

STUDENT COSTS AND ENROLLMENT IN PRIVATE,
LESS THAN HIGHLY COMPETITIVE,
BACCALAUREATE INSTITUTIONS

by

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A DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Education in the
Department of Educational Leadership,
Policy, and Technology Studies
in the Graduate School of
The University of Alabama

TUSCALOOSA, ALABAMA

2010

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ABSTRACT

Private, not-for-profit, Baccalaureate institutions have played an important role in the history of American higher education. These institutions have their beginnings in the traditional liberal arts institutions that were established for training clergy and community leaders. These institutions still play a vital role in the higher education landscape.

This study explored the relationship between institutional characteristics, student cost, and enrollment in an effort to document the trends from 1988 to 2008 and to determine any predictive value based upon those trends. A study population that included private, not-for-profit, less than highly competitive institutions was examined and disaggregated into cohorts based upon geographic region, Carnegie 2005 Basic Classification, and HBCU status. The results of descriptive statistics and data analyses show that enrollments remained relatively stable among this sector of higher education while the costs increased. The characteristics shown to have the greatest impact on cost were being located in the Northeast region, being a Baccalaureate Arts and Sciences institution, and not having designation as an HBCU. Enrollments were slightly negatively correlated with the mean cost changes. Findings, conclusions and recommendations are discussed at the end of the study.

By examining this sector of higher education, the researcher sought to gain a better understanding of the relationship among institutional characteristics, student cost, and enrollment. Increased knowledge of this sector of higher education can assist higher education professionals to be better prepared for institutional planning and public policy discussion.

DEDICATION

This work is dedicated to all those who provide opportunities. You never know when a chance is all that is required to help someone achieve.

LIST OF ABBREVIATIONS AND SYMBOLS

N	sample population
p	probability value
$<$	less than
$=$	equal to
\geq	greater than or equal to
df	degrees of freedom
F	ration of two variances
DV	dependent variable
IV	independent variable
B	unstandardized coefficient
$SE B$	Standard error of the unstandardized coefficient
β	beta weight

ACKNOWLEDGMENTS

I am very grateful that I have had an opportunity to undertake and complete this incredible journey. It has taken much effort, time, a few tears, and the love, support, and encouragement of many to get me to this point. I cannot possibly mention each person who has impacted my life in a way that helped me get to where I am today. There were teachers who inspired and challenged me and made me believe that I could; individuals who saw potential in me and helped me have the confidence to achieve; friends that encouraged me; and family who believed in education and offered love and support the entire way.

I am particularly thankful to the committee members who have offered their time to provide me with guidance, Dr. Wayne Urban, Dr. Jennifer Jones, Dr. Mike Kennamer, Dr. Jim Jolly and Dr. Beverly Dyer. I would not be writing this today if it were not for Dr. Dyer who helped me navigate the maze of doctoral study and the University when I had no idea where to go next. I offer my gratitude to Dr. John Dantzler who, although not a member of my dissertation committee, gave of his time and expertise to help me work with the data I collected and to make sense of it all. I am especially thankful to my dissertation committee chair, Dr. David Hardy, who challenged me, gave me guidance, offered advice, and gave me encouragement when I needed it most.

Finally, I offer my sincerest appreciation to my family and friends who have supported, encouraged, and more than occasionally, prodded me to complete this educational journey. There are friends and family who never failed to ask how my progress was coming, offered a place to stay, provided a distraction when I needed it, or offered their time to complete tasks for me so I

could attend class, study, or write. There are friends and classmates who saw me through the finals stages of this process, and held me accountable through study sessions, frequent emails, and weekly chats.

I am especially grateful and thankful for Melissa, who made it possible for me to complete what I started and made sure that I did so. I am most grateful to my parents, Sonny and Jeanette Davis, my siblings by birth, Gay, Andy, Kathy, and Harvey, and to my siblings by marriage, who all have taught me the value of work, the importance of a job well done, gave me a foundation of faith, and who each have each given of themselves in ways that helped me achieve what I did not think was possible. I am fortunate to have the love of nieces and nephews who inspire me to stay young at heart and provide motivation. If there is a theme to the personal journey of a doctoral program, it must be love, support, and encouragement.

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CHAPTER I:
INTRODUCTION

Introduction to the Study

Higher education in the United States has expanded greatly since its earliest days. As prospective students choose whether or not to attend college and if so, which institution to attend, they are bombarded with information and choices to make. This has created an environment much different than in the earliest days of higher education. More individuals are participating in postsecondary education, the cost of participation is increasing, and there are more institutional options for those who choose to attend.

Over the past five decades, participation in higher education has increased substantially. In 1959, approximately 8% of the population over the age of 25 had at least a four-year college degree. In 2008, just over 29% had at least a four-year college degree (U.S. Census Bureau, 2009). In just under fifty years, the population with a baccalaureate degree increased more than three-fold. When considering the longer-term trend, the participation in higher education is greater. Just over 52,000 students were enrolled in 563 institutions of higher education in 1869-1870 (Snyder, Dillow, & Hoffman, 2009, p. 277). In contrast, by the fall of 2007, over 18.2 million students were being served by 4339 degree granting institutions in the United States (Snyder et al., 2009, p. 327). Approximately 3.6 million students were attending 1621 private not-for-profit institutions. Almost 792,000 of those students were enrolled in 533 private, not-for-profit, Baccalaureate colleges (Snyder et al., 2009).

In addition to increased participation, the cost of higher education has also increased dramatically over the past few years. Tuition prices are rising and books are increasingly expensive. Tuition and fees for private colleges and universities increased from a mean of \$1,088 in 1965 to \$19,991 in 2007 (Snyder, Dillow, & Hoffman, 2008). This is an increase of 1,700% over a forty-two year period. Adding the cost of room and board, the equation results in a mean price of over \$34,000 per year for 2008-2009 (Baum & Ma, 2008).

Prospective students have a variety of institutions from which to choose. There are many types of colleges, as is apparent to many parents of recent high school graduates. According to the Carnegie Foundation for the Advancement of Teaching's Basic Classification, there are six primary groupings with a total of thirty-three sub-groupings. While there are many choices, there is some concern that the continued existence of one type of institution is in danger. Several scholars (Bolda & Mack, 1983; Breneman, 1990a, 1990b, 1994; Pfnister, 1984; Shulman, 1974; Pfnister & Finkelstein, 1984) have sounded the alarm about the struggles of traditional liberal arts institutions, especially the colleges that Astin and Lee (1972) called the "invisible" colleges (p. 1). These colleges do not have the recognition that selective private institutions have yet in the mid twentieth century they made up one-third of all four-year institutions, including public and private (Astin & Lee, 1972). The market share for this type of institution has been decreasing since the expansion of state supported institutions that occurred after World War II (Pfnister & Finkelstein, 1984).

As prospective students weigh their options about higher education, they are considering the financial cost when making choices about if and where to attend college (Hossler, Schmit, & Vesper, 1999). Baum (2001) indicated that this is particularly true among lower income students. Some research has suggested that students are more influenced by price than by the amount of

aid available (Paulsen, 2001). Private institutions with high sticker prices may be especially affected by this influence of price. Even though institutions may award a great amount of aid, prospective students may never consider the college based upon the published price alone. In combination, the plethora of options and the cost of attendance may affect the enrollment and ultimately the survival of the small baccalaureate institution.

Purpose of the Study

Private baccalaureate institutions, including Historically Black Colleges and Universities (HBCU), serve a diverse population of students. The institutions themselves are quite varied and have faced many challenges (Breneman, 1994); yet they endure and some even prosper. These institutions differ from public institutions in that they rely more heavily on tuition and fees for revenue generation (National Center for Education Statistics [NCES], 2004) and may have lower endowments. Should enrollments decrease and revenues from tuition and fees decline, these colleges may struggle to remain open.

This study reviewed the changes in tuition rates, total student cost, and changes to enrollments at regionally accredited, private, not-for-profit, less than highly competitive, undergraduate, residential, baccalaureate institutions during a twenty-year period. Data was analyzed to determine any relationship between student costs and enrollment, as well as, the relationship between tuition and various cohorts of institutions. The data was compared regionally as well as between the Carnegie Classification Baccalaureate categories, and between HBCU and non-HBCU institutions. By examining data for this sector of U.S. higher education, this study provided insight into the relationship between student costs and enrollment in baccalaureate institutions.

Significance of the Study

This study examined college enrollment patterns compared to the cost of higher education. Because of their value to the U.S. higher education landscape and positive impact on higher education in the U.S., private baccalaureate institutions were chosen for this study. Shulman (1974) reported that higher education leaders indicate two primary contributions of private liberal arts institutions: providing institutional diversity and preventing excessive governmental interference. Private liberal arts institutions provide the educational consumer with choices in terms of “size, curricula, philosophy, and communal feeling” (Shulman, 1974, p. 2). Thelin (2004) asserted that, in the 1960s, these institutions provided an alternative to the “impersonal” campuses of the large universities (p. 296). Not only do these institutions provide another type of college from which students may choose, they also provide diversity among themselves. Astin (2000) discussed some of the diversity found within this group in terms of affiliation, spending per student, and selectivity among others. Shulman (1974) also asserted that the private institutions serve as a limiting factor for intrusion of government into higher education. Kerr (1972) seemed to promote this theory in his address to Claremont University Center when he indicated that the private institutional autonomy helps to preserve the independence of public institutions.

