippi. In many of the categories that individual states are measured in education, the state of Mississippi struggles. Mississippi is at or near the bottom in school funding (47th); math scores (49th); English scores (46th); reading scores (49th); average ACT score (49th); and average salary for teachers (50th) (American College Testing Program, 2017; National Education Association, 2018). Under democratic equality's pursuit of equal treatment, a more educated citizen would also have a stronger appreciation and sensitivity to place and culture that would further promote enhanced membership within each community. While the entire country and the state of Mississippi has made great strides in securing equal educational experiences for all people regardless of race, ethnicity, and gender, there is still much improvement to be made. Increased access will enhance a student's critical thinking skills, and ultimately prepare them to capture opportunities that occur in the course of business. As noted by Stewart and Colquitt (2015), enhanced critical thinking skills will encourage the statesman, plumber, or auto technician to not just complete their task, but to consider the underlying factors that can lead to the root causes of the issues that these professionals face on a daily basis.

Social efficiency to create a more productive workforce. The goal of social efficiency is to prepare students to become productive members of the workforce and thus expand the human resource capital in the economy. Democratic equality and social efficiency exert opposite pressures on the American higher education system as the former moves towards greater equality and the later towards increased stratification. Social efficiency exposes the simple reality that no matter what students learn in their college education, they will eventually depart school and enter the workforce. An adequate education system provides future workers with skills that will enhance their ability to work and therefore promote economic growth. Accordingly, education should be supported not just for moral improvement, but because it makes good economic sense. Given that the state of Mississippi spends 35% of its annual budget on education, it is not unreasonable to expect that a well-prepared and educated workforce would be the desired outcome for a $7.17 billion investment (National Association of State Budget Officers, 2018). A recent study by Mississippi State University on the impact of the Nissan plant in Canton, Mississippi demonstrates how an expanding and well-prepared workforce improves the overall well being of all Mississippians. Since opening in 2003, the Nissan partnership has directly created over 6,000 skilled jobs and an additional 2.9 jobs for every job at Nissan. In 2016 alone, the partnership generated over $300 million in state and local revenue, $2.6 billion in disposable personal income, $2.9 billion in annual state gross domestic product, and a $2,673 increase in local family income (Mississippi State University Report, 2016). While these results are specific to the Nissan-Mississippi partnership, they represent the connectivity that statewide investment in a trained workforce makes on the good of the whole.

Both the democratic equality and social efficiency goals have at their heart a focus on education as a public good. Democratic equality posits that an educated citizenry will ultimately

lead to a superior quality of life where the rights, responsibilities, and respect of others is highly valued within each member's own community. The social efficiency goal gains strength when the use of scarce tax payer dollars are maximized to assure the the educational system prepares students to take their rightful place in a working economy based on the level of their vocational skill attainment.

The social mobility driver. The third educational goal is generally agreed to be the most dominant philosophy in today's educational perspective: social mobility. In its purest form, social mobility views education as a private good that has as its primary purpose to deliver the student consumer a credential that will give the graduate a competitive advantage in their work and social sphere.

Social mobility represents a significant departure from the public collective good of both democratic equality (create good citizens) and social efficiency (support workforce and taxpayer needs) in that it focuses strictly on the private needs of the individual. Numerous studies, books, articles, and documentaries have dialogued the rapid growth and domination in the social mobility perspective in higher education including Arum and Roksa's (2011) landmark findings in *Academically Adrift*, Selingo's C*ollege (Un)bound* (2013), Craig's *College Disrupted* (2015), documentaries *Declining by Degrees* by Hersh and Merrow (2005), and *Ivory Tower* by Rossi (2014), and Saichaie and Morphew's (2014) study on college marketing messages. All of these works speak of the increased consumerism brought on by the social mobility goal that is pervasive in higher education today. A focus on student outcomes and jobs, enhanced services on campus, attentive staff and counselors, endless opportunities for activities and entertainment, college rankings, lifestyle learning, and most importantly a credential at the end of the college experience are the hallmarks of a consumer (student) driven private good. The private good

mentality would dictate that what is learned is less important than earning a credential that helps the graduate excel.

One of the more attractive perspectives about the social mobility lens is that it proclaims hope for all, but in particular lower income first-generation students, many of who come from marginalized groups of racial and ethnic minorities. For most marginalized groups, the college degree is often viewed as a means to uplift the family or community (Stewart & Colquitt, 2015). As vividly seen in the documentary *First Generation* each of the students that persisted to graduation saw younger siblings also attend college (Arnold & Barrett, 2015). The positive and extended effect of first-generation students impacting the future trajectories of the family is confirmed in research by Jaeger (2012), who found similarities in educational success by siblings and first cousins.

Changing role of higher education. Throughout the history of the United States, each of the three educational goals of democratic equality, social efficiency, and social mobility have moved in and out of political favor. In the mid-19th century, democratic equality ushered in the notion of common school to provide at least a basic education for children in order to preserve the commonwealth of our country. Towards the end of the century, both social mobility and social efficiency drove a desire for getting ahead in education through a consumer demand for differentiating credentials and a growing concern about how to provide vocational training for the growing number of heterogeneous students entering an increasingly stratified workforce. Thus in the early 20th century, school curriculum became more focused on tracking results through ability testing, vocational training for the masses, and expansion of educational opportunities beyond the common school towards a comprehensive high school education (Tyack, 1974).

Prior to the end of World War II in 1945, college was viewed as a luxury good as only 4.6% of all Americans over the age of 25 had completed a bachelor's degree. This outcome was not surprising given the social efficiency needs of a manufacturing and agricultural economy that was more dependent on physical human capital (McGee, 2015). A social mobility and social efficiency focus drove the Servicemen's Readjustment Act (or GI Bill) of 1944 that paved the way for dramatically expanded access for male military veterans returning from the war. By the mid-1960's, half of all high school graduates in the country were enrolled in college (National Center for Education Statistics, 2011). However, in 1965, the tide turned again towards democratic equality in conjunction with a strong sense of social mobility to provide socially inclusive education and equal opportunity across class, gender, and racial lines. The Higher Education Act of 1965 created Title IV funding which dramatically expanded opportunity for Americans by providing new grants and financing options for obtaining a college education that revolutionized access to higher education in ways never seen before (Labaree, 1997; McGee, 2015; Gieger 2015; Goldrick-Rab, 2016).

As our country has evolved educationally, each of the three roles has dominated and comingled with the other. However, it is the steady evolutionary development and emerging dominance of the social mobility goal and the pervasive desire for a marketable credential that has shaped the way that the public views education today. Beginning in 1980, the shift in federal and state policies to move financial support for higher education from institutions to the individual has fostered an era of educational consumerism that has led to the near domination of the social mobility view of education and the permanent shift in perception of education as a private good instead of a public good (Arum & Roksa, 2011; Labaree 1997; Gieger 2015; Goldrick-Rab, 2016). In *Paying the Price* (2016), Sara Goldrick-Rab passionately details that

the decline in state support for higher education triggered an escalation in university tuition that was fueled by abundant federal financial support. Goldrick-Rab notes that state support has steadily fallen from $10.18 per $1,000 of state personal income in 1981 to less than $5 per $1,000 today (2016). All the while, colleges and universities have been able to increase tuition at rates significantly greater than inflation to not only cover costs, but also provide an array of consumer based amenities to attract additional student consumers and satisfy the desires of doting parents (Arum & Roksa, 2011; Selingo, 2013).

The Role and Challenges of Expected Family Contribution

This study will consider a college student's ability to pay for their higher education degree through a government-developed algorithm called expected family contribution (EFC). The EFC is a universal measure of a student and their family's ability to contribute towards paying for a college degree. The data point that is generated through the completion of the Free Application for Student Financial Aid (FAFSA) is the same regardless of which college or university the student applies to enroll.

One of the consistent questions for a student to enroll in college is the answer to the question, "how will I afford it?" According to the College Board, the average total cost of tuition, room, and fees at a four-year college or university ranges from $20,770 for an in-state public university to $46,950 at a not-for-profit private institution (2017). The costs of a college degree has steadily risen over the years more than any other service or good offered in the United States except for health care. From 1980 – 2014, the United States Department of Education reports that the indexed cost of a college degree has soared 260% compared to only 120% for the cost of living of all other consumer goods (Jackson, 2015). One of the aspects of rising college tuition costs that leaves economists and the public scratching their heads is that higher education

is an industry where the overall number of students is falling, the supply of educational providers is rising and yet the costs continue to rise. All the while, family income is flat or declining (McGee 2015). Many believe that the relatively easy access to government loans with no collateral required is the fuel that allows colleges and universities to continually increase their charges (Blumenstyk, 2015; Craig, 2015; Parker, 2013).

As personal family incomes continue to struggle and savings are limited, universities can cover the tuition increases either by greater family personal contributions, increasing student loan consumption, or increasing institutional funding (Carring, 2018). The increase in funding to colleges is not coming from parents as a 2018 survey revealed that the average family has less than $10,000 in funds to cover college costs. The research found that 44% of parents feel guilty they have not saved for their children and that 37% are planning to draw from their retirement savings to pay a portion of college costs if necessary (Carring, 2018). The loan service provider SallieMae, found that while 86% parents planned for the children to attend college, barely 35% had made any plans to help their children pay for it (SallieMae, 2017).

If not from parents, where are the funds coming from? Based on College Board statistics, it appears the greatest growth in student aid support is coming from colleges and universities themselves. In the last five years leading to the 2016-2017 academic year, colleges and universities have increased their aid to students by 32%, with total funds jumping from $44 billion in 2012 to $59 billion in 2017 (College Board, 2017). Undergraduate students gobbled up federal student loans from 2006 – 2011 at in increase of 61% with total federal borrowing soaring from $72.3 billion to over $114 billion. Borrowing has actually dropped 16.8% from 2012 to 2017 to $94.8 billion (College Board, 2017). In his 2015 book titled *Breakpoint: The*

Changing Marketplace for Higher Education, Jon McGee clearly points out the growing paradox

faced by the continual and consistent increase in college tuition:

> All college and universities ultimately are subject to the following equation: when the
>
> price of college rises faster than family income or ability to pay, someone who had been
>
> able to pay without assistance before the increase now requires assistance and someone
>
> who had not been able to pay prior to the increase requires even greater assistance than
>
> before. The math and logic are quite simple and straightforward. And, unfortunately,
>
> often very costly to both families and institutions (McGee, 2015, pp. 90).

After a prospective student identifies colleges and universities that they would like to

attend, they are encouraged to complete the Free Application for Federal Student Aid or FAFSA.

The FAFSA and the resulting expected family contribution or EFC are the lynchpins to

determining how a student will ultimately pay for college. In addition to federal assistance, most

all other forms of student aid will require a student to complete a FAFSA. Functionally, the

FAFSA is five pages long with 128 questions that allow the federal government to determine each

student's expected family contribution (EFC). The EFC is a summation of family income and

savings and represents the government's estimate of how much the student or student's family

can contribute to the student's education (Novak & McKinney, 2011). Most college freshmen are

claimed as dependents and thus parent or guardian income and assets are included. In order to be

excluded from consideration for the assets portion of the EFC, the family must have an adjusted

gross income of less than $50,000. The income component of the EFC takes into consideration

both the student and family adjusted gross income and deducts federal and state taxes paid, social

security allowance, and an income protection allowance. The income protection allowance is a

function of the total number of family members and the number of college students in the

household. If the student does not qualify for the income only EFC (under $50,000), then the government further adjusts the EFC for the student's and family's savings and net worth. The student's net worth is multiplied by 0.20 and the family's discretionary net worth is multiplied by 0.12. The government then sums the contributions from income and assets to arrive at the final EFC (Kofoed, 2017).

General awareness, complexity, and accuracy are most often cited among the numerous concerns about the FAFSA. One of the more significant problems is getting students to complete the FAFSA. A 2014 study by the National College Access Network (NCAN) reveals that only 44% of high school students complete the FAFSA. Considering that the average total financial aid gap between applicants and non-applicants is $9,741 and that nearly $24 billion in student assistance are forgone by not completing the FAFSA, the awareness problem is an alarming issue (Kofoed, 2017). Numerous studies have analyzed how not completing the FAFSA initially, or forgetting to compete the FAFSA each year has a powerful and negative impact on a student's persistence to graduation (Bettinger, 2004; Dynarski, 2008; Singell, 2004; Alon, 2011; Novack & McKinney, 2011). Many families simply do not complete the FAFSA because they do not think they will qualify for aid (Kantrowitz, 2009; Hendrick, 2016).

Once students are made aware of the importance of the FAFSA, many struggle with the complexity. At five pages and 128 questions, the FAFSA is longer than both the Internal Revenue Service's 1040EZ form of one page and 37 questions and the 1040 form of two pages and 118 questions. Especially with first-generation students and families from lower socio-economic backgrounds, the daunting task of completing the FAFSA without outside assistance can be terribly intimidating (Bettinger, 2004; Owen & Westlund, 2016). Other challenges faced by students include not having all required documents, parents not filing their income tax returns,

previous denial of financial aid, and one spouse or ex-spouse not completing their portion of the document (Page & Castleman, 2016; Kantrowitz, 2009; Kofoed, 2017; Dynarski, 2008; Singell, 2004).

The third major issue with the FAFSA and the resulting expected family contribution (EFC) is perceived accuracy. In general, the federal government expects families to contribute 22 cents on each dollar earned above a fairly modest standard of living budget. For wealthier families, the contribution jumps to as high as 47 cents (Clark, 2010). Justin Draeger of the National Association of Student Financial Aid Administrators notes that the formula breaks down when geographical cost of living, health care costs, food, and transportation expenses are considered (Clark, 2010). The EFC that most families receive is a shocking reminder of the significant costs to enroll in four-year college. Despite trying to develop a universal measure of ability to pay, the EFC amount can rarely be covered by most students and forces the student to think outside of their comfort zone towards loans, work-study, or extra work to cover costs (Randolph, 2017). Goldrick-Rab calls the FAFSA and EFC calculation "a small American bureaucratic tragedy" in that the stakes are quite high. An overstatement of assets or income can mean that a student will not receive the aid they are entitled to receive, while an understatement of assets or income could lead to a charge of fraud (2016). Given the complexity of the FAFSA mistakes are common and often costly.

Despite the issues with the EFC generated from the FAFSA, there are positives about the measure that give a strong rationale for its continued use. The EFC determined by the FAFSA does set a uniform standard for all and creates a consistent analysis of family income. The EFC provides a clear starting point for colleges and universities to determine an objective responsibility for each party (Sheehy, 2016). Further, the EFC amount is transportable to every

college or university that a student is considering and thus offers a leveling effect to help the student determine the strength and detail of each college's offer of financial aid (O'Shaughnessy, 2016; Alon, 2007). The EFC also gives the university admission and financial aid officers vital information that allows them to complete a competitive offer of financial aid that will give the student a road map for their ability to finance their college enrollment. Both admission and financial aid professionals are typically called "counselors" in that a significant portion of their jobs is explaining to students and families the options available to help the student enroll in college. The EFC opens up a comprehensive discussion that otherwise might not happen, or at least would occur awkwardly (National College Access Network, 2016). Regardless of the final college a student selects, the dialogue and interaction that they receive from different institutions can be extremely instructive (Sheehy, 2016; Alon, 2007; Bettinger, 2004). At Belhaven University an average of 92% of entering freshmen complete the FAFSA. This rate is more than double the national rate of 44% and indicates the significant emphasis that the university places on encouraging students and families to complete the FAFSA (Braswell, 2018).

In fundamental terms, the EFC is the initial notification and sorting of students by family wealth that is often an indicator of student success. Goldrick-Rab candidly states "children of wealthy families are still most likely to complete college, followed by students from middle-income families. Students from low-income families are the least likely to graduate" (2016, p. 14). Pascarella and Terenzini (2005) note that a complex web of interrelated factors mediates the influence of aid on student enrollment persistence: including the timing, type, and amount of aid and how they correlate with persistence in the presence of other student attributes. In spite of voluminous research on student success through the years, Herzog believes that enrollment

retention models need to focus more insight to evaluate the impact of financial aid on student persistence (Herzog, 2007).

It is logical that student family resources could be an important part of student persistence as they provide a pointed reminder of the significance of the tuition investment. A multi-year study examining the relationship of EFC to student retention confirmed that low-income students as defined by EFC persisted at lower rates than the freshman cohort average, middle income students persisted at the average, and upper income students persisted well above the average (Colorado State, 2016). The Colorado State study found that increasing institutional aid for lower-income students had a direct impact on improving retention.

A similar study by the Maryland Higher Education Commission (2007) found that the amount of non-loan aid had a significant impact on retention for low-income and moderate-income EFC students but had no discernable impact in the retention of high EFC students. Herzog found similar results in EFC and persistence in his study at the University of Nevada-Reno, but recommended that additional academic assistance and mentoring during the freshman and sophomore years would have a more dramatic impact on persistence than expanded aid (2007). Herzog's findings further indicated that the middle band of students that are just outside the zero EFC range are the most at-risk group as their income places them just beyond receiving need-based grants that would facilitate their long-term ability to pay. A 2010 study by Boise State University found that as EFC declines, the gap in unmet need continues to increase as lower income students have few resources to cover the remaining unmet expenses (Belcheir, 2012). The study also found that the unmet need for higher income students was less because these students tended to receive significant merit aid based on their academic performance.

The Concept of Satisfactory Academic Progress

The convergence of the attempted hours that a student takes and the end of term grade point average is a statistic called the satisfactory academic progress or SAP. Both Federal and State governments have developed minimum SAP marks for a student to maintain in order to remain eligible for aid and in good academic standing. The Federal Government requires that a student make satisfactory progress at the school they attend and allows each participating school to set their standards. At Belhaven University, a student must maintain a 2.0 and complete at least 67% of their final registered academic hours. Therefore, a student taking 12 hours must successfully pass nine hours and maintain an overall GPA of 2.0. In addition to Belhaven University requirements, the state of Mississippi has mandated that a student must enroll in and pass 15 academic hours (Take 15, 2018). Based on the state requirement for 15 hours, a student could be eligible by Belhaven standards, but may lose state aid due to falling short on the state of Mississippi requirements. Goldrick-Rab points out that many students that try to juggle financing their college education with loans, grants, scholarships, and part-time jobs are penalized for deciding to take only 12 hours in order to focus on fewer credit hours. The fact that students reduce (or consequently do not pass) their attempted courses will often lead them to forfeit a portion of their state grant or private scholarship (2016).

It appears that the students that need the funds the most are hurt by rationally trying to balance their school, work, and finances strategically. A 2014 study for the Center for Analysis of Post-Secondary Education and Employment raised just this concern. The results of the study reveal that a significant number of Pell recipients are placed at risk for Pell eligibility due to their failure to meet either the college's SAP grade point average or the required credit hour completion. While approximately 25% of the students failed to meet the GPA alone, when the

credit hour completion requirement is taken into consideration, the first-year failure rate of the

study group was just under 40% (Schudde & Scott-Clayton, 2014). While the SAP assures that

students continue to persist with a minimum GPA and completed credits, the different

requirements between the state and college or university can create significant issues.

This study will examine existing Belhaven University data to determine the correlations

between a student's expected family contribution and the resulting first and second-term grade

point average and credit hours completed. It is hoped that this study will provide directional

insights on how the university can better help students persist to successfully complete their

degree.

METHODOLOGY

This study will be a quantitative review of specific data points gathered during the course of business at Belhaven University in order to determine if a correlation relationship exists between them. Quantitative regression analysis will be employed to determine the correlation relationships between the independent variable of expected family contribution and the dependent variables of grade point average and credit hours completed. Regression analysis investigates the relationships between a dependent variable and a set of independent variables based on a sample from a particular population (Ding, 2006; Hinkle, Wiersma, & Jurs, 2003) and is a commonly used statistical analysis techniques in educational research.

Data

The participants for this study will be first-year and first-time students enrolled at Belhaven University over a two-year period. The actual identities of the students will remain confidential, as students are assigned specific student identification numbers upon acceptance to the university. All data points will be linked to the anonymous student identification number.

Belhaven University gathers the data employed for the analysis in this study for other specific purposes. All of the data resides in the university's Colleague data base computer and is accessible only by designated professionals. Because of my role in senior leadership at Belhaven University, I am seeking approval of not only the University of Mississippi Research Institutional Review Board, but also the Belhaven University President, and the Institutional Research Department at Belhaven. The data for expected family contribution is collected by the

Financial Aid Office as they receive the Institutional Student Information Record (ISIR) from the federal government and is employed in the determination of each student's financial aid package. The grade point averages and credit hour completion records are captured by the Registrar's office at the conclusion of each semester for the determination of academic progress within the university.

Belhaven University was founded in 1883. Originally called Belhaven College, the institution was established by the Presbyterian Church to serve young women. Belhaven College welcomed men in 1955 and has since been coeducational. The institution became Belhaven University in 2010 to more accurately represent the breadth of master level programs and the reach of its adult education and graduate branch campuses. With total enrollment of approximately 4,300 students, the University serves dual-enrollment high school students, traditional aged residential campus students, adult degree students, graduate students, and online students. Belhaven Universities has regional branch campus locations in Houston, Memphis, Southaven, Jackson, Chattanooga, Dalton, Atlanta, and Orlando. An independent, self-perpetuating board of trustees guides the University. Approximately 98% of all revenue is derived from tuition as the University has a very small endowment of $8 million. Belhaven is a member of the Council for Christian Colleges and Universities. The University does not accept federal grant research dollars, but does participate in federal financial aid programs.

Research Questions

This study will examine the relationship of an entering freshman's expected family contribution and first year success as measured by grade point average and credit hours completed at Belhaven University, a regional liberal arts university in Mississippi. The study

will examine both the relationship between these quantitative measures and the magnitude of any identified correlation. Specifically, this study addresses the following research questions:

Question one: Is there a correlation between EFC and Freshman Grade Point Average (GPA) in term 1 (fall); term 2 (spring); and overall freshman year (fall and spring combined). The hypotheses for these questions are as follows:

H1: There is correlation between EFC and term 1 freshman grade point average (GPA).

H2: There is correlation between EFC and term 2 freshman grade point average (GPA).

H3: There is correlation between EFC and full year freshman grade point average (GPA).

Question two: Is there a correlation between EFC and credits completed in term 1 (fall); term 2 (spring); and overall freshman year (fall and spring combined). The hypotheses for these questions are as follows:

H1: There is correlation between EFC and term 1 credits completed.

H2: There is correlation between EFC and term 2 credits completed.

H3: There is correlation between EFC and full freshman year credits completed.

SUMMARY

This study examines the relationship of expected family contribution (EFC) with student success at Belhaven University. Success will be measured by grade point average (GPA) and credit hours completed during the student's freshman year. These two critical factors are used to determine a student's satisfactory academic progress (SAP). While measuring SAP is important, the contradiction between the university SAP and the SAP required by the state of Mississippi to remain eligible to receive funding can often be in conflict.

Upon completion of the FAFSA, an EFC amount is calculated that that is used to determine the amount and type of federal aid that a student is eligible to receive. The EFC amount indicated for each student remains the same regardless of where the student chooses to attend, thus providing the student a standardized marker that represents the family's contribution towards the costs to enroll.