The private baccalaureate institution may be particularly valuable in the U.S. higher education system. It has been suggested that these colleges may play a role in the debate over “American-style democracy” (Canada, 2000, p. 121) and are responsible for educating a higher share of professionals, civic leaders, and business leaders than other types of colleges and universities (Koblik, 2000). By analyzing available data, a better understanding of the

relationship between price, cost, and enrollments may emerge to help this segment of higher education continue to exist and prosper in the current environment.

Research Questions

This study endeavored to answer the following research questions:

1. What are the changes in a) the mean undergraduate tuition and fees b) the mean total student cost (tuition, fees, room and board), and c) the mean enrollment of undergraduate attendance among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions over the defined 20 year period of 1988-2008;
2. What are the changes in the mean undergraduate tuition and fees, total student cost (tuition, fees, room and board) of undergraduate attendance, and enrollment based upon a) the HBCU status, b) the geographic region, and c) Carnegie classification of the institutions;
3. What is the relationship between the twenty-year mean annual change in undergraduate tuition and fees and the twenty-year mean annual change in undergraduate enrollment private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions;
4. What is the relationship between the five-year mean annual change in undergraduate tuition and fees of undergraduate attendance and a) enrollment, b) HBCU status, c) geographic region, and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions?
5. What is the relationship between the twenty-year mean annual change in undergraduate tuition and fees and a) enrollment, b) HBCU status, c) geographic region,

and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions;

6. What is the relationship between the twenty-year mean annual change in total student cost (tuition, fees, room and board) of undergraduate attendance and the twenty-year mean annual change in undergraduate enrollment in private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions;

7. What is the relationship between the five-year mean annual change in total cost (tuition, fees, room, and board) of undergraduate attendance and a) enrollment, b) HBCU status, c) geographic region, and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions; and

8. What is the relationship between the twenty-year mean annual change in total cost (tuition, fees, room, and board) of undergraduate attendance and a) enrollment, b) HBCU status, c) geographic region, and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions?

Operational Definition of Terms

General Terms

Most competitive – Institutions that typically admit fewer than one-third of applicants.

Admitted students typically rank in the top 10-20% of their high school class and score between 655 and 800 on the SAT or 29 or above on the ACT (Barron's, 2008).

Highly competitive – Institutions that typically admit between one-third and one-half of applicants. Admitted students typically rank in the top 20-35% of their high school class and score between 620 and 654 on the SAT or 27-28 on the ACT (Barron's, 2008).

Integrated Postsecondary Education Data System (IPEDS) - A system of interrelated surveys conducted annually by the U.S. Department's National Center for Education Statistics (NCES). Institutions that participate in federal student financial aid programs are required to report information concerning enrollments, program completions, graduation rates, faculty and staff, finances, institutional prices, and student financial aid (National Center for Education Statistics [NCES], 2010).

Liberal arts – studies in a college or university intended to provide chiefly general knowledge and develop general intellectual capacities as opposed to vocational or professional skills (Mish, 1985).

Liberal arts colleges/institutions - institutions that are primarily undergraduate colleges that award more than half of their baccalaureate degrees in arts and science fields or that award less than half of their degrees in liberal arts fields but are too small to be considered comprehensive (Boyer, 1990).

Not-for-profit - a private institution in which the individual(s) or agency in control receives no compensation other than wages, rent, or other expenses for the assumption of risk. Not-for-profit institutions may be independent not-for-profit (i.e., having no religious affiliation) or religiously affiliated (Snyder et al., 2009, p. 677).

Tuition Discounting - the practice of offering institutional financial aid that discounts the tuition price for certain students (Kalsbeek & Hossler, 2008).

Terms Relating to Finance

Consumer Price Index – an index measuring the change in the cost of typical goods and services purchased by a consumer expressed as a percentage of the cost of these same goods and services in some base period (Mish, 1985).

Cost of higher education – the amount that institutions spend to provide education and related services to students (Baum, 2009; Harvey, Williams, Kirshstein, O'Malley, & Wellman, 1998).

Net price – the amount students pay to an institution after deducting applicable aid awards from the total price (Harvey et al., 1998).

Price – what students and parents are charged for college attendance (Harvey et al., 1998).

Total cost – For this study, total cost refers to the cost to students for tuition, fees, room, and board.

Terms Relating to Carnegie Classification System

Baccalaureate institutions/colleges - within the 2005 Carnegie Basic Classification, institutions where baccalaureate degrees represent at least 10% of all undergraduate degrees and that award fewer than fifty master's degrees or twenty doctoral degrees per year (Carnegie Foundation, 2009b).

Baccalaureate, Arts and Sciences – within the 2005 Carnegie Basic Classification, institutions in which bachelor's degrees represent at least half of all undergraduate degrees and where at least half of those bachelor degree majors are in the arts and sciences as (Carnegie Foundation, 2009c).

Baccalaureate, Diverse Fields – within the 2005 Carnegie Basic Classification, institutions in which bachelor's degrees represent at least half of all undergraduate degrees and where less than half of those bachelor degree majors are in the arts and sciences (Carnegie Foundation, 2009c).

Baccalaureate/Associate's – within the 2005 Carnegie Basic Classification, institutions that offer Baccalaureate and Associate's degrees where bachelor's degrees represent at least 10% but less than half of all undergraduate degrees (Carnegie Foundation, 2009c).

Assumptions

This study was conducted with the *a priori* acknowledgement of the following assumptions:

1. The analysis of general groupings within this type of institution provided insightful information despite the diversities among the selected institutions;
2. The Carnegie Classification system provided the best classification groupings for use in this study;
3. IPEDS data was the most appropriate source of the data needed to conduct the study; and
4. Data submitted by institutions to IPEDS is accurate and complete.

Limitations

This study was conducted with the *a priori* recognition of the following potential limitations:

1. IPEDS data was missing for some institutions in some years; and
2. IPEDS data submitted by institutions may have been inaccurate.

Delimitations

This study was constructed by the following delimitations:

1. This study considered only private, regionally accredited, residential baccalaureate institutions;
2. This study considered institutions that are regarded as less selective, or competitive, in admissions policies. This was determined by the competitive ranking as listing in Barron's Profile of American Colleges for 2009. Institutions listed as most competitive and highly competitive were regarded as very selective and were excluded. The use of Barron's Profiles of American Colleges follows that of Pascarella et al. (2006);
3. Only institutions within the 50 states of the United States were included in this study.
4. This study considered data from 1988-2008;
5. Only colleges that exist currently and have been in existence throughout the period studied were included in the study;
6. Only colleges that have data for all years in the period studied were included;
7. Colleges identified as for-profit, or proprietary, institutions were excluded; and
8. Institutions with incomplete data for the period of time in the study were excluded.

Organization of the Study

The organization of this study is as follows. Chapter I provides an introduction that includes the purpose and significance of the study, the research questions, definition of terms, delimitations, limitations, and assumptions. Chapter II is a review of relevant literature related to the study. It includes a discussion of the baccalaureate college, and financial issues such as price, cost, and economic theory, and student choice. Chapter III is a discussion of the methodology

and research design that will be used. The study population, data source, data collection techniques are presented as well as a discussion of the statistical analysis. Chapter IV presents the data and Chapter V includes a discussion of the findings, conclusions and recommendations for future research.

CHAPTER II:
REVIEW OF THE LITERATURE

Introduction

When considering trends in higher education concerning enrollments and costs in terms of the institution as well as the student, there are many factors that come into play. Higher education participation has increased substantially (Snyder, Dillow, & Hoffman, 2008; U.S. Census Bureau, 2009) along with the price that students and their parents are asked to pay (Baum & Ma, 2008; O’Keefe, 1994; Martin, 2002). In addition, the costs of providing educational courses and resources have risen for institutions (Archibald & Feldman, 2008a). Revenue generation, student aid, and the use of tuition discounting are all key issues among the higher educational professionals (Breneman, Doti, & Lapovsky, 2001; Martin 2002a; Redd, 2000). This review includes a discussion of the price and cost of higher education, college choice, and tuition discounting. This literature review also includes an overview of the historical role of private, not-for-profit institutions, specifically those classified as baccalaureate colleges in the Carnegie Classification system as well as the modern baccalaureate college. Because many of the baccalaureate institutions have been categorized as liberal arts, have traditionally provided a liberal education, and have awarded degrees primarily in the arts and science fields, much of the literature concerning this type of institution refers to the colleges as liberal arts colleges. Therefore, the term liberal arts will be used in this review to refer to these institutions in addition to the term private, baccalaureate institution.

Historical Role and Mission of the Private Baccalaureate College

It has been suggested that the private baccalaureate college, formerly known as the liberal arts college, is “one of American society’s greatest success stories” (Breneman, 1994, p. 1). The historic mission of the “liberal arts” college in the United States includes providing an education grounded in the liberal arts and sciences (Gilbert, 1995; Paulsen, 1990). The earliest institutions subscribed to the philosophy of a liberal education and some of those earliest colleges that are still in existence continue to do so. Over time, many private baccalaureate institutions have been established while some have ceased operations. The missions have varied and adapted as time has passed and the educational environments have changed.