This study will examine freshmen students that enrolled at Belhaven University in the Fall of 2016 and 2017. Linear regression will be used to determine if there is a correlation of EFC to GPA and credit hours completed.

This manuscript is the first of three chapters of the dissertation in practice. The second chapter will detail the formal procedures and the data outcomes of the quantitative study. The final manuscript will review and analyze the data results and offer recommendations for future practice and additional research that may be merited.

II. DATA REVIEW AND RESEARCH FINDINGS

INTRODUCTION

The second manuscript will describe the procedures and data outcomes that occurred in a quantitative study of the relationship of an entering freshman's expected family contribution to first year success as measured by grade point average and credit hours completed at Belhaven University, a regional liberal arts university in Mississippi. The third manuscript of this dissertation-in-practice will analyze the results, raise potential questions, and suggest additional research that may help enrollment and student retention professionals better assist students in their pursuit of a college degree.

A student's expected family contribution (EFC) measures the ability of their collective family unit to contribute towards the costs of their college education. Each EFC is a discrete data point that is generated when the student completes the Free Application for Federal Student Aid (FAFSA). The FAFSA considers the income and savings of the student's family unit. The FAFSA calculations also take into consideration other factors such as additional family members enrolled in college or changes in the family's employment status. After submitting the FAFSA, an EFC amount is calculated that is used to determine the amount and type of federal aid that a student is eligible to receive. The EFC amount indicated for each student remains the same regardless of where the student choses to attend, thus providing the student a standardized and transferable marker that represents the family's contribution towards the costs to enroll. With the student's EFC, financial aid professionals at the college being considered by the student will

provide a complete financial aid package that includes institutional, state, federal, and private grants and loans available to the student.

In this study, each Belhaven University entering freshman student's expected family contribution will be compared with the student's first year grade point average and hours completed to determine if there is a correlation. A student's grade point average offers a tangible measure of their academic success in the freshman year. When combined with the number of completed credit hours for courses attempted, school administrators can determine whether a student is making satisfactory academic progress over a specific semester. If at any time a student falls below the designated satisfactory academic benchmark set by the university, the student may be dismissed and deemed ineligible to receive additional federal, state, or private financial aid that their EFC determined them eligible to receive.

METHODOLOGY

This study is a quantitative review of specific data points gathered during the course of business at Belhaven University in order to determine if a correlation relationship exists between an entering freshman's expected family contribution and first year success as measured by grade point average and credit hours completed at Belhaven University. Quantitative regression analysis will be employed to determine the correlation relationships between the dependent variable of expected family contribution and the independent variables of grade point average and credit hours completed.

Linear regression is one of the most widely known modeling techniques used today (Sunil, 2015). In its simplest form, regression allows researchers to develop objective measures of relationships between variables rather than using subjective judgment. This objectivity allows for improved decision-making and the ability for other parties to separately test the data and arrive at the same conclusion as the original researcher (Roberts, 2017). Regression analysis investigates the relationships between a dependent variable and a set of independent variables based on a sample from a particular population and is a commonly used statistical analysis technique in educational research (Ding, 2006; Hinkle, Wiersma, & Jurs, 2003). Linear regression analysis indicates whether there is a correlation relationship between the dependent and independent variable and if so, the magnitude of the significance (Sunil, 2015).

Data

The participants for this study are first-time first-year students enrolled at Belhaven University over a two-year period. Data are drawn from the academic years of 2016-2017 and 2017-2018. This study is limited to the 2017 and 2018 fiscal year data because it is the most recent, complete, and integrated information that is available since a June 2015 conversion of the university data system. Prior to June 2015, it is not possible to properly align each student's expected family contribution, grade point average, and hours completed through a single unified student identification number. Before the 2015 conversion, the university had disparate databases for recruitment, financial aid, and academic tracking that were not fully integrated. The university's new Colleague database unifies student information from recruitment to alumni participation with a single student identification number.

In this study, the identities of the students will remain confidential through their assigned student identification numbers. Student identification numbers are created upon application to the university. Belhaven University gathers the data to be examined in this study for other specific purposes. All of the data resides in the university's Colleague database and are accessible only by designated professionals. The university financial aid office collects the data for expected family contribution as it receives the Institutional Student Information Record (ISIR) from the federal government. The ISIR contains the EFC information that is processed through the FAFSA as well as the student's previous financial aid history information from the National Student Loan Data System (Federal Student Aid, 2018). Upon receipt of a student ISIR, the financial aid office reviews the student's EFC along with other academic indicators including the American College Test (ACT) score and high school grade point average to determine the final awarded financial aid package. Once enrolled at Belhaven University, the

student's grade point average and credit hour completion calculations are captured by the Registrar's office at the conclusion of each semester for the determination of satisfactory academic progress within the university.

Because of my role as Vice President for Enrollment and Marketing at Belhaven University, approval for this research was gained through the University of Mississippi Institutional Review Board, the Belhaven University President, the Belhaven University Administrative Cabinet, and the Belhaven University Institutional Research Department. My access to the data was only through authorized university personnel providing the aggregated information for the years requested. I was only able to manipulate the data within the Excel spreadsheets provided and the Statistical Package for the Social Sciences (SPSS) software.

Upon receipt of the data set in late October, the data were carefully reviewed for any errors and omissions. In isolated cases, the student's EFC was not provided for the requisite student identification number. In these nine specific instances, the financial aid office manually researched the student EFC and supplied revised data for analysis. These few instances occurred due to import issues in the financial aid office when there was a difference between the student identification number and the corresponding social security number affiliated with the student ISIR. There were no instances where the grade point average and credit hours completed were not provided with each student identification number.

A review of Table 1 demonstrates the similarity of the Fall 2016 and Fall 2017 freshmen class at Belhaven University. Considering the overall homogeneity of the freshmen classes and that only two complete years of data were available, the decision was made to aggregate the students into fall and spring cohorts. The fall cohort is comprised of entering freshman for Fall

2016 and 2017. The spring cohort is comprised of students that continued from Fall 2016 and

2017 to Spring 2017 and 2018.

Table 1

2016 vs. 2017 Enrollment Comparison

2016	Metric	2017
236	Enrolled	227
50.8%	Female Gender	56.3%
23	ACT Score	23
1109	SAT Score	1124
3.44	GPA	3.41
41%	From MS	42%
13%	Home Schooled	12%

The aggregated freshmen classes entering Belhaven University in August 2016 and 2017

came from 43 different states, carried an average high school grade point average (GPA) of 3.43,

an average American College Test (ACT) score of 23.4, and were 52% female and 48% male in

gender composition. Five percent of the cohort were admitted to the university through

academic committee, indicating an ACT score of below 18.

Combining the two years of data provided from the Financial Aid Office resulted in 427

students with EFC records for the complete fall cohort. This research will follow the original fall

cohort as it progresses to the spring and then also analyzes the full year results. For the spring

cohort, there were 302 student EFC records for continuing students that remained at Belhaven

University from the original 427 freshmen. For the combined fall cohorts the university retained

71% of the original entering freshmen. Based on information gathered from the Belhaven

University Admission Office, there were a total of 463 enrolled freshmen during the fall of 2016

and 2017. Thus, 92.2% of the first-time freshmen also completed the FAFSA and received an

EFC amount.

For the 427 fall students that received an EFC amount, the mean indicator was $13,964. For the original fall students that continued on to the spring, the EFC mean dropped slightly to $13,294. As shown in Table 2, 26% of the fall cohort received an EFC of zero. A zero EFC indicator typically points to a household family income of less than $25,000 and allows the student to receive the full Pell Grant award from the federal government. The full Pell Grant award was $5,815 for Fall 2016 and $5,920 for Fall 2017 (Congressional Research Service, 2018).

Table 2

Fall Cohort EFC Composition

EFC	n	%
0	110	26%
1-$6,000	133	31%
$6,001-$10,000	38	9%
$10,001-$20,000	56	13%
$20,001-$50,000	60	7%
$50,001-$100,000	26	13%
>$100000	4	1%
Total	427	100%

At the end of their fall term, the beginning fall cohort of 427 students recorded a mean GPA of 2.83 and ranged from 0.0 to 4.0 with a standard deviation of 1.059. In the fall semester, there were a total of 87 students that received a GPA of less than 2.0. For the 302 students from the fall that continued to the spring, the mean spring semester GPA was lower at 2.705 with a standard deviation of 1.02. The mean full year GPA for the original fall cohort was a 2.77 with a standard deviation of .890. The grade point average distribution by term is found in Table 3.

Table 3

Grade Point Average Distribution by Term

Term	n	Minimum	Maximum	Mean	Standard Deviation
Fall GPA	427	0.0	4.0	2.831	1.0597
Spring GPA	302	0.0	4.0	2.705	1.0235
Cum GPA	302	0.0	4.0	2.772	0.8908

As shown in Table 4, only full-time students who took a minimum of 12 credit hours were included in this study. In the fall cohort, students pursued between 12 and 21 credit hours with a mean of 15.53 credit hours attempted and a standard deviation of 1.584. Students actually earned an average of 14.13 with a standard deviation of 3.826, more that double the standard deviation for the attempted hours. In total, eight students passed zero credit hours. For the continuing spring cohort, students attempted a mean of 15.22 credit hours with a standard deviation of 1.958 against earned credit hours of 13.81 with a 3.685 standard deviation. For the full year, students attempted a mean of 30.39 credit hours with a standard deviation of 4.387 and completed a mean of 28.24 credit hours with a standard deviation of 6.492.

Table 4

Credit Hours Attempted and Completed by Term

	n	Minimum	Maximum	Mean	Standard Deviation
Fall Hours Attempted	427	12	21	15.53	1.584
Fall Hours Completed	427	0	21	14.13	3.826
Spring Hours Attempted	302	12	21	15.22	1.958
Spring Hours Completed	302	0	21	13.81	3.685
Total Hours Attempted	302	12	44	30.39	4.387
Total Hours Completed	302	0	44	28.24	6.492

RESEARCH QUESTIONS AND RESULTS

There are two questions that underpin the framework to study the relationship of an entering freshman's expected family contribution to first year success as measured by grade point average and credit hours completed at Belhaven University, a regional liberal arts university in Mississippi. Each research question contains three separate hypotheses about the fall term, spring term, and full year.

Question One: EFC and Grade Point Average

Question one examines if there is a correlation between EFC and Freshman Grade Point Average (GPA) in the fall term, spring term, and overall freshman year (fall and spring combined). There are three hypotheses for this question.

H1: There is correlation between EFC and fall term freshman grade point average (GPA).

H2: There is correlation between EFC and spring term freshman grade point average (GPA).

H3: There is correlation between EFC and full year freshman grade point average (GPA).

In order to determine if there is a correlation between the dependent variable of EFC and the independent variable of GPA we will examine the Pearson Correlation. The Pearson Correlation is a number between -1 and 1 that indicates the extent that two variables are linearly related. The Pearson correlation coefficient, r, is an index of the linear relationship between the two variables. An r statistic closer to 1 or -1 indicates a strong positive or negative correlation, while an r statistic closer to 0 indicates a weaker correlation. A Pearson correlation r statistic that equals zero indicates no correlation. As shown in Table 5, the fall r statistic of .221 would

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be a very low indicator of correlation between EFC and GPA. The spring cohort r statistic of

.247 and the cumulative r statistic of .261 also indicate a very low correlation. Based on these

results, it can be determined that EFC is a low predictor of student success as measured by GPA

at Belhaven University. Each of the three hypotheses would be false.

Table 5

EFC Correlation with GPA by Term

Fall		Spring		Full Year	
n	r	n	r	n	r
427	0.221	302	0.247	302	0.261

To further demonstrate the results, Figure 1 illustrates the residual plot for EFC and GPA

from the fall cohort. Figure 2 illustrates EFC and GPA for the continuing spring semester cohort

while Figure 3 plots the full freshmen year EFC and GPA results. Each of the scatter plots

reinforces the deduction of a weak correlation between EFC and GPA as the data points vary

widely along the plotted regression line.

Figure 1

Scatter Plot for EFC and Fall Semester GPA

Figure 2

Scatter Plot for EFC and Spring Semester GPA
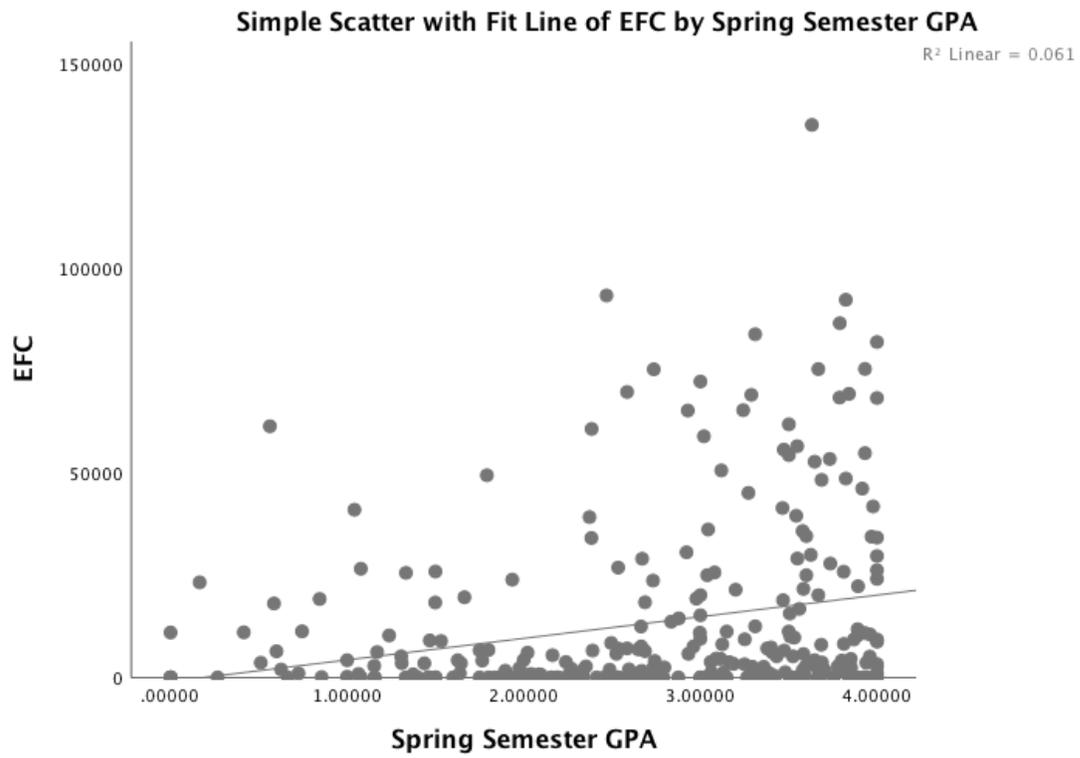
Figure 3

Scatter Plot for EFC and Full Freshman Year GPA
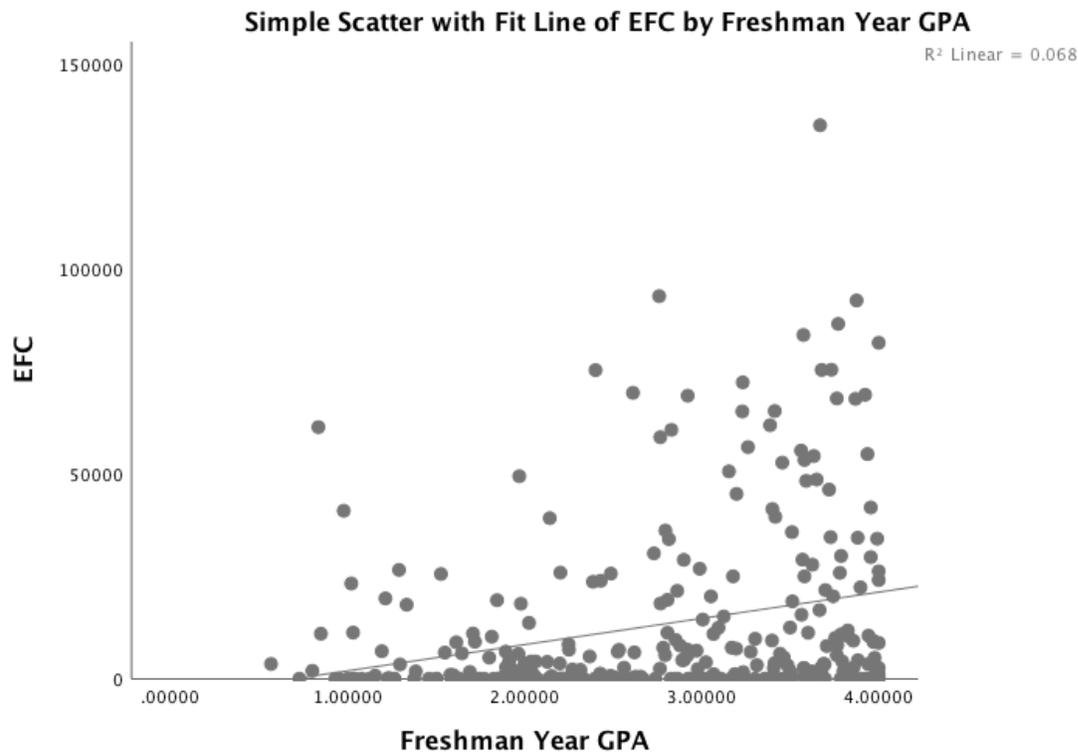
Question Two: EFC and Credit Hours Completed

Question two considers whether there is a correlation between EFC and credit hours completed in the fall term, spring term, and overall freshman year (fall and spring combined). There are three hypotheses for this question.

H1: There is correlation between EFC and fall academic credits completed.

H2: There is correlation between EFC and spring academic credits completed.

H3: There is correlation between EFC and full freshman year academic credits completed.

In order to determine if there is correlation between the dependent variable of EFC and independent variable of semester credit hours completed, the Pearson correlation coefficient r

statistic was examined. An r statistic closer to 1 or -1 indicates a strong correlation while an r statistic closer to 0 indicates a weaker correlation. As shown in Table 6, the fall cohort r statistic of .183 would be a very low indicator of correlation between EFC and fall credit hours completed. The spring cohort r statistic of .249 is higher than the fall, but still indicates a very low correlation between EFC and credit hours completed. The cumulative r statistic of .286 also indicates a very low correlation. Thus it appears that EFC is a low predictor of student success as measured by credit hours completed at Belhaven University. Each of the three hypotheses would also be false.

Table 6

EFC Correlation with Hours Completed by Term

Fall		Spring		Full Year	
n	r	n	r	n	r
427	0.183	302	0.249	302	0.286

To further demonstrate the results, Figure 4 illustrates the residual plot for EFC and credit hours earned from the Fall cohort. Figure 5 illustrates EFC and credit hours earned for the continuing Spring semester cohort while Figure 6 plots the full freshmen year EFC and credit hours earned results. Each of the scatter plots reinforces the deduction of a weak correlation between EFC and credit hours earned as the data points vary widely along the plotted regression line.
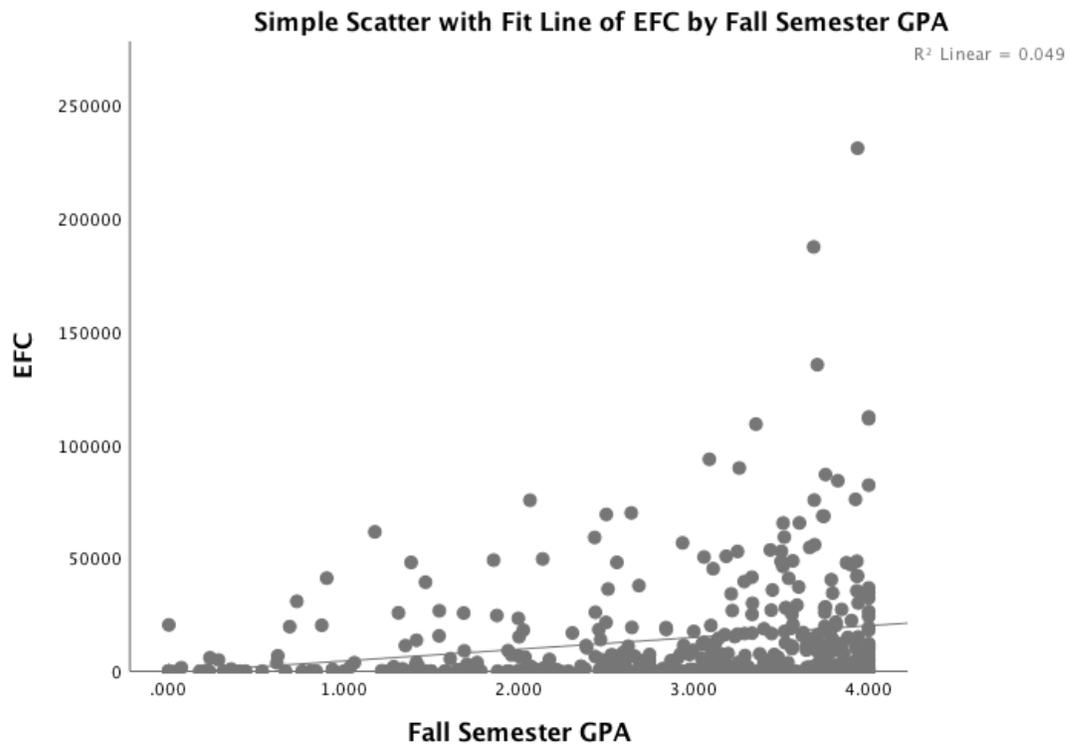
Figure 4

Scatter Plot for EFC and Fall Semester Hours Earned
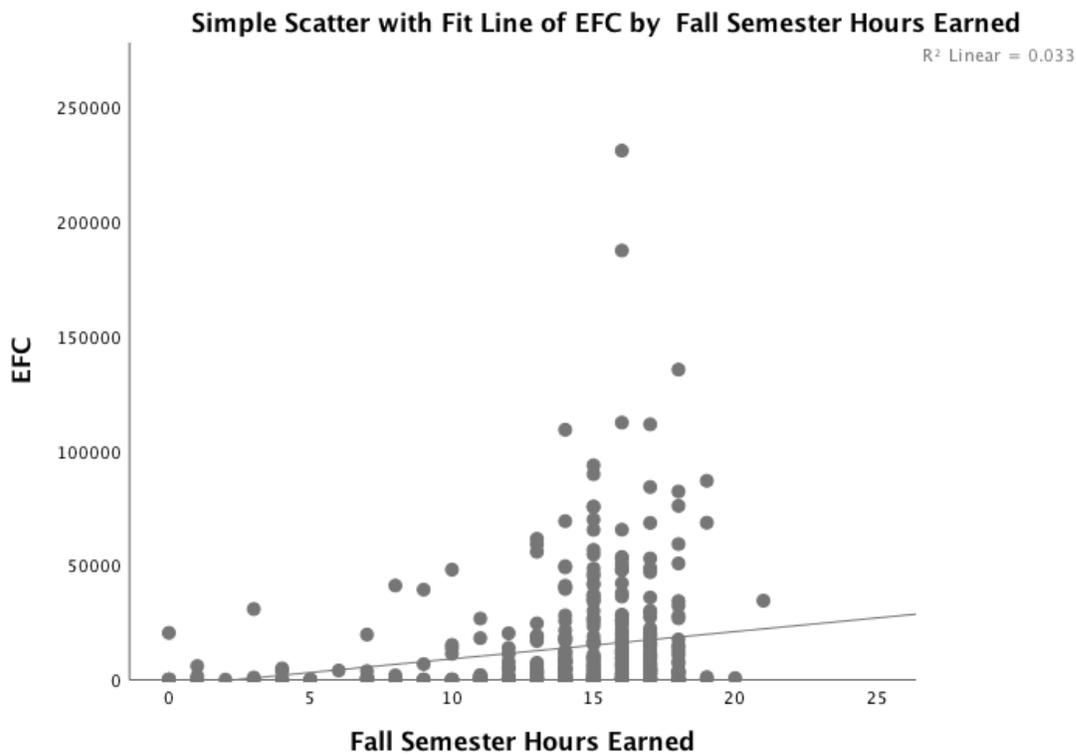
Figure 5