Beginnings

The primary purpose of the first institutions of higher education in what would become the United States was to disseminate Christianity, train clergy, and to prepare leaders in the new world (Brubacher & Rudy, 1976), or as Rudolph (1990) maintained, to create “a learned clergy, and a lettered people” (p. 6). Colleges were typically established by religious groups to train clergy members and to provide educated citizens who would work for the communities as public servants. The clergy played a very important role in the early history of the United States. It was important to the early colonists that ministers be properly prepared in order to propagate the religious beliefs of the colonies. As a result, eight of the nine colleges established prior to the American Revolution were founded upon Christian principles (Brubacher & Rudy, 1976). Only the College of Philadelphia, which later became the University of Pennsylvania, had no religious affiliation (Astin & Lee, 1972; Brubacher & Rudy, 1976; Rudolph, 1990).

Institutions of higher learning were also expected to convey knowledge and to “develop personal character and intellect” (Lang, 1999, p. 134). Only by educating their citizens could the

colonies ensure having an educated group of individuals that could provide governance and direction for their communities. The leaders of the early institutions believed in the benefits of a curriculum that included courses in literature, the arts, and the languages of Greek and Latin (Rudolph, 1990). This curriculum provided a foundation to help students develop the good character that would aid in their ability to govern and be productive citizens. Many liberal arts institutions today have similar goals of “producing active citizens with curious minds” (Voelker & Campbell, 2003, p. 46). While higher education institutions may have moved away from their original religious focus or have been established without a religious focus, many of today’s religious and secular “liberal arts” colleges promote education in the arts, literature, and humanities just as did the earliest institutions in the United States.

As previously noted, the first U.S. institutions were typically established by individuals or organizations that wanted to perpetuate their own religion or to provide education for a particular group. Today, these institutions may be labeled as private institutions that garnered their support entirely from individuals and religious organizations. These colleges did perceive themselves as private institutions (Brubacher & Rudy, 1976) and received private support, some of which was quite substantial. Some of today’s large elite institutions, such as Harvard and Yale, as well as smaller institutions such as Tusculum College in Tennessee, had private benefactors who provided large amounts of financial support (Rudolph, 1990).

In addition to private benefactors, the first colleges also typically received some type of state support (Brubacher & Rudy, 1976; Rudolph, 1990; Thelin, 2004). This support came in a multitude of forms. Harvard received state appropriations over one hundred times prior to 1789 (Rudolph, 1990), and later received appropriations from ferry revenues and toll bridges (Brubacher & Rudy, 1976). The University of Pennsylvania and Columbia were also recipients

of early state appropriations. State supported lotteries helped to fund Princeton and colleges in New York, South Carolina, and Pennsylvania (Rudolph, 1990). Some states provided land to early institutions. Both Vermont and Massachusetts turned over townships to colleges as a means of support (Rudolph, 1990). The College of William and Mary received tax money that had been levied on furs, skins, and tobacco (Brubacher & Rudy, 1976).

While the first institutions were primarily religiously oriented, the number of sectarian colleges increased during the early 1800s. This led to a greater burden upon state governments that were trying to assist colleges financially. As the number of institutions grew, students began to attend colleges outside of their own states (Rudolph, 1990). Rudolph (1990) noted this attendance pattern weakened the relationship between the states and the colleges. Together with increasing financial burdens, this led to a greater reluctance of government entities to financially support the colleges (Rudolph, 1990). In general, colleges began to rely more heavily on private donors than on state support. After the Civil War, as the U.S. was becoming more industrialized, private colleges increasingly “depended upon the generosity of private individuals to sustain and improve their programs” (Shulman, 1974, p. 13). Fortunately for these colleges, there were more wealthy donors willing to assist private higher education institutions (Rudolph, 1990).

A Changing Educational System

As the new world expanded and higher educational institutions grew in number and scope, the traditional liberal education was influenced by events that included the Dartmouth case, the Yale Report, and the Land Grant Acts. These three occurrences helped to shape the path of higher education in the United States. The Dartmouth case in 1819 proved to be a defining moment for the old order institutions that operated independently of state or federal controls (Rudolph, 1990). In an issue of public versus private control, the Supreme Court decided that

Dartmouth, which had received a charter from the Crown of England, was a private rather than public entity. The New Hampshire legislature could not amend its contract with the institution without approval from the Board of Trustees (Rudolph, 1990). Therefore, the college had control over its own leadership (Brubacher & Rudy, 1976) and the state was prevented from taking control of the institution. The Supreme Court decision became one of the first defining moments for private education by “safeguarding private institutions from legislative interference” (Rudolph, 1990, p. 210) and thus began the clarification between public and private institutions (Rudolph, 1990). The decision concerning the Dartmouth Case not only defined private institutions and bolstered their growth but also helped to inhibit the growth of public state universities (Brubacher & Rudy, 1976; Rudolph, 1990).

Throughout the colonial years, the higher education institutions in the new world were much like their predecessors in England. They were primarily concerned with passing along previous knowledge to those who would lead the colonies through civic or religious service.

The colonial American college was in many ways a blood brother to its English model. Like the latter, it upheld the tradition of a prescribed classical preparatory course; it was more deeply concerned with the forming of character than the fostering of research; it placed great value on a residential pattern of life for students (what Cotton Mather called the “collegiate way of living”); and was concerned primarily with training a special elite for community leadership. (Brubacher & Rudy, 1976, p. 23)

There were, however, a few institutions that moved away from the traditional liberal arts curriculum into research, agricultural and technical areas. For example, beginning in the late 1700s and extending into the turn of the century, Princeton admitted students into scientific programs of study (Rudolph, 1990) and in 1824 Rensselaer Polytechnic Institute was founded to prepare teachers to propagate the use of science in agricultural, manufacturing and domestic areas (Brubacher & Rudy, 1976). In 1832, the University of the City of New York offered programs of study in both the “classical tradition ...” and in the “...English-scientific pattern.”

(Rudolph, 1990, p. 129). Institutions began to move toward a more practical application of learning and away from the classical course of study.

In response to the movement toward a practical curriculum by some institutions, the Yale Report of 1828 was released which espoused the benefits of the classical curriculum. The report emphasized the idea that a classical curriculum provided the best education for the youth of the land and supported the requirement of classical languages and the use of recitations (Rudolph, 1990). The report from the Yale faculty was a direct response to the reformers of higher education who wanted to adapt institutions to the changing needs of the American citizen (Rudolph, 1990). The report led to what some call an “unmovable” (Rudolph, 1990, p. 135) classical curriculum that continued in popularity until the mid-to-late 1800s.

Changes after the Civil War and the rise of the land grant institutions began to redefine the landscape of higher education (Rudolph, 1990). The technical and the agricultural related institutions experienced a growth during the later part of the 1800s. Although Thelin (2004) suggested that the contributions may have been exaggerated, others suggested that the growth was aided in particular by the Morrill Land Grant Acts of 1862 and 1890, and the Hatch Act of 1887 (Brubacher & Rudy, 1976; Rudolph, 1990). The 1862 Act provided funding for the establishment of an institution in each state specifically for instruction in agricultural and mechanical arts (Rudolph, 1990). Although initially, professors at the so called Land Grant colleges had little in the way of course material and research, the experiment stations created by the Hatch Act provided scientific research upon which the professors could base their courses (Brubacher & Rudy, 1976). The 1890 Act established annual funding for the agricultural and mechanical institutions but also included restrictions that prevented funds from going to institutions in states that discriminated based upon race unless they provided what was deemed

as separate but equal educational institutions for African Americans (Rudolph, 1990). In response, some states chose to create separate institutions rather than integrate existing land grant colleges (Rudolph, 1990). The late 1800s represented a growing movement among agrarian instruction and a movement away from the liberal arts traditions toward a “new era of free inquiry” and “of more extensive scientific research” (Brubacher & Rudy, 1976, p. 62). Although, according to Key (1996), the Morrill Land Grant Act was “fundamentally concerned with economics, not education” (conclusion, para. 3) at its inception, its impact on education has been widely noted in published histories of higher education (Brubacher & Rudy, 1976; Rudolph, 1990; Thelin, 2004). The land grant colleges were the first institutions to focus on and legitimize vocational and technical education, liberate higher education from the “class-bound, classical-bound traditions” (Rudolph, 1990, p. 263) and stand for “the principle ... that every American citizen is entitled to receive some form of higher education” (Brubacher & Rudy, 1976, p. 64).

As the number of land grant and other state institutions grew, public financial resources increased to these institutions and dwindled from the old order, traditional institutions (Brubacher & Rudy, 1976). It was during this time of educational change in the 1800s that some college leaders began to extol the benefits of being independent from the state and espoused the freedom that this independence brought. This was the beginning of what Rudolph (1990) called “a remarkable lapse of memory and the beginnings of a myth” (p. 189). “Private” colleges had emerged and began ignoring the part that state support had played in their previous survival.