Scatter Plot for EFC and Spring Semester Hours Earned

Simple Scatter with Fit Line of EFC by Spring Semester Hrs. Earned
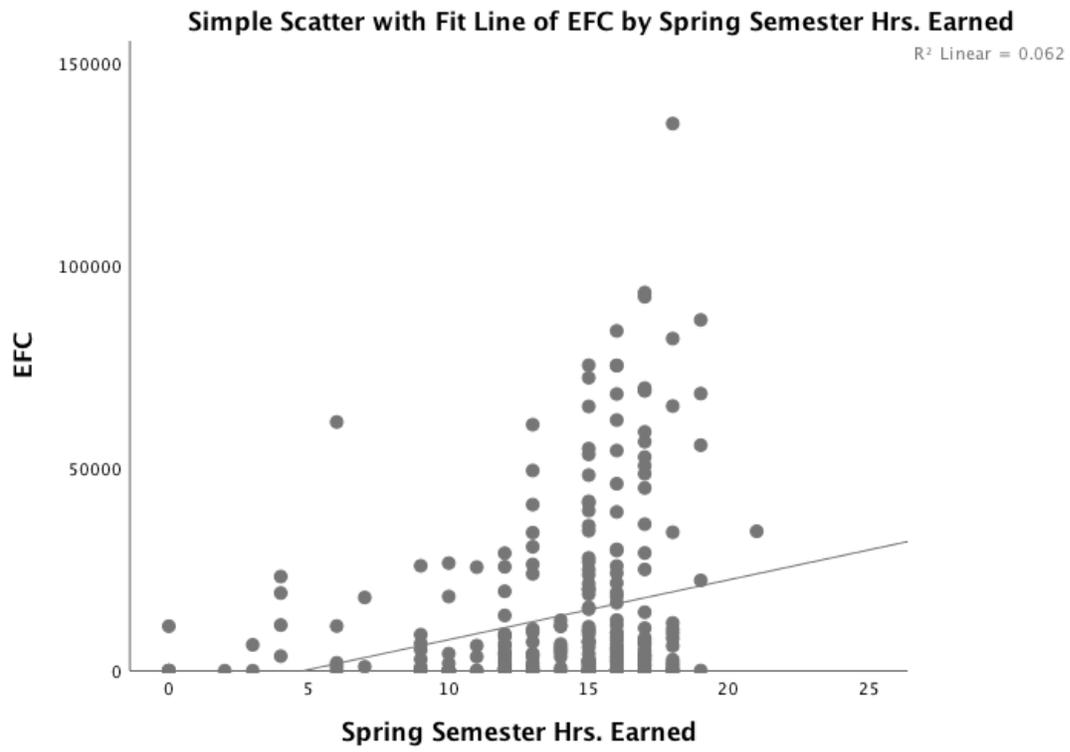
Figure 6

Scatter Plot for EFC and Full Freshman Year Semester Hours Earned
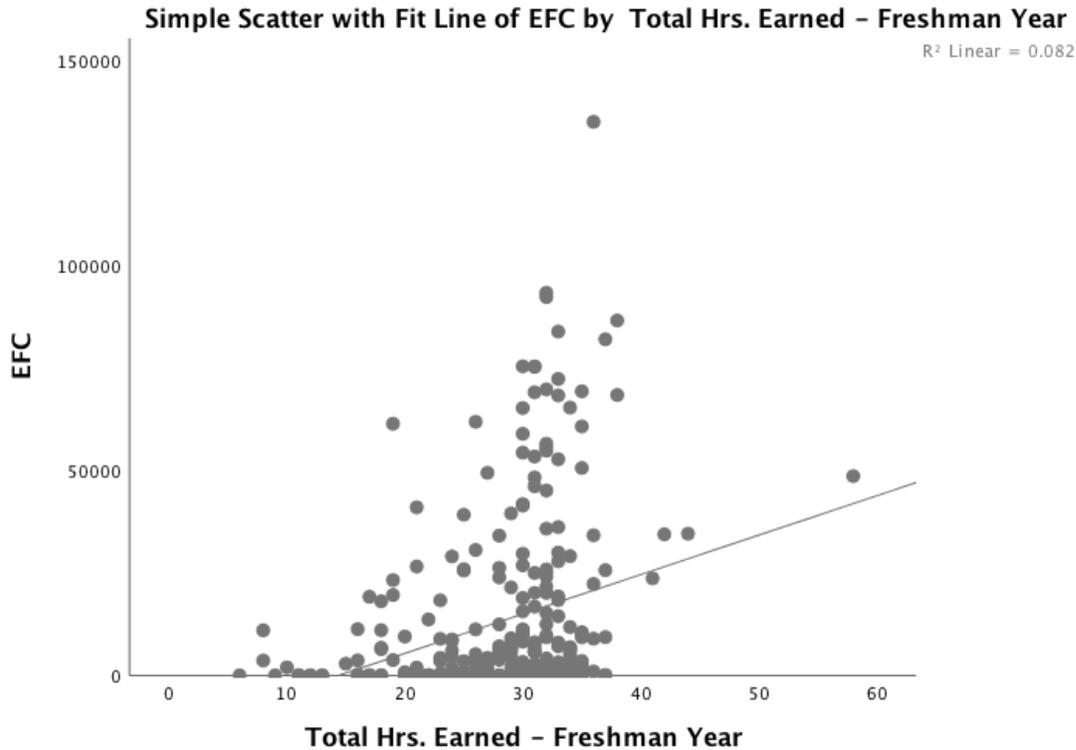
Additional Segmentation

After determining there was very little correlation between EFC and either GPA or credit

hours completed at Belhaven University, the larger fall data cohort of 427 students was

segmented into two groups for further analysis: 0 to $6000 EFC and $6,000 and above EFC.

The goal of this additional research was to determine if there is a significant difference in the

mean GPA and credit hours completed when the data is separated by lower EFC and higher EFC.

The breakpoint of $6,000 was selected because the average family income for all FAFSA filers is

approximately $50,000, which roughly equates to a $6,000 EFC (O'Shaughnessy, 2018). For the

fall cohort, 57% of entering freshman had an EFC below $6,000. Additional descriptive

information for the fall cohort is found in Table 7, where it appears there is a significant

difference in the academic performance as measured by GPA and the number of credit hours.

Table 7

Segmented Fall Mean GPA and Credit Hours Completed by EFC

0 to $6,000 EFC				EFC > $6,000			
n	EFC	GPA	Cr. Hr.	n	EFC	GPA	Cr. Hr.
243	$1,214	2.59	13.32	184	$30,895	3.15	15.20

In order to determine if this visible appearance is actually statistically significant, an

independent sample t-test was conducted. An independent sample t-test is used to compare the

means of two independent groups. The t-test assumes that a difference in the mean score of the

dependent variable is found because of the influence of the independent variable (Lani, 2018).

Table 8 illustrates that when selecting an alpha of .05 the f-value statistics for both Fall GPA and

credit hours completed for the independent t-test are significant as .000 is less than .05.

Table 8

Fall t-test for EFC<$6,000 and EFC>$6,000

	F-value	Sig. value
Fall GPA	23.78	0.000
Fall Credit Hours Completed	36.47	0.000

Thus we can say that the difference in the fall GPA and credit hours completed by

students with family EFC below $6,000 and those students with family EFC above $6,000 is

significant and worthy of attention.

Given the significant difference in GPA and credit hours completed for entering freshmen at Belhaven University in the fall semester, I also examined if there is a similar significant difference for the spring semester and full freshman year. Table 9 and Table 10 indicate that the gap in the GPA and credit hours completed means appear to narrow from the fall semester.

Table 9

Segmented Spring Mean GPA and Credit Hours Completed by EFC

0 to $6,000 EFC				EFC > $6,000			
n	EFC	GPA	Cr. Hr.	n	EFC	GPA	Cr. Hr.
179	$1,120	2.54	13.34	123	$31,011	2.94	14.50

Table 10

Segmented Cumulative Mean GPA and Credit Hours Completed by EFC

0 to $6,000 EFC				EFC > $6,000			
n	EFC	GPA	Cr. Hr.	n	EFC	GPA	Cr. Hr.
179	$1,120	2.61	26.96	123	$31,011	2.99	30.09

In order to determine if the spring and cumulative means for GPA and hours completed are significant when segmented by high and low EFC, an independent sample t-test was conducted. An independent sample t-test is used to compare the means of two independent groups. Table 11 illustrates that when selecting an alpha of .05 the f-value statistics for both GPA and credit hours completed for the independent t-test are also each significant as all sig. values are less than .05.

Table 11

Spring and Cumulative t-test for EFC<$6,000 and EFC>$6,000

	F-value	Sig. value
Spring GPA	0.698	0.001
Spring Credit Hours Completed	0.53	0.007
Cumulative GPA	0.778	0.000
Cumulative Credit Hours Completed	2.242	0.000

Based on the additional analysis of the data provided, the success of freshmen students at Belhaven University with EFC above $6,000 is significantly better than the success of freshmen students that enroll with EFC below $6,000 when success is measured by GPA and credit hours completed.

SUMMARY

This manuscript is the second of three manuscripts that examine the relationship of expected family contribution to student success at Belhaven University. The first manuscript introduced the background for the dissertation-in-practice, the positionality of the researcher, the conceptual framework and relevant literature that underpin the study, and the methodology that would be used in the research. In this second chapter, the methodology, formal procedures, and the research questions and results from the quantitative study were discussed. The final chapter will review and analyze the findings from the research, offer recommendations for future practice, consider the limitations of the study, and suggest additional research that is merited.

The research findings of manuscript two indicate that there is a very low correlation between expected family contribution and first year freshmen success at Belhaven University as measured by grade point average and credit hours completed. Each of the three hypotheses for the two research questions were proved to be incorrect based on the data that were studied.

However, when the data were further segmented between entering freshmen with EFC between $0 and $6,000 and freshmen with EFC above $6,000, an independent means t-test revealed significant differences. Both the 427 fall freshmen cohort and the 302 continuing spring freshmen cohort exhibited mean GPAs and credit hours completed that were statistically significant when segmented by low EFC and high EFC. This important finding and the full research efforts from manuscript two will be analyzed in manuscript three.

III. ANALYSIS OF RESEARCH AND RECOMMENDATIONS FOR FUTURE PRACTICE

INTRODUCTION

This is the final of three manuscripts that examine the relationship of expected family contribution to student success at Belhaven University. The first manuscript introduced the background for the dissertation-in-practice, the positionality of the researcher, the conceptual framework, the relevant literature that underpin the study, and the methodology that would be used in the research. The second chapter further expanded the review of research methodology, documented the actual procedures, and reported the results of the research questions and additional segmentation of the data. Manuscript three will review and analyze the findings from the research, offer recommendations for future practice, suggest additional research that is merited, and consider the limitations of the study.

Manuscript one discussed that a student's expected family contribution (EFC) measures the ability of the family to contribute towards the costs of a college education. Each EFC is a discrete data point that is generated when the student completes the Free Application for Federal Student Aid (FAFSA). The FAFSA considers the income and savings of the student's family unit. The FAFSA calculations also take into consideration other factors such as additional family members enrolled in college or changes in the family's employment status. After submitting the FAFSA, an EFC amount is calculated that is used to determine the amount and type of federal aid that a student is eligible to receive. The EFC amount indicated for each student remains the same regardless of where the student chooses to attend, thus providing the student a standardized and transferable marker that represents the family's contribution towards the costs to enroll.

With the student's EFC, high school transcript, and standardized test scores, financial aid professionals at the college being considered will provide a complete financial aid package that includes institutional, state, federal, and private grants and loans available to the student.

In this study, each Belhaven University entering freshman student's expected family contribution was compared with the student's first year grade point average and hours completed to determine if there is a correlation. A student's grade point average offers a tangible measure of their academic success in the freshman year. When combined with the number of completed credit hours for courses attempted, school administrators can determine whether a student is making satisfactory academic progress over a specific semester.

The research findings of manuscript two indicate that there is a very low correlation between EFC and first year freshmen success at Belhaven University as measured by grade point average and credit hours completed. Each of the three hypotheses for the two research questions were proved to be incorrect based on the data reviewed. While EFC does not hold any predictive value towards student academic success at Belhaven University, when the data were further segmented between entering freshmen with EFC between $0 and $6,000 and freshmen with EFC above $6,000, an independent means t-test revealed significant differences in the means. Both the 427 fall freshmen cohort and the 302 freshmen that continued to the spring semester exhibited mean GPAs and credit hours completed that were significantly different when segmented by high and low EFC amounts.

ANALYSIS OF FINDINGS

The participants for this study were first time first year students enrolled at Belhaven University over a two-year period. Data were drawn from the academic years of 2016-2017 and 2017-2018. This study was limited to the 2017 and 2018 fiscal year data because it is the most recent complete and integrated information that is available since a June 2015 conversion of the university data system. The university's new Colleague database unifies student information from recruitment to alumni participation with a single student identification number. The identities of the students remained confidential through their assigned student identification numbers. Because there was significant homogeneity of the freshmen classes and because only two complete years of data were available, the data were aggregated to form a continuous fall and spring cohort.

The aggregated freshmen classes entering Belhaven University in August 2016 and 2017 came from 43 different states, carried an average grade point average (GPA) of 3.43, an average American College Test (ACT) score of 23.4, and were 52% female and 48% male in gender composition. The combined classes resulted in 427 students with EFC records for the complete fall cohort. Based on the total enrolled 463 freshmen for Fall 2016 and 2017, 92.2% of the freshmen completed the FAFSA and received an EFC amount. This research followed the original fall cohort as it progressed to the spring and then also considered the full year results. For the spring cohort, 302 students with EFC records continued from the original 427 freshmen for a fall to spring retention of 71%.

Correlation Relationship Between EFC and Student Success

There are two questions that underpin the framework to study the relationship of an entering freshman's expected family contribution to first year success as measured by grade point average and credit hours completed at Belhaven University. Each research question contained three separate hypotheses about the fall term, spring term, and full year.

EFC: GPA and Credit Hours Completed Results

Question one examined if there is a correlation between EFC and Freshman Grade Point Average (GPA) in the fall term, spring term, and overall freshman year (fall and spring combined). There were three hypotheses for this question.

H1: There is correlation between EFC and fall term freshman grade point average (GPA).

H2: There is correlation between EFC and spring term freshman grade point average (GPA).

H3: There is correlation between EFC and full year freshman grade point average (GPA).

Question two considers whether there is a correlation between EFC and credit hours completed in the fall term, spring term, and overall freshman year (fall and spring combined). There were three hypotheses for this question.

H1: There is correlation between EFC and fall academic credits completed.

H2: There is correlation between EFC and spring academic credits completed.

H3: There is correlation between EFC and full freshman year academic credits completed.

The results of conducting linear regression analysis are shown in Table 1. The Pearson correlation coefficient, r, was used to determine a correlation. An r statistic closer to 1 or -1 indicates a strong positive or negative correlation while an r statistic closer to 0 indicates a weaker correlation. In this study, both GPA and credit hours completed show very low

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correlation to EFC as the collective r-values for the fall, spring, and full year ranged from between 0.183 and 0.286. Accordingly, all of the corresponding hypotheses were proved false.

Table 1

EFC Correlation with GPA and Credit Hours Earned

	Fall		Spring		Full Year	
	n	r	n	r	n	r
GPA	427	0.221	302	0.247	302	0.261
Cr. Hrs.	427	0.183	302	0.249	302	0.286

Previous academic research indicated the importance of finance related factors including tuition, student aid, family finances, and costs of living toward explaining as much as half the total variance in the student persistence process (Paulsen and St. John, 1997; St. John, Paulsen, and Starkey, 1996). Additionally, the ongoing emphasis placed on a student's satisfactory academic progress (SAP) by the federal government through each academic institution fostered the thought that focusing on EFC could give administrators another handle to assist them in anticipating student persistence. At Belhaven University, a student must maintain a 2.0 and complete at least 67% of their final registered academic hours. Therefore, a student taking 12 hours must successfully pass nine hours and maintain an overall GPA of 2.0. In addition to the Belhaven University requirements, the state of Mississippi has mandated that a student must enroll in and pass 15 academic hours in order to maintain their state funded aid (Take 15, 2018). Based on the state requirement for 15 hours, a student could be eligible by Belhaven standards, but may lose state aid due to falling short on the state of Mississippi requirements. University of Wisconsin professor Sara Goldrick-Rab points out that many students that try to juggle financing their college education with loans, grants, scholarships, and part-time jobs are penalized for deciding to take only twelve hours in order to focus on fewer credit hours. The fact that students

reduce, or consequently do not pass, their attempted courses will often lead them to forfeit a portion of their state grant or private scholarship (2016). Thus the initial focus of this study sought to determine if in fact there was a clear correlation between entering freshmen EFC and student success as measured by GPA and credit hours completed.

While the findings of the initial research indicated that there was a low correlation between EFC for predicting success by GPA and credit hours completed, a new question surfaced concerning whether the resulting differences in mean GPA performance and credit hour completion by the new freshman cohort would be significantly different when EFC was segmented into a lower and upper tier.

Student Success when EFC is Segmented

After determining there was very little correlation between EFC and either GPA or credit hours completed at Belhaven University, the data were segmented into two groups for further analysis: 0 to $6000 EFC and $6,000 and above EFC. The breakpoint of $6,000 was selected because the average family income for all FAFSA filers is approximately $50,000, which roughly equates to a $6,000 EFC (O'Shaughnessy, 2018). The objective of this segmented research was to consider if there was a significant difference in the mean GPA and credit hours completed when the data were split by lower EFC and higher EFC.

Based on the additional analysis of the descriptive data results, the calculated means in Table 2 reveal that the success of freshmen students at Belhaven University with EFC above $6,000 are stronger than the success of freshmen students that enroll with EFC below $6,000 when success is measured by GPA and credit hours completed. In order to confirm the significance of the mean differences, an independent sample means t-test was conducted.

Table 2

Segmented Mean GPA and Credit Hours Completed by EFC by Term

	0 to $6,000 EFC				EFC > $6,000			
	n	EFC	GPA	Cr. Hr.	n	EFC	GPA	Cr. Hr.
Fall	243	$1,214	2.59	13.32	184	$30,895	3.15	15.20
Spring	179	$1,120	2.54	13.34	123	$31,011	2.94	14.50
Full Year	179	$1,120	2.61	26.96	123	$31,011	2.99	30.09

An independent sample t-test is used to compare the means of two independent groups. The t-test assumes that a difference in the mean score of the dependent variable is found because of the influence of the independent variable (Lani, 2018). Table 3 illustrates that when selecting an alpha of .05 the f-value statistics for both GPA and credit hours completed for the independent t-test are in fact significant as the significance values of all six t-tests are less than the alpha of .05.

Table 3

Means T-test for EFC<$6,000 and EFC>$6,000

	F-value	Sig. value
Fall GPA	23.78	0.000
Fall Credit Hours Completed	36.47	0.000
Spring GPA	0.698	0.001
Spring Credit Hours Completed	0.53	0.007
Cumulative GPA	0.778	0.000
Cumulative Credit Hours Completed	2.242	0.000

Findings Supported by Research

The significant differences in the means when the data are segmented into low and high EFC are supported by previous research and can be instructive to administrators when developing additional persistence initiatives. A multi-year study at Colorado State University (2016) examining the relationship of EFC to student retention confirmed that low-income students persisted at a lower rate than the freshman cohort average, middle-income students persisted at the average, and upper-income students persisted well above the average. The Colorado State study found that increasing institutional aid for lower-income students had a direct impact on improving retention. Similar results were indicated by a 2010 study by Boise State University where it was found that as EFC declines, the gap in unmet need continues to increase as lower income students have fewer resources to cover the remaining unmet expenses (Belcheir, 2012). The study found that the gap leads to students being a greater retention risk. The Boise State study also revealed that the unmet need for higher income students was less because these students tended to receive significant merit aid based on their academic performance.

A 2007 study by the Maryland Higher Education Commission added that the amount of non-loan aid had a significant impact on retention for low-income and moderate-income EFC students but had no discernable impact in the retention of high EFC students. The Maryland study encouraged administrators to carefully examine the designated institutional funds directed toward admitted low to mid-income EFC students to assist in creating an environment where students would have the best opportunity to persist.

Herzog found similar results in EFC and persistence in his study at the University of Nevada-Reno, but recommended that additional academic assistance and mentoring during the freshman and sophomore years would have a more dramatic impact on persistence than expanded

aid (2007). Herzog's findings further indicated that the middle band of students that are just

outside the zero EFC range are the most at-risk group as their income places them just beyond

receiving need-based grants that would facilitate their long-term ability to pay. Considering

Herzog's results, administrators must also take care to not only provide adequate financial aid

packages to lower and middle band EFC students, but must also endeavor to create academic and

mentoring initiatives to improve retention of lower tier EFC students.

Lower EFC Credit Hour and GPA Concerns

The segmented EFC means for credit hours completed also indicate that the lower EFC

students at Belhaven University are taking fewer credit hours than their upper EFC counterparts.

The mean credit hours completed in the fall cohort for lower EFC students of 13.32 versus the

credit hours completed for upper EFC students of 15.20 places the lower EFC students in danger

of losing their state of Mississippi funded aid which requires students to complete at least 15

academic hours (Take 15, 2018). The findings from the Belhaven research are consistent with

studies by St. John, Oescher, and Starkey (1994) and St. John (1999) that find that students with

lower aid and ability to pay take fewer credit hours. Sara Goldrick-Rab, a champion for funding

more support to lower income students, argues that the risk to lower income students remains

significant if they increase their credit load and then fail to make satisfactory progress to retain

their grants and scholarships. "Research clearly indicates that giving students more grant aid will

help them complete degrees at higher rates" (Goldrick-Rab, 2016, Jan 19). Goldrick-Rab also

cautions that administrators must be aware that if students are not adequately funded to remain in

college, they will shift their focus from performing well academically and cast it upon making

tuition payments (2016). Further, a 2014 study for the Center for Analysis of Post-Secondary

Education and Employment reveals that a significant number of Pell recipients were placed at risk

for Pell eligibility due to their failure to meet either the college or state SAP grade point average or the required credit hours completed. While approximately 25% of the students failed to meet the GPA alone, when the credit hour completion requirement is taken into consideration, the first-year failure rate of the study group was just under 40% (Schudde & Scott-Clayton, 2014). This study reinforces that while the SAP assures that students continue to persist with a minimum GPA and completed credits, the different requirements between the state and university can often create persistence issues.