The Dartmouth case and its implications, the movement toward scientific research particularly in mechanical and agricultural areas, and the Land Grant Acts all played an important role in the shaping of higher education in America. The traditions of liberal learning

continued to have a strong presence in the northeast and preparing young men for law, medicine, and the ministry was the impetus for the many of the earlier southern colleges, in particular (McCandless, 1999). In contrast, the colleges that grew out of the Land Grant Acts were created to train students in practical matters rather than promote this liberal learning that had been the educational tradition among the earliest institutions. Liberal arts institutions came to be seen as “the preserve of the region’s elite” (McCandless, 1999, p. 11).

The Role of the Historically Black College and University

The history of higher education for African Americans is much different than the history of higher education for other citizens of the United States. Although there were many institutions of higher education available to the White citizens of the United States, there was little access to higher learning for African Americans prior to the Civil War (Brubacher & Rudy, 1976; Drewry & Doermann, 2001). There were few opportunities for even a basic education and still fewer for higher education. There were 28 African American college graduates by 1860 who had attended some of the more prominent, and almost exclusively, white institutions (Brubacher & Rudy, 1976). Institutions created to offer opportunities for African Americans prior to 1860 included Avery College in Pennsylvania, the Miner Academy in Washington, D.C., Wilberforce University in Ohio which was a Methodist institution, and Lincoln University in Pennsylvania which was a Presbyterian institution (Brubacher & Rudy, 1976; Drewry & Doermann, 2001).

After the Civil War, educational opportunities for African Americans increased greatly. Protestant groups such as the American Missionary Association took an interest in the education of African Americans (Thelin, 2004). Colleges were established in the South, primarily by religious groups from the northern United States, with the primary goal of educating newly freed slaves. “This era was dominated by the benevolence, zeal, and humanitarianism of northern

Christian churches, especially the Congregationalists, Presbyterian, Methodist, and Baptist churches. These organizations were active in sending ‘Yankee schoolmarms’ down South” (Brubacher & Rudy, 1976, p. 74) to staff schools for those who were recently emancipated. These organizations were also interested in the higher education of the African American population (Brubacher & Rudy, 1976).

Other groups active in establishing educational institutions for African Americans after the Civil War were the United States Army and the Freedmen’s Bureau. Until its abolishment in 1872, the Freedmen’s Bureau worked in coordination with the religious organizations active in the South. Both Howard University in Washington, D. C., (Brubacher & Rudy, 1976; Dyson, 1941; Logan, 1969) and Fisk University in Nashville, Tennessee, (Brubacher & Rudy, 1976; Richardson, 1980) are examples of institutions created through these cooperative efforts. After the passage of the Morrill Land Grant Acts, more public institutions were open to or established for the higher education of African Americans in the United States. Although Howard University and Fisk University offered African Americans access to liberal arts education (Thelin, 2004), most public institutions were focused on agricultural and mechanical arts rather than a traditional liberal arts curriculum. The only states that established public institutions that were not focused primarily on vocational or trade programs were Virginia and North Carolina (Brubacher & Rudy, 1976).

As increasing numbers of African American students began attending predominately white institutions during the twentieth century, the historically black colleges had to compete with these institutions for students. Publicly supported black colleges were faced with the possibility of losing their identity or being closed (Brubacher & Rudy, 1976). Private institutions also felt the threat of losing African American students to predominately white institutions.

Extending into the later part of the twentieth century, private, Historically Black institutions were losing students, losing faculty, and were underfinanced. While some gains were made in the 1980s and 1990s, private Historically Black Colleges and Universities still face the threats of lower enrollments, underfunding, and loss of identity (Drewry & Doermann, 2001).

The Modern Private Baccalaureate College

Characteristics

The modern private baccalaureate college has retained some of the characteristics it formed during its early beginnings. These colleges, which may have been called liberal arts colleges previously, are mostly small, independent institutions. They are primarily residential, enrolling traditional college age students and offering bachelor-level degrees. They place emphasis upon teaching rather than research, and may promote values associated with religious or other ideals (Astin, 2000; Breneman, 1990b; McPherson & Shapiro, 2000). The focus of today's private baccalaureate institution is to produce well-rounded individuals with a broad-based education. McPherson and Shapiro (2000) put it succinctly when they said the strength of a liberal education was to "cultivate the ability for independent thought" (p. 69). Although citizenship and social responsibility have historically been key concepts in the liberal education tradition, Lang (2000) argued that the modern liberal arts institution does not explicitly encourage students to be involved with civic and community affairs.

In 1972, Astin and Lee referred to less selective, private, baccalaureate colleges as "invisible" (p. 1). This group of institutions is not often studied as are the community colleges and the research universities. In a brief abstract search, there were over 6,000 articles concerning private research universities, over 79,000 articles concerning community colleges and just over 1,700 articles on private four-year colleges. The less selective, private college attracts little

scholarly attention when compared to the most elite and the largest institutions in the United States. The private, small, non-selective institutions are typically not well known, have few financial resources, and often struggle with their own mission and affiliation (Astin & Lee, 1972).

While the private baccalaureate institutions share similar characteristics, they are a very diverse group of colleges. They differ in their institutional wealth, affiliation, educational programs, and selectivity (Astin, 2000). These differences may account for the relatively small amount of scholarly research concerning this type of institution as a whole.

Even though this group of institutions is very diverse, they share a primary characteristic: the ability to adapt. Multiple scholars (Kerr, 1972; Finkelstein, Farrar, & Pfnister, 1984; Martin 1984; Pfnister, 1984; Thelin, 2004) have cited the ability of private institutions to adapt over time and have warned of the necessity of such for survival. Although Keeton and Hillberry (as cited in Pfnister, 1984) declared private liberal arts colleges as “obsolete” (p. 163) in a 1969 publication, Pfnister (1984) stated that the liberal arts institutions have been “a study in persistence amid change, continuity amid adaptation.” (p. 147). These institutions have, throughout U.S. history, adapted to the changes in the environment of higher education. Pfnister (1984) cited three distinct times in history that were essential to the development and survival of the institution: 1) the first was in the early nineteenth century; 2) the second was during the development of the land grant institution; and 3) the third began in the 1970s as the focus on vocationalism increased. During the nineteenth century, the U.S. was forming new communities, and often new colleges, as they expanded westward. Along with the expansion of higher education came debate about the direction and form that higher education should take (Pfnister, 1984). During the proliferation of Land Grant colleges, these and other state colleges became

known as the “people’s colleges” (Pfnister, 1984, p. 149). The role of the traditional liberal arts institution was questioned (Pfnister, 1984). According to Pfnister (1984), the third critical time in the history of the liberal arts institution began when the focus of higher education shifted toward vocational preparation. Comprehensive and community colleges filled the need for such preparation and once again the role of the liberal arts institutions came into question (Pfnister, 1984). Through each of these challenging times, the private institution has adapted and endured (Pfnister, 1984).

As private, non-selective liberal arts colleges adapted to the changing demands of the environment, some colleges shifted the focus of their institutional missions. This has led to some discussion over whether the historic liberal arts mission is still truly the mission of many colleges that may have been self-described or categorized liberal arts institutions. In the latter part of the 20th century, some scholars such as Breneman (1990a, 1990b, 1994) began to discuss the labeling of private institutions that offered a liberal education. Breneman argued that some institutions categorized as liberal arts were not truly liberal arts colleges. It appears that the Carnegie Foundation agreed that a more appropriate labeling and classification was in order. With the 2005 classification system changes, some institutions previously labeled liberal arts were categorized as Baccalaureate colleges (Carnegie, 2009b).

Regional Distribution of Baccalaureate Colleges

The first institutions of higher education were predominately located in the northeastern United States with the first colonies in the new world. As the country grew and began to expand, so did the location of colleges and universities. Colleges were established in the middle and southern states as well as the western frontier of the United States (Brubacher & Rudy, 1976; Rudolph, 1990). Looking at the distribution of baccalaureate institutions in terms of Integrated

Postsecondary Reporting System (IPEDS) regions as shown in Table 1, the distribution of modern baccalaureate institutions differ from the early years of higher education. The majority of not-for-profit baccalaureate institutions (183) are in the Southeastern region with the fewest institutions (19) being located in the Rocky Mountain region (IPEDS, 2010). The distribution of private, not-for-profit institutions mirror distribution of all not-for-profit baccalaureate institutions. There are 154 institutions in the Southeast region with only 25 in the Southwest region (IPEDS, 2010).

Table 1

Geographical Distribution of Baccalaureate Institutions in the United States

Geographic Region	All Not-For-Profit Baccalaureate Institutions	Private, Not- for-Profit Institutions
Far West	43	34
Great Lakes	112	95
Mid East	111	76
New England	65	52
Plains	79	66
Rocky Mountains	19	7
Southeast	183	154
Southwest	32	25

Data Source: NCES, IPEDS, 2010

Classification of Baccalaureate Colleges

Classification of institutions began in the 1870s when John Eaton, the first Commissioner of Education for the United States Department of Education, developed a classification system

that consisted of seven categories, one of which included liberal arts colleges and those that “followed a ‘traditional’ curriculum” (Lykes, 1975, p. 12). Eaton’s system was used by the department until classification was again undertaken in 1911 by the Department of Education when it drafted *A Classification of Universities and Colleges With Reference To Bachelor’s Degree*. This draft document created upheaval and unrest among many of the nation’s higher education institutions that thought they were being slighted in the rankings since it was seen as a rating of quality. The unrest remained until the classification attempt was quelled by an executive order by the United States President William Taft (Lykes, 1975). Future endeavors were undertaken around the idea of a classification system (Lykes, 1975) but no prominent system was established by the Department of Education that would assist with research and comparison of higher education institutions.