The scholarly work by researchers such Goldrick-Rab and others describes what appears to be a "survival trap" in that well meaning lower EFC/ability to pay students take less hours in order to pursue a part-time job to fill their funding gap. When the students work between 15-20 hours a week, they sacrifice valuable study time as well as the ability to integrate into the campus environment. The additional work often pulls them away from campus where additional assistance is available from faculty, staff, tutors, and fellow students. The combination of these factors will not only jeopardize the student's GPA, but because their credit hours earned is often below 15 hours, they often lose a portion to all of their scholarships and grants due to satisfactory academic performance deficiencies. What started off with good intentions to ease into their college education while earning additional support dollars quickly becomes a survival trap that will lead to many students digging themselves into a hole from which they struggle to recover.

The results of the Belhaven study indicate that the mean GPA for lower EFC students of 2.59, 2.54, and 2.61 for fall, spring, and full year respectively was above the 2.0 required SAP threshold. However, the mean hours completed of 13.32 in the fall, 13.34 in the spring, and 26.96 out of a minimum 30 hours for the full year fall short of the necessary SAP requirements for the state of Mississippi. The significant mean difference between the credit hour completion of lower

EFC students and higher EFC students points to a potential ongoing retention issue for the university and offers one handle as to why this study's fall to spring cohort retention rate of 71% is below the full year national average of 82% (NCES, 2018).

The significant mean differences between the GPA of the lower EFC students and higher EFC students is also concerning. At 2.59 in the fall, 2.54 in the spring, and 2.61 for the full year, the GPA's for the 0 to $6,000 EFC students were proven to be significantly lower than the GPA's of the $6,000 plus EFC students of 3.15 in the fall, 2.94 in the spring, and 2.99 for the full year. Cabrera, Nora, and Castanada (1992, 1993) documented that students from lower ability to pay families must have sufficient grants to cover the cost of attendance or their academic work will suffer. St. John, Paulsen, and Starkey (1996) affirmed the research of Cabrera, et al. (1992, 1993) and added that economic factors alone were lacking in determining student persistence. A student's academic ability, their commitment to the mission of the selected academic institution, their actual social and academic engagement once enrolled, and the type of college attended were all important variables for researchers to consider when studying persistence.

Additional Analysis Based on Retention

In this study, it is clear that the lower EFC students' GPA and credit hours completed are significantly below higher EFC students when the EFC break is set at the average EFC for all FAFSA filers of $6,000, which translates to an approximate household family income of $50,000 (O'Shaughnessy, 2018). However, deeper analysis of the $0-$6,000 lower EFC students and the $6,000+ EFC students reveals that Belhaven University retained more lower EFC students than upper EFC students. For the research cohort of 427 freshmen, Belhaven retained 74% of the lower EFC and lower performing students, but only 67% of the higher EFC and higher

performing students. This outcome would run contrary to the previously cited research and point

to an area for deeper examination by the university.

As shown in Table 4 below, the largest segments of the 427 Belhaven freshmen cohort of

students reside in two groups. The zero EFC group has 26% or 110 students while the $1 -

$6,000 group has 31% or 133 students.

Table 4

Fall Cohort EFC Composition

EFC	n	%
0	110	26%
1-$6,000	133	31%
$6,001-$10,000	38	9%
$10,001-$20,000	56	13%
$20,001-$50,000	60	7%
$50,001-$100,000	26	13%
>$100000	4	1%
Total	427	100%

In order to better understand the lower $0-$6,000 EFC group of 243 students, the data

were segmented into a zero EFC group and a $1-$6,000 EFC group to determine if the differences

in the mean GPA and credit hours completed were significant. The lower EFC segmented data

are shown in Table 5.

Table 5

Segmented Lower EFC: $0 and $1-$6,000

	0 EFC			$1 - $6,000 EFC		
	n	GPA	Cr. Hr.	n	GPA	Cr. Hr.
Fall	110	2.28	12.26	133	2.84	14.20
Spring	95	2.39	12.80	84	2.69	13.94
Full Year	95	2.49	26.12	84	2.77	27.92

This step brings a significant retention anomaly into focus. Belhaven actually retained 86% of the zero EFC students from fall to spring (95 of 110 students persisted), while the university only retained 63% of the $1-$6,000 EFC students (84 of 133 students). When coupled with the 67% retention of the higher $6,000+ EFC students, it appears that Belhaven is not only losing its middle to higher ability to pay students, but also those students that are performing at a higher GPA and credit hours completed. This surprising fact should be investigated further.

In order to determine if the mean difference in GPA and credit hours completed between the zero EFC students and the $1-$6,000 EFC students is significant, an independent sample means t-test was conducted. The results of the t-test in Table 6 indicate that there are significant differences in the mean GPA and credit hour completed for all of the measures except for full year credit hours completed when using an alpha of .05.

Table 6

Means t-test for EFC=0 and EFC between $1-$6,000

	F-value	Sig. value
Fall GPA	4.37	0.000
Fall Credit Hours Completed	14.84	0.001
Spring GPA	0.787	0.047
Spring Credit Hours Completed	1.31	0.040
Full Year GPA	2.17	0.032
Full Year Hours Completed	5.71	0.061

Final Segmentation

To bring closure to the mean comparisons, a final segmentation was conducted between the $1-$6,000 EFC students and the $6,000+ EFC students to determine what difference between GPA and credit hours completed might exist between these students. From previous analysis it has already been shown that the fall to spring retention rate of the $1-$6,000 EFC group is 63% while the $6,000+ group retains at 67%. The segmented values of GPA and credit hours completed are found in Table 7 and the t-test for significance is found in Table 8.

Table 7

Segmented EFC: $1-$6,000 and $6,000+

	$1 - $6,000 EFC			$6,000+ EFC		
	n	GPA	Cr. Hr.	n	GPA	Cr. Hr.
Fall	133	2.85	12.26	184	3.14	14.20
Spring	84	2.69	13.94	123	2.95	14.50
Full Year	84	2.77	27.92	123	2.99	30.09

Table 8

Means t-test for EFC between $1-$6,000 and $6,000+ EFC

	F-value	Sig. value
Fall GPA	9.22	0.004
Fall Credit Hours Completed	11.38	0.005
Spring GPA	1.21	0.082
Spring Credit Hours Completed	0.03	0.237
Full Year GPA	2.16	0.066
Full Year Credit Hours Completed	0.007	0.011

Using an alpha of .05, the significance values for both the fall GPA (0.004) and credit hours completed (0.005) are significant between the means, however the significance values of the means for the spring GPA (0.082) and credit hours completed (0.237) are not found to be significantly different using an alpha of .05. The significance values for the cumulative freshman year are mixed as the full year credit hours completed (0.011) is found to be significant and full year GPA (0.066) is not.

These findings reveal that after large retention declines in the respective $1-$6,000 EFC and $6,000+ EFC groups from fall to spring, the remaining student's mean GPA and credit hours completed for the spring are only .30 grade points apart (2.39 versus 2.69) and the variance in the full year results are driven by the larger fall disparities. With an 86% retention rate, Belhaven is doing a much better job at retaining the zero EFC students that have the least ability to pay and perform the lowest academically. However, one key point not reviewed in this study is what the total financial aid packages that were awarded to each student. Because all of the zero EFC students would be eligible for full Pell grant assistance, they could conceivably have larger total financial aid packages than the students that reside in the EFC middle ranges. Further analysis would need to be conducted to examine both the EFC amounts and the final full financial aid packages that were awarded to each student to determine additional patterns.

As has already been noted, Herzog (2007) found similar results at the University of Nevada-Reno and raised concerns that the middle band of students that were just outside of the full Pell range were most at risk in their ability to pay going forward. Herzog encouraged administrators to provide adequate financial aid packages to lower and middle band EFC students, but also challenged administrative leaders to create additional academic and mentoring initiatives to improve retention of lower tier EFC students. It appears Belhaven is succeeding at

the lowest tier of zero EFC students, but is seeing significant slippage in the middle and upper

tier of EFC students. In addition to reviewing the middle tier financial assistance, the university

should also investigate the comprehensive resources and support that are being deployed towards

freshman students to determine what could be done to better retain the middle and upper EFC

and academic performance students that are departing from the university at a higher rate.

RECOMMENDATIONS

The segmentation of the freshman cohorts into segmented EFC groups offers Belhaven administrators an additional lens through which to study persistence at the university. However, research indicates that other factors must be included and studied in order to develop more effective retention programs for the university.

Future Practice Considerations

In the current economic climate, the importance of student persistence to allow colleges and universities to sustain their financial viability has never been more important. Unmonitored student departure from a university can destabilize the institutional budget, long-term enrollment plans, and public perceptions of quality (Braxton, Doyle, Hartley, Hirschy, Jones, & McLendon, 2014). From an individual student perspective, whenever a student pauses their academic studies, the chances dramatically increase that they will not return to complete their degree. The student will likely also face burdensome student debt that they will have a more difficult time paying due to the lower wages associated from not obtaining a college degree (Lee & Mueller, 2014).

Student persistence is in the best interest of both the student and the university. Many scholars including Mortenson (2005), Tinto (1987; 2012), and Braxton, et al. (2014) all point to the strategic development of first and second-year retention efforts that challenge colleges and universities to institute targeted initiatives based on internal research and best practices. Habley, Bloom, and Robbins (2012) offer institutions a framework to consider student persistence based

on four key perspectives: economic, organizational, psychological, and sociological. The economic perspective has already been discussed throughout this study and focuses on the fact that the cost of attending a college or university coupled with a student or family's ability to pay has a significant influence on persistence and student success. Supporting research for this model is found in the work of St. John, Cabrera, Nora, and Asker (2000), Cabrera, Nora, and Castaneda (1993), Cabrera, Stampen, and Hansen (1990), and St. John (1994) among many others. The organizational structure notes that the actions and policies of administrators, faculty, and staff can have a direct impact on student persistence (Berger and Braxton, 1998; Tinto, 1987). The psychological perspective emphasizes the characteristics and processes that distinguish between persistence and departure and are targeted down to the individual student and college level (Baird, 1988). Through the psychological lens, characteristics that should be studied could include academic aptitude, motivational states, personality traits, and student development theories. Finally, the sociological perspective stresses the significant influence that a college or university's social structure and social forces may have on student persistence (Braxton, 2000; Tinto 1987). The sociological lens considers the overall fit between the culture and practices of the university and the passions, interests, and beliefs of the student.

At Belhaven University, an average of 92% of entering freshmen complete the FAFSA. This rate is more than double the national rate of 44% and indicates the significant emphasis that the university places on encouraging students and families to complete the FAFSA (Braswell, 2018). However, as indicated in this study, it also points to the higher financial need of Belhaven students as 57% of the freshmen in this research had an EFC below $6,000 and 66% of the participant's EFC was below $10,000. This research affirms that Belhaven University serves

more students in the lower to middle EFC range which studies such as Herzog (2007) point out as being most at risk for ongoing persistence.

Surprisingly, Belhaven is doing a very good job of retaining low-income students with zero EFC at a retention rate of 86%. However, the fact that the university is only retaining 63% of the $1-$6,000 EFC group and $67% of the $6,000+ EFC group points to a need for deeper exploration. It is the departure of the higher ability to pay and better academic performing middle and upper EFC students that is driving the university's retention rate of 71% for the study cohort.

Specific Recommendations

Specific actions that Belhaven University should consider as a result of the findings from this study and the research that supports the study include the following:

- Conduct an analysis of both the student EFC and the actual total aid that is awarded to determine if there are significant funding gaps.

- Specifically, seek to determine if the total amount of institutional aid going to middle band EFC students relative to the zero EFC students is a contributing factor to the disparity in retention rates.

- Develop a comprehensive and regular review of financial support options and counseling available to lower EFC students to increase their ability to focus on academic and social integration. This review could lead to an increase in need based funds either from the institution directly or through donors that are interested in facilitating students of need.

- Conduct a comprehensive analysis of current university retention efforts and seek to determine why zero EFC and lower performing students are retaining at a high rate while the middle band students are departing along with higher EFC and stronger academic performing students.

- Develop early intervention efforts towards lower EFC students targeted at enhancing academic performance.

- Establish pre-enrollment counseling for all entering freshmen students to assure that they are taking both the correct courses and the required amount of credit hours to maintain satisfactory academic progress as measured by the university and state.

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- Develop early warning retention efforts during the fall and spring semesters of the freshman year to identify academic, social, and institutional challenges for first-time freshman. Specific emphasis should be placed on middle and upper EFC students.

- Develop measurement-tracking systems to capture, retain, and analyze the above recommendations that would lead to regular and longitudinal study of the results. Consistent and regular review of the gathered data would enable administrators to understand trends and results more holistically.

- Develop a cross-campus Retention Team to regularly review current processes, research, and procedures with a goal to gain increased student retention.

- Conduct regular and on-going analysis of the prevailing factors affecting persistence at Belhaven University. In addition to EFC, additional factors such as ACT score, high school GPA, student attachment to a college sport or regular activity (such as dance team, band, arts major, etc.) to determine connectedness to the university should be considered.

- Conduct qualitative research including surveys, one-on-one interviews, and focus groups to capture student and parent impressions after the fall semester and/or first full year. The research should seek to better understand:

  o Student satisfaction
  o Student frustration
  o Student affinity to the university
  o Overall "fit" of student into the university ethos
  o Strong student likes and dislikes
  o Parent satisfaction with the university

- Promote Belhaven University community support for comprehensive retention efforts as an important role for all faculty and staff. Consider recognition and rewards to exemplary faculty and staff that model adoption.

ADDITIONAL RESEARCH

The focus of this study was exclusively on the relationship of EFC to freshman success at Belhaven University as measured by GPA and credit hours completed. Data were drawn from the academic years of 2016-2017 and 2017-2018. This study was limited to the 2017 and 2018 fiscal year data because it is the most recent complete and integrated information that is available since a June 2015 conversion of the university data system. The combined classes resulted in 427 students with EFC records for the complete fall cohort. Moving forward, adding additional freshmen classes to the research pool would only strengthen the results and allow for a longitudinal review of the findings. Further, because each student in this study is assigned a unique student identification number within the Belhaven University database, additional research that tracks continuing students beyond their freshmen year could also offer additional insights to Belhaven administrators. Going forward, the university should conduct further segmentation of the EFC cohorts to look for ongoing and emerging trends.

Specifically, Belhaven's very high retention of zero EFC students relative to other segmented EFC groups is worthy of review. Are the services, counseling, and support offered to these students significantly different than those offered to the rest of the university population? Were the retention results in this study an anomaly? Are there services, activities, or other sources of dissatisfaction that are driving middle and upper EFC student to depart? The university would be well served to seek to better understand the causes of their success in

retaining zero EFC students as well as the reasons for the departure of middle and upper EFC students.

Belhaven University's traditional student population is approximately 1,100 students. The elements and methodologies of this study could also be conducted at other public or private 4-year universities to develop comparative results from universities with different funding structures, population sizes, geographic locations, and stated missions. Conducting similar focused research across a wider spectrum of colleges and universities could offer administrators a sharper perspective on the relationship of EFC to student success as measured by GPA and credit hours completed.

In an article on the economic influences on persistence, St. John, Cabrera, Nora, and Asker (2000) note that economic studies alone provide an incomplete view on the nature of persistence of college students. Additional predictors of persistence must also be included such as precollege motivational factors, precollege academic achievement and ability factors, actual student awards received, and demographic factors. In this study, EFC was considered as a stand-alone predictive variable that measured a student family's ability to pay. Further research considering the impact of EFC with additional data such as the high school achievement test scores (ACT or SAT), high school GPA, and the final financial aid package awarded could introduce additional variables that would further enhance the understanding of freshman year success.

Finally, St. John et al. (2000) advocate for additional qualitative research among university students that addresses the question of fit within a particular academic community. Additional qualitative research including supplemental surveys, focus groups, and one-on-one interviews that seek to determine how students perceive their college choice once they have

enrolled at the institution will provide administrators additional insights into the satisfaction of

their students.

LIMITATIONS

The research in this study was conducted only at Belhaven University, a regional liberal arts university located in Jackson, Mississippi. All of the data that were reviewed was specific to Belhaven University. Further, the data were drawn from the academic years of 2016-2017 and 2017-2018. This study was limited to the 2017 and 2018 fiscal year data because it was the most recent complete and integrated information that is available since a June 2015 conversion of the university data system. The fact that only two years of data were available for a total research population of 427 records could be a limiting factor in this study.

Based on the reviewed research on the relationship of EFC to student persistence found in this study, there does appear to be limited generalizability to other studies that have been conducted on other university campuses. The results of this study proved directionally consistent with the EFC findings in the Colorado State (2016), Boise State (2010), The University of Nevada-Reno (2007), and the Maryland Higher Education Commission (2007). However, all of these research studies were conducted by public entities and none of them were in the South.

To strengthen the generalizability, similar research of EFC to student success as measured by GPA and credit hours completed should be conducted on other university campuses that are public or private and located in the southeastern portion of the United States. The portability of the EFC statistic does offer one single amount for each student family's ability to pay. Thus the dependent variable of EFC would be the same for a student regardless of which school they should attend. The significant difference in the size of the sample populations at

larger public and private institutions could potentially offer different results than were found in

this study.

SUMMARY

The purpose of this study was to examine the relationship of EFC to student success as measured by GPA and credit hours completed at Belhaven University. While the review of the 427 freshmen that enrolled at the University in the Fall of 2016 and Fall of 2017 revealed that there is no apparent predictive correlation between EFC and student success as measured by GPA and credit hours completed, the segmentation of EFC into lower and higher EFC groupings resulted in statistically significant differences in mean GPA and mean credit hours completed. Further analysis of the lower EFC group revealed that the university retains its zero EFC students at a much higher rate than middle and upper EFC students.

The significant differences that were discovered provide administrators with additional handles to help entering freshmen persist at Belhaven University. Specifically, lower EFC students should receive early intervention opportunities that will give them a head start on improved academic performance. Pre-enrollment counseling for all students is needed to assure that entering freshmen take enough credit hours to remain eligible for college and state funds which are tied to completing a minimum of 15 credit hours each semester. University administrators should also conduct annual reviews of the amount and availability of need based aid to assure that freshmen that have an EFC between 0 and $6,000 have adequate financial support to allow them to focus on academic and social integration into the University. Finally, senior leaders must create a campus ethos that stresses the continual importance of student

retention by all faculty and staff. Such an atmosphere will allow required early warning

retention efforts to maximize the identification of struggling students.

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    Insights/2017/08/15-to-Finish.

VITA

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Education

The University of Texas at Austin
Master in Business Administration
President, Graduate Business Council

Millsaps College; Jackson, Mississippi
Bachelor of Business Administration
Graduated Cum Laude
Finance Major; History Minor

Professional Experience

7/03 – Present | **Belhaven University; Jackson, Mississippi**
Vice President for Enrollment, Marketing, and Advancement
Versatile professional and passionate leader with over 16 years of broad executive service in multiple strategic areas including: enrollment management (traditional, online, adult and graduate), communications (brand development, marketing and publications), web services (website, search engine marketing and optimization), development, alumni, church relations, athletics, student retention, information technology, student financial planning, special projects, and career planning and placement. Currently supervising a leadership team of six and a division of 84 professionals.

10/93 - Present | **Alexander and Associates; Ridgeland, Mississippi**
Management Consulting and Professional Development Services
Provide facilitation, management training, and performance enhancement consulting services for the public, private, and education sectors. Have worked with clients in a broad range of areas including: government, enrollment management, health services, manufacturing, petroleum, computer services, financial services, and public utility.

1/02 – 7/03   **Jackson Preparatory School; Jackson Mississippi**
Assistant Head of School for Institutional Advancement
Responsible for Admission, Development, Public Relations, and Alumni functions at the largest 7-12 Independent School in Mississippi. Managed team of 5 staff members and 40 parent volunteers. Reported to Head of School and served on Executive Leadership Team.

8/93 – 12/01   **Millsaps College; Jackson, Mississippi**
11/00 – 12/01   *Assistant Vice President for External Relations*
Supervised 13 staff members in the Alumni, Publications, Public Relations, and Web Communications Offices. As a member of the President's Cabinet, also served as one of five primary fund-raisers and donor relation managers.

11/96 - 11/00   *Assistant to the President for College Communications*
Managed the operations of the Public Relations, Web Communications, and Publications Offices. In this Cabinet level position, also served as Executive Director of the Millsaps National Marketing Council. Responsible for strategic projects designated by the President. Supervised 5 staff members.

8/93 - 11/96   *Director, Graduate Business Admissions and Programs*
Responsible for all marketing and recruitment efforts of the graduate business program. Implemented prospect inquiry and financial aid leveraging databases to enhance recruiting and improve efficiency.

7/90 - 8/93   **Leo Burnett Advertising and Marketing USA; Chicago, Illinois**
Account Executive
Responsible for all facets of account management focused on strategic development of new marketing initiatives and programs for *Fortune 500* clients. Specific areas of development included marketing research, multi-media production, media planning, direct marketing, and business brand review for the Guinness Brands, Kraft General Foods, and Black and Decker accounts. Direct client experience included:

6/86 - 8/88   **Deposit Guaranty National Bank; Jackson, Mississippi**
Real Estate Loan Representative
Managed all aspects of commercial and residential lending with respect to a $137 million portfolio.

Activities and Honors

Board Member, Council for Advancement and Support of Education (CASE) District III
Education Chair, CASE District III Board
Conference Chair 2006, CASE District III, Nashville, TN
Former Board Member, Association of Fundraising Professionals
Board Member, Neighborhood Christian Center, Jackson, MS
Former Board and Conference Committee Member, National Association of
 Graduate Admission Professionals (NAGAP)
Winner, Graduate Admission Publication of the Year; National
 Association of Graduate Admission Professionals
Member, Council for Christian Colleges and Universities (CCCU)
Former Board Member, College Public Relations Association Mississippi
Member, National Association of College Admission Counseling
Past President, Vice President, Secretary, and Treasurer, Rotary Club of
 North Jackson
Education Chair, Rotary Club of North Jackson
Multiple Paul Harris Donor, Rotary International
Board Member, Epilepsy Foundation of Mississippi
Member, Mississippi Economic Council
Member, Jackson Chamber of Commerce
Past Chairman, Business and Industry Teacher Exchange Program; Jackson
 Chamber of Commerce
Past Board Member, Neighborhood Christian Center
Past Instructor, American Management Association
Ruling Elder and Past Diaconate Chair, Highlands Presbyterian Church
Chairman, Personnel Committee, Highlands Presbyterian Church
Delegate, Presbyterian Church in America General Assembly
Honorable Mention, Division III All-American Basketball player,
 Millsaps College
Member, Millsaps College Athletic Hall of Fame
Eagle Scout