In 1970, the Carnegie Commission on Higher Education, under the leadership of Clark Kerr (Carnegie, 1987; McCormick & Zhao, 2005), developed a classification of higher educational institutions that it released to the public in 1973 (Carnegie, 2009a; see also McCormick & Cox, 2003; McCormick & Zhao, 2005). This classification sought to group institutions “according to what they did and who taught whom” (McCormick & Zhao, 2005, p. 52). Colleges and universities were grouped into five primary categories, or classes, with a varying number of subcategories, or subclasses, under each. See Table 2 for a listing of the 1973 Carnegie Classification categories. By creating a classification system, institutions could be compared more easily with other institutions with a similar mission or purpose (McCormick & Zhao, 2005). As McCormick and Zhao (2005) pointed out, the classification system was not intended as a rigid, inflexible system. Rather, it was meant to be one way in which to view

institutions. It has proven to be a fluid, changing system as evidenced by its revisions in 1976, 1987, 1994, 2000, and 2005.

Table 2

The Carnegie Classification System of Institutions of Higher Education by Major Class and Subclasses, 1973.

Major Class	
Subclass	
Two-Year Colleges & Institutions	Professional Schools & Other Specialized Institutions
Liberal Arts Colleges	Theological Schools
Liberal Arts Colleges I	Medical Schools & Medical Centers
Liberal Arts Colleges II	Other Separate Health
	Professional Schools
Comprehensive Colleges & Universities	Schools of Engineering & Technology
Comprehensive Colleges & Universities I	Schools of Business & Management
Comprehensive Colleges & Universities II	Schools of Art, Music & Design
	Schools of Law
Doctoral-Granting Institutions	Teachers' Colleges
Research Universities I	
Research Universities II	Other Specialized Institutions
Doctoral-Granting Universities I	
Doctoral-Granting Universities II	

Source: Carnegie Foundation for the Advancement of Teaching (2001).

The Carnegie classification system has changed over the years reflecting the fluidity of the system and the diversification of colleges, as well as the desire of the Carnegie Foundation for the Advancement of Teaching to improve upon the system. The Carnegie Classifications

system was first revised in 1976 and again in 1987. In 1994, the classification included the category of tribal colleges for the first time (Coaxum, 2001). This was followed by an update in 2000 that changed terminology relating to Doctoral Research Universities (McCormick & Zhao, 2005). The most recent update was in 2005 which included a revision to the basic classifications, introduced parallel classifications that were based upon types of degrees, profile of students, and institutional size and setting (Carnegie, 2009a), as well as added subcategories within the two-year college grouping (Carnegie, 2009b). Table 3 shows the Basic Classification for 2005.

Table 3

The Carnegie Classification System of Institutions of Higher Education by Major and

Subclasses, 2005

Major Class

Subclass

Associate's Colleges

- Associate's-Public Rural-serving Small
- Associate's-Public Rural-serving Medium
- Associate's Public Rural-serving Large
- Associate's Public Suburban-serving Single Campus
- Associate's Public Suburban-serving Multicampus
- Associate's Public Urban-serving Single Campus
- Associate's Public Urban-serving Multicampus
- Associate's Public Special Use
- Associate's Private Not-for-profit
- Associate's Private For-profit
- Associate's Public 2-year Colleges under Universities
- Associate's Public 4-year, Primarily Associate's
- Associate's Private Not-for-profit 4-year, Primarily Associate's
- Associate's Private For-profit 4-year, Primarily Associate's

Doctorate-Granting Universities

- Research Universities (very high research activity)
- Research Universities (high research activity)
- Doctoral/Research Universities

Master's Colleges and Universities

- Master's Colleges and Universities (larger programs)
- Master's Colleges and Universities (medium programs)
- Master's Colleges and Universities (smaller programs)

Baccalaureate Colleges

- Baccalaureate Colleges- Arts & Sciences
- Baccalaureate Colleges- Diverse Fields
- Baccalaureate Colleges- Associate's Colleges

Special Focus Institutions

- Theological seminaries, Bible colleges, and other faith-related institutions
- Medical Schools and medical centers
- Other health profession schools
- Schools of engineering
- Other technology-related schools
- Schools of business and Management
- Schools of Art, Music, and Design
- Schools of Law
- Other Special-Focus Institutions

Tribal Colleges

Source: Carnegie Foundation for the Advancement of Teaching, 2009

Table 4

Carnegie Classification Categories for Baccalaureate Colleges, 1973-2005

1973-1987	<p>Liberal Arts Colleges I</p> <p>These highly selective institutions are primarily undergraduate colleges that award more than half of their baccalaureate degrees in arts and science fields.</p>	<p>Liberal Arts Colleges II</p> <p>These institutions are primarily undergraduate colleges that are less selective and award more than half of their degrees in liberal arts fields. This category also includes a group of colleges that award less than half of their degrees in liberal arts fields but, with fewer than 1,500 students, are too small to be considered comprehensive.</p>	
1994	<p>Baccalaureate (Liberal Arts) Colleges I</p> <p>These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award 40 percent or more of their baccalaureate degrees in liberal arts fields and are restrictive in admissions.</p>	<p>Baccalaureate Colleges II</p> <p>These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award less than 40 percent of their baccalaureate degrees in liberal arts fields or are less restrictive in admissions.</p>	
2000	<p>Baccalaureate Colleges – Liberal Arts</p> <p>These institutions are primarily undergraduate colleges with major emphasis on baccalaureate programs. During the period studied, they awarded at least half of their baccalaureate degrees in liberal arts fields.</p>	<p>Baccalaureate Colleges – General</p> <p>These institutions are primarily undergraduate colleges with major emphasis on baccalaureate programs. During the period studied, they awarded less than half of their baccalaureate degrees in liberal arts fields.</p>	<p>Baccalaureate/ Associate’s Colleges</p> <p>These institutions are undergraduate colleges where the majority of conferrals are below the baccalaureate level (associate’s degrees and certificates). During the period studied, bachelor’s degrees accounted for at least 10 percent of undergraduate awards.</p>
2005	<p>Baccalaureate Colleges – Arts and Sciences</p> <p>These institutions are primarily undergraduate colleges with an emphasis on baccalaureate programs. At least half of bachelor’s degrees awarded are in arts and science fields.</p>	<p>Baccalaureate Colleges – Diverse Fields</p> <p>These institutions are primarily undergraduate colleges with major emphasis on baccalaureate programs. Less than one half of all bachelor’s degrees awarded are in the arts and sciences.</p>	<p>Baccalaureate/ Associate’s Colleges</p> <p>These institutions are undergraduate colleges where the majority of awards offered are below baccalaureate level. Bachelor’s degrees account for at least 10 percent but less than one half of awards.</p>

Note: 1987 information from Boyer, E. (1990). *Scholarship reconsidered*. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching. 1994 information from *A Classification of Institutions of Higher Education*, 1994 edition (Carnegie Foundation, 1994, pp. xix-xxi). 2000 information from *The Carnegie Classification of Institutions of Higher Education*, 2000 edition, (Carnegie Foundation for the Advancement of Teaching, 2001. p. 1). 2005 information adapted from *The Carnegie Classification of Institutions of Higher Education*, Basic Classification technical details, Carnegie 2009, retrieved from www.classifications.carnegiefoundation.org/details/basic.php.

Another important notable change in the 2005 revision was the exclusion of the term “liberal arts” (Carnegie, 2009b). The Carnegie Foundation believes that liberal arts education can exist across the categories of institutions and should not be listed separately (Carnegie, 2009b). The former subcategories under Baccalaureate were Liberal Arts, General, and Associate’s. Since the 2005 revision, the classification now includes the category of Baccalaureate Colleges with sub categories of Arts and Sciences, Diverse Fields, and Baccalaureate/Associate’s Colleges (Carnegie, 2009b; June, 2006). Table 4 shows the variations in definitions from 1987 through 2005 for the Liberal Arts and Baccalaureate subcategories. It should be noted that most of the institutions formerly included in Liberal Arts I or Liberal Arts II are now included in the Baccalaureate category (June, 2006).

The Carnegie Basic Classification system is widely used by higher education professionals, foundations, organizations, and many others (McCormick & Zhao, 2005). There are other classification systems that classify institutions according to a variety of measures. Korb (1982) asserted that “the traditional classification systems ... separate institutions into very broad categories ...” (para. 1) that led to little benefit. Although there are some detractors (Coaxum, 2001; Korb, 1982), McCormick and Cox (2003) argued that the Carnegie Basic Classification System has been a very useful tool for researchers, policymakers, and others interested in the study and analysis of groups of higher education institutions. It has been used extensively by the research community, but it had also been recognized in ways that are not appealing to the Carnegie Foundation (McCormick & Zhao, 2005). In the 2000 edition of *The Carnegie Classification of Institutions of Higher Education*, Shulman noted that the classifications have been used in the assessment of membership fees, the awarding of grants, and determining institutional funding (Carnegie, 2001). The Carnegie Classification System has also been used

by popular press such as the *U.S. News and World Report* as a basis for ranking colleges and universities. This has led to the tendency of institutions to want to increase their standing among the rankings by being identified as Research Universities (Basinger, 2000; McCormick & Zhao, 2005; Shulman, 2005). June (2006) asserted the changes to the classification system may “make it more difficult for higher education to use the classification as a ranking system or measure of quality” (para. 14). Lee Shulman confirmed such in his 2005 article in which he stated “... if we fiddle with the categories or their definitions, we might well sabotage their strategic plans.” (para. 6). While the original Carnegie Commission on Higher Education did not intend for their classification system to become the primary classification system used, it has become recognized as such (McCormick & Zhao, 2005).

Threats and Obstacles

The number of private baccalaureate institutions, previously labeled as liberal arts institutions, has decreased in modern history. Lang (1999) noted that many of these colleges have either ceased to operate, have merged with other institutions, or have moved away from their liberal arts mission since 1950. Over forty years have elapsed since Jacques Barzun, the Provost of Columbia University, declared the end or near end of the liberal arts education (Brick & McGrath, 1969). In 1972, Astin and Lee declared these institutions to be in danger of extinction. At least one scholar has claimed that the number of private baccalaureate colleges previously labeled as liberal arts is continuing to decrease drastically and that these institutions are in a perilous state (Breneman, 1990a, 1994). Breneman (1994) reported that in 1955 there were 732 liberal arts institutions that enrolled 26% of all students. The Carnegie Foundation reported in 1987 that there were 540 liberal colleges in the Liberal Arts I and Liberal Arts II categories enrolling 4.4% of all students (Breneman, 1994). Although the Carnegie Classification

System included over 500 liberal arts colleges, Breneman believed that this was a misrepresentation of the true number of institutions with a true liberal arts mission. He modified the criteria to more accurately reflect his view of the liberal arts mission and identified 212 institutions as either Liberal Arts I or Liberal Arts II colleges. Based upon his research, Breneman believes that the number of liberal arts colleges is decreasing and the situation of those that remain is precarious.

Not only has the number of private liberal arts institutions decreased because of mislabeling, but they have also faced mergers and closures. Dearman and Plisko (1980) predicated that 200 small private institutions would close during the 1980s while Winn (1980) predicated that as many as 500 colleges could close. In 2000, Bates and Santerre found that for all private, not-for-profit colleges, the merger rate was approximately two per year per 1000 institutions during the 1990s. They found that the failure rate for these institutions was approximately five per year per 1000 institutions during this same time period (Bates & Santerre, 2000).

Gilbert (1995) asserted that the situation is not as dire as once projected. She found that there has been a decrease in the number of liberal arts institutions and degrees awarded, but these downwards trends have not been dramatic or catastrophic. Gilbert also asserted that the institutions were never as committed to a true liberal arts mission as is commonly believed and may have been mislabeled as liberal arts institutions (Gilbert, 1995). Both Breneman (1990a, 1990b, 1994) and Gilbert (1995) indicated that some liberal arts colleges may be more accurately described as and have missions that more closely resemble small comprehensive colleges or professional colleges.

Breneman (1990a, 1990b, 1994) and Gilbert's (1995) assessment that a portion of liberal arts institutions are moving toward more comprehensive institutional types is supported by Boyer (Carnegie, 1987). In the 1987 technical report *A Classification of Institutions of Higher Education*, Boyer indicated that many colleges were re-classified as comprehensive institutions in the 1987 report, possibly to meet the "vocational needs of students" (Carnegie, 1987, p. 2). He noted that "America's independent colleges have shown remarkable resiliency during a period when many observers were predicting their decline" (Carnegie, 1987, p.1). He also noted that the student enrollment in private education had increased at two times (13%) the rate of increase among public institutions (6%) even though the total number of liberal arts institutions decreased. In 1976, there were 583 institutions classified as liberal arts, however, by 1987 that number had declined to 571. Although there was a decline in the total number of institutions classified as Liberal Arts, sixteen new liberal arts institutions were established during the preceding decade (Carnegie, 1987).

Other studies support the idea that liberal arts institutions may be mislabeled. Morphew and Hartley (2006) found that institutions of many types mentioned liberal arts in their mission statements. Mission statements for colleges in four out of five private institutional categories included a liberal arts element while seven out of twelve institutional categories for private and public institutions did so (Morphew & Hartley, 2006). Delucchi (1997) found that 68% of institutions that made some claim of liberal arts education in the *Peterson's Guide to Four-Year Colleges* were actually predominately professional in terms of their majors. This research leads one to believe that the claim of a liberal arts education is important to colleges regardless of their curriculum and lends credibility to the perceived importance and value of a liberal arts education.

Private liberal arts institutions, or those institutions primarily awarding degrees in the arts and sciences fields, are facing a variety of obstacles and threats in the modern educational environment. Breneman (1994) suggested that the changes in population will affect the enrollments of liberal arts institutions. The population projections made in the early 1990s suggest that while the number of traditional college age students is expected to rise overall, this same population will rise more slowly in the northeast and north central regions of the United States. According to Breneman (1994), these regions have been more heavily populated with traditional liberal arts colleges than the southeastern and western regions which will be experiencing more rapid growth in population. Current projections from the U.S. Census Bureau indicate the overall population in the northeast and mid west regions will grow more quickly than in other regions (U.S. Census Bureau, 2005). Data from the NCES projects that the number of high school graduates will also be declining or growing more slowly in other regions than in the southeastern or western United States through 2017 (Hussar & Bailey, 2008).

Just as with other types of institutions, liberal arts colleges are experiencing higher operating expenses and rising tuition. In addition, they are faced with external forces that Lang (1999) described as “new learning tools, maintenance and obsolescence, global considerations, increasingly diverse constituencies and their growing service demands” (p. 138-139). These liberal arts institutions are expected to provide the newest technologies and amenities, prepare students for a global society, and juggle many demands from a diverse group of stakeholders. The institutions then must decide if and how this can be accomplished while remaining true to their mission.

Another obstacle or threat to liberal arts colleges is the change in the demands of their student population for career preparation programs. Students have demanded an education that

prepares them for the workforce (Grubb & Lazerson, 2005; Hunter, 1977; Lang, 1999). Knox, Lindsay, and Kolb (1993) found a trend among institutions to offer a specialized curriculum such as for professional programs. Breneman (1994) noted a shift in the labor market that demands college graduates. He maintained that many of the liberal arts institutions have moved away from their mission in response to the changes in the educational environment and student demand for career training. As the demand for career readiness increases, the demand for a liberal arts education decreases thus impacting enrollments and financial stability.

Lang (1999) believed that “pressures for change have been a historic constant” (p. 138) in the life of the liberal arts institution and that it must be willing to adapt its mission to these ever changing forces. In response to this changing environment, many institutions have added professional and specialized programs in order to attract new students (Gilbert, 1995; Lang, 1999). These colleges have made changes in order to meet what Paulsen (1990) called the primary and overarching institutional mission, which is survival (see also Astin & Lee, 1972). They have been willing to compromise their historic missions in order to remain viable institutions. Considering the obstacles many liberal arts institutions face, these changes are necessary for the colleges to remain a viable part of the educational system.

Financing in Higher Education, Price and Cost

Price Versus Cost

Although there are obstacles and demands primarily associated with private baccalaureate colleges, issues of price and cost are central to all types of institutions. While these terms may be used interchangeably, they do not always refer to the same amount. The National Commission on the Cost of Higher Education, which was established during the late 1990s, submitted a report to Congress concerning the issue of higher education costs and prices. The report, *Straight Talk*

about College Costs and Prices (Harvey et al., 1998) defined price versus cost. It defines price as what the student is asked to pay, not accounting for grants, scholarships and other forms of assistance (see also Baum, 2009; Breneman, 1998). The report specifies cost as the amount “institutions spend to provide education and related educational services to students” (Harvey et al., p. 4).

The difference between the price of a higher education and the actual cost for a higher education is referred to by the report as a “subsidy” (Harvey et al., 1998, p. 4). In 2008 (Baum & Ma, 2008), the College Board reported that almost two-thirds of undergraduates received some type financial assistance to offset the price they are required to pay. In private institutions, this financial assistance may be in the form of federal and state aid, and may include aid directly from the institution. This practice of tuition discounting is widely used among private institutions to balance enrollment patterns (Breneman, 1994).

Price of Higher Education, Concerns, and Trends

The price of higher education has been a topic of much debate and has long been a concern for students, parents, and political leaders (Blumenstyk, 2008; Elfin, 1996; Field, 2007; Gialamas, 1998; Glater, 2007; Hebel, 2007; Kleiner, 2004; Martin, 2002b; Rossi, 2007). It has been discussed in newspapers and magazines, as well as in scholarly reports. In some of these instances the price of higher education may be discussed in terms of tuition only (Martin, 2002b). Other data discuss costs in terms of both tuition and the required fees. O’Keefe (1994) reported a 46% increase in tuition and fees between 1981 and 1985. Information specifically relating to increasing fees is also being reported in the popular press. An example is the article by Glater in *The New York Times* (September 4, 2007) that discussed a report from the College Board indicating fees increased faster than tuition at more than half of the four-year public

institutions in the United States during the 2005-2006 academic year. Other articles discuss the price of college in terms that include tuition, required fees, and other costs such as room and board (Blumenstyk, 2008; Kleiner, 2004).

It was during the 1960s, 1970s, and 1980s that tuition began to rise substantially (Mumper, 2003). For example, in 1966-1967, the mean tuition and fees for public four-year institutions was \$259 per year in current dollars. In 1976-1977, the mean was \$564 for public four-year institutions. In 1986-1987, the mean tuition and fees had increased to \$1,248 for public four-year institutions (Snyder et al., 2008). It was during this time that people began to take note of the increasing prices. Government agencies also began to take notice and react to the increases. In the late 1980s, higher education was accused of and investigated for violating anti-trust laws as it related to tuition charges (Breneman, 1998). Concern continued into the 1990s. In 1997, President Bill Clinton and the Congress established the National Commission on the Cost of Higher Education (Ehrenburg, 2000; Flower, 1998; Martin, 2002b; Mumper, 2003). This commission was charged with making recommendations about higher education related to cost. The upward trend in higher education pricing has continued and so has public concern over the issue. In 2005, the U.S. Secretary of Education created the Commission on the Future of Higher Education to examine issues including access, ability, and affordability (U.S. Department of Education, 2006). Most recently, higher education prices were an issue leading up to the 2008 Presidential election (Field, 2007; Hebel, 2007; Rossi, 2007).

Just as with the discussion about the price of higher education, the pattern of increasing prices appears to have continued into the current decade. For the 2006-2007 academic year, mean tuition and fees for all public institutions was \$4,101 and \$8,055 for all public and private institutions (Snyder et. al, 2008). In 2008, the mean cost was \$6,589 for in-state tuition and fees

at public four year institutions (Baum & Ma, 2008). According to a report of The College Board (Baum & Ma, 2008), the mean tuition and fees for 2008-2009 ranged from \$2,402 at public two-year colleges to over \$25,000 at private, not-for-profit, four-year institutions.

Tuition for private institutions has increased substantially, just as it has for all other types of institutions. The National Center for Education Statistics (NCES) reported that private tuition increased from an mean of \$1,088 in 1965-1966 to almost \$20,000 in 2006-2007 (Snyder et al., 2008). In *Trends in College Pricing 2008*, the College Board reported the mean tuition for all private, four-year, not-for-profit colleges was just over \$25,000 for the 2008-2009 academic year (Baum & Ma, 2008). With room and board included, the student cost rose to over \$34,000 per year. This represented an increase of 5.6% over the previous academic year overall for the private not-for-profit institution as compared with an increase of 5.7% for the public four-year institutions (Baum & Ma, 2008). The College Board also reports that the mean increase in price for private institutions, after accounting for inflation, was 2.4% during the decade between 1998-99 and 2008-09. This was lower than the increase for the previous two decades. Between 1988-89 and 1998-99, the mean rate increased 2.9% and from 1978-79 to 1988-89 it rose at a rate of 4.1% (Baum & Ma, 2008). For these same periods of time, the trend for four-year public institutions was reversed. Tuition and fees at public institutions, after inflation, rose 4.2% between 1998-99 and 2008-09, 4.1% between 1988-89 and 1998-99, and 2.4% from 1978-79 to 1988-89 (Baum & Ma, 2008). While tuition and fees are generally thought to have risen at a greater rate during the 1980s and 1990s, some research suggests an opposing viewpoint in asserting that the student cost has increased at a fairly consistent rate when considered in constant dollars ("A new angle," 2000).

Costs of Higher Education

As discussed previously, the actual cost of a postsecondary education is not always reflected in the price charged to students. The institutional cost of providing higher education includes the costs associated with attending classes as well as the support services provided to students and the administrative services required to manage the institution. Critics of higher education offer explanations including light workloads and high remuneration of faculty, unnecessary research, and lack of productivity (Flower, 1998). While these issues may be a common theme among some individuals, research suggests other reasons for increasing institutional costs and tuition.

Baum (2009) suggested that rising institutional costs are a result of, in part, increasing institutional aid and student amenities while Paulsen (2001) found that decreasing state appropriations and increasing per-student expenditures in administrative, student services, and institutional aid areas were probable factors. Baum (2009) and others (Archibald & Feldman, 2008a, 2008b) indicated that the cost for goods and services that are consumed by higher education institutions have risen at a much faster rate for education than for other segments. For example over the previous ten-year period, the annual Higher Education Price Index (HEPI), which measures the level of prices for typical goods and services purchased by higher education institutions, rose at a rate of 3.9% as compared to the Consumer Price Index (CPI) which rose at a rate of 2.7% (Baum, 2009).

Hauptman disagreed with the theory put forth by a 1988 U.S. Department of Education report (as cited in Hauptman, 1990) that placed the blame for higher institutional costs on overgrown administrative areas. He argued that the report did not account for the demands for additional services, such as counseling, tutoring, and mentoring programs, that colleges now

provide in order to accommodate and attract students. He also argued that other expenditure categories may have impacted the overall institutional costs such as the increased costs of campus-based research and governmental requirements associated with affirmative action, reporting requirements, and hazardous waste disposal (Hauptman, 1990).

Whereas public institutions are impacted heavily by state appropriations, a primary source of increasing institutional costs specific to private colleges is the “rapid growth of internally funded student aid” (Hauptman, 1990, p. 18). As student demands grew, private colleges increased services and facilities while also increasing tuition charges. As the student costs increased, colleges also chose to increase student aid or tuition discounting, in order to maintain desired enrollments in terms of numbers or characteristics of the student body. Once the high tuition/high aid model began in some institutions, many institutions followed. Hauptman (1990) also questioned whether an economic slowdown could hurt the high tuition/high aid model used by many private institutions. Two areas that he found were not responsible for higher costs were reduced income from endowments and private gifts and the availability of federal student aid (Hauptman, 1990).

The report of the National Commission on the Cost of Higher Education (Harvey et al., 1998; see also Flower, 1998) addressed faculty-related issues, and found no evidence to support the theory that faculty course loads and salaries were to blame. They also determined that, just as Hauptman (1990) had eight years earlier, costs associated with regulations, expenditures related to facilities, increase technology costs, higher student and employee expectations, and additional student needs did contribute to overall higher educational costs for institutions.

While there is no unanimity among scholars as to the reasons for increasing costs of higher education, it is agreed that the increases are affecting those who desire to attend. As the

institutional cost of higher education increases, the burden is being shifted to students and their families (Callan, 2001; Zumeta, 2001) through increased tuition, fees, and other charges. The report from the National Commission on the Cost of Higher Education (Harvey et al., 1998) acknowledged that tuition was rising at a faster rate than institutional costs, just as other scholars have pointed out (Blumenstyk, 2008; Martin, 2002b). At the same time that institutional costs are rising, subsidies are decreasing. Since most students receive some type of subsidy when they enroll in higher education institutions either through direct aid or lowered pricing, they are being asked to pay more as these subsidies decrease. Although all types of institutions may be affected, public institutions are especially vulnerable because of their dependence on state appropriations. As state appropriations decline, the institutions are forced to reclaim those monies through increased tuition (Shea & Boser, 2002; Zumeta, 2001). Hauptman (2001) pointed out “regardless of the role of state and institutional officials in setting tuition and fees or the retention of these funds by institutions, in virtually all states there is a direct relationship among the public sector tuition and fees, the amount of state funding, and the cost of providing the education.” (p. 68).

In *The College Tuition Spiral*, Hauptman (1990) explored the student cost of higher education in specific terms. He compared the rate of increases in college costs to family incomes, inflation, and the Consumer Price Index. He suggested that it is misleading to consider the increase in college tuition without also considering the increases among other goods and services. In the 1970s, tuition and fees rose below the rate of inflation while they were in the “middle of the pack” (p. 6) during the 1980s, growing more slowly than healthcare and new homes. He indicated the direness of the situation when he compares the increases in tuition and fees with family incomes. The percentage that tuition and fees increased was almost twice the

percentage of increase among median family incomes between 1980 and 1987 (Hauptman, 1990). Hauptman (1990) also discussed possible reasons for the increasing student cost of education. He indicated that there are many factors involved. For both public and private institutions, the decline in the number of traditional college age students and the higher price that colleges pay for goods and services impact the student costs of tuition and fees. Although private colleges saw smaller increases than public colleges during this time, institutions of higher education experienced rapid growth during the 1960s and 1970s. This enrollment growth leveled off during the 1980s, while institutional costs continued to rise. With lower enrollment growth, increased tuition revenue was not available to fund the advancing expenditures. During the early to mid 1980s, the Higher Education Price Index rose faster than the rate of inflation. While employee salaries did impact this amount, Hauptman argued that faculty remuneration had not yet recovered from slow growth during the previous decade. He also projected that the increases in employee compensation would slow during the 1990s as more experienced, and therefore more expensive, professors retired and were replaced at lower salaries (Hauptman, 1990).

Hauptman (1990) has also ascertained that colleges, especially private colleges, now provide services, amenities, and programs for students that were not provided previously and these additions are driving up the institutional, and therefore the student, cost of higher education. Many private institutions have chosen to increase services and provide better facilities for students rather than decrease tuition and fees. Hauptman (1990) stated that "...the preeminent cause appears to be that many institutions in the 1980s began increasing their tuitions to pay for improved facilities and services, rather than competing for students through lower prices and fewer services of diminished quality" (p. 10).

Mumper also discussed possible reasons behind the increasing costs. He asserts that higher employee health benefit costs, in addition to increased technology costs, are creating higher costs associated with postsecondary education (Mumper, 2003). Mumper (2001) has presented five viewpoints held by legislative employees in various states. He indicated that legislative employees believe higher tuition is a result of decreased state support; increased costs of Medicare and corrections; increased costs associated with higher education, in particular increased technology and deferred maintenance costs; uncontrolled spending by higher education institutions; or, there really is no problem with the increased tuition costs because students are still able to attend (Mumper, 2001).

Economic Theory in Higher Education

When studying the price and cost of higher education, economists and other scholars base their work on economic foundations. There are several theories and models that have been applied to finance in higher education. One such model is the theory of the firm that is actually a collection of economic theories (Toutkoushian, 2001). There are problems with applying these theories to an educational organization. One included theory assumes that cost will vary with outputs because of economies of scale; however, it is difficult to measure the cost per output in the educational environment (Toutkoushian, 2001). A second theory assumes that the organization is attempting to maximize profits. Toutkoushian (2001) stated that “While most analysts agree that this assumption does not apply to higher education, there is no consensus” on the alternative (p. 15). An alternative theory promoted by Bowen (as cited in Toutkoushian, 2001; see also Archibald & Feldman, 2008b) stated that institutions of higher education operate on a revenue theory of cost. The revenues determine the cost. Put another way, the colleges obtain as much money as possible and spend all that they have (Toutkoushian, 2001).

Another alternative, recommended by Halstead and discussed by Paulsen (2001), is the idea that colleges operate in a monopolistic competition rather than in a perfect competition market. Each college and university can offer something unique to the consumer and thus, operates as a monopoly. This individuality creates an environment that encourages choice to be made upon the uniqueness rather than upon a strict cost basis (Toutkoushian, 2001). Garvin (1980) also suggested that monopolistic competition is an appropriate model for use with higher education, more so than the typically used perfectly competitive model. Garvin indicated that institutional choice is influenced by accessibility and quality. Institutions in the same geographic region may be seen as substitute for each other, however, there may be other factors unrelated to the institutions themselves that makes one more attractive to a particular student, such as being able to maintain existing friendships. The perceived quality of an institution may influence students from a wider region and cause those students to ignore regional institutions. Garvin also asserted that some institutions have uniqueness, and therefore operate in a monopolistic competition, because of the number and type of programs offered as well as the quality, or prestige (Garvin, 1980).

Brinkman (as cited in Toutkoushian, 2001) promoted the theory that indicates there is an acceptable range within which colleges operate. In adhering to this idea, colleges do not maximize nor minimize their spending. A third theory, generally credited to Baumol, is that of cost disease (Archibald & Feldman, 2008a; Baum, 2001). Baumol (as cited in Baum, 2009) argued, as an example, that musicians cannot produce more music per hour than was possible at any point in the past. This theory of cost disease suggests that increases in productivity are not always possible or desirable and therefore the costs associated with the production of the product will increase (Archibald & Feldman, 2008a; Baum, 2009; Paulsen, 2001).

College Choice and Student Price Response

Much has been written concerning college choice and student demand for higher education (Heller, 1997; Leslie & Brinkman, 1987). Some researchers have looked at variables in the college choice process to determine which are influential (Hossler, Schmit, & Vesper, 1999). Hossler et al. (1999) found, within four stages of predisposition, search, choice, and actualization, there are many factors that affects student decisions about college at varying points. Parents play a major role in the decision making process with peers, teachers, and counselors also playing a role. Other influential factors include the background of the parents, financial aid, costs, and student achievement and involvement (Hossler et al., 1999).

Other research has concentrated on the student demand related to financial aspects. A study by Jackson and Weathersby in 1975 is considered to be a landmark in the area of student demand (Leslie & Brinkman, 1987). The authors conducted a review of the major student demand studies and developed student price response coefficients using the calculation methods of the other studies (Jackson & Weathersby, 1975). By assigning a common student income and college cost that could be applied to the various methods used in the demand studies, the authors were able to predict changes in enrollment for each \$100 increase in price. They calculated that the enrollments would drop just over 1% for each \$100 increase (Jackson & Weathersby, 1975; see also Leslie & Brinkman, 1987). They also found that lower income families were affected more by price changes than families of other income levels and that a lower cost to the student led to increased access (Jackson & Weathersby, 1975).

In 1987, Leslie and Brinkman conducted a further review of major student demand studies and standardized the results. Just as Jackson and Weathersby, Leslie and Brinkman (1987) generally found that enrollment declines when prices are raised and increases when prices

decline. Combining the results of many student demand studies, they specifically found that the participation rate dropped 0.6% and enrollment declined 1.8% for each \$100 tuition increase. Although the results were very similar to that of earlier studies, it is noted that Leslie and Brinkman believed there were some errors in the previous studies (Leslie & Brinkman, 1987).

Heller (1997) responded to Leslie and Brinkman in his own review of the major and more recent student demand studies by scholars such as St. John, McPherson and Shapiro, Kane, and Rouse. The studies analyzed student response, not only to tuition, but also to financial aid, net price, and how the net price was determined. Heller (1997) determined that the concept of the cost of college should be expanded beyond tuition, as was the focus of Leslie and Brinkman (1987), and that grant increases impacted enrollment more so than loans. Heller (1997) stated that the studies were consistent and that “As the price goes up, the probability of enrollment tends to go down” (p. 649).

Other studies have analyzed the effect of specific variables on choice such as the influence of cost and aid (Avery & Hoxby, 2004; Kane, 1994; McPherson & Shapiro, 1991; St. John, 1990). McPherson and Shapiro (1991) conducted a time-series and cross-sectional analysis using tuition, enrollments, and financial data for population subgroups over a twenty-year period. The authors found that enrollment of white students from lower income households decreased as the net cost increased although there was no consistent effect on the enrollment of middle-income students. In contrast, it was found that there was a positive effect on net cost for the higher income groups (McPherson & Shapiro, 1991).

St. John (1990) conducted a study using the National Longitudinal Study and the High School and Beyond Survey to determine the impact of financial aid on students’ decisions about enrolling in higher education. Overall, students were more sensitive to an increase in aid than to

a decrease in tuition. This also held true for students of each income level except for the upper income students who were “more responsive to tuition changes” (St. John, 1990, p. 172) and “relatively insensitive” (p. 173) to changes in grant aid. Middle-income students were responsive to loans while lower-income students were sensitive to changes in grants and tuition but not loans (St. John, 1990). In contrast, Hansen (as cited in McPherson & Shapiro, 1991) argued that grant aid did little to increase the college attendance of low-income students.

Avery and Hoxby (2004) surveyed high-aptitude students from various states in the United States to determine how they respond to the various forms of student aid. The study indicated that, overall, high-aptitude students are sensitive to costs and are “attracted by” aid offers in the form of grants, loans and work study. Congruent with the findings concerning high income students by St. John (1990), high-income, high-aptitude students were not shown to be sensitive to tuition and aid as were the other groups. Avery and Hoxby (2004) also found that students were “excessively” attracted to loans, work study and grant aid that was labeled as a scholarship (Avery & Hoxby, 2004).

The majority of studies reviewed here were conducted using information from students in a variety of institutional settings. There are some student demand studies that have focused specifically on public institutions (Heller, 1996; Rives & Cassidy, 1982) while others have focused on selective, private institutions (Buss, Parker & Rivenburg, 2004; Chang & Hsing, 1996; Hsing & Chang, 1996; Parker & Summers, 1993). However, relatively little scholarly attention has been focused on the private non-selective institution.

Revenue Generation and Tuition Discounting

Intertwined with college choice and student demand are revenue generation and tuition discounting issues. At the same time that students are making choices about college based upon

price and available aid (Avery & Hoxby, 2004; Heller, 1997; Leslie & Brinkman, 1987; McPherson & Shapiro, 1991; St. John, 1990), colleges are looking to increase revenue and promote enrollment goals through strategic use of tuition discounts (McPherson & Shapiro, 1998).

Revenue

In order for colleges to survive, they must have revenues coming into the institution to pay for the cost of the education they are providing. These revenues may include tuition and fees from students, grants to the institution, private gifts, and endowments and may also include appropriations of public funds from local, state or national coffers. During the 1980-1981 academic year, 12.9% of total revenue at public institutions came from tuition and fees compared to 35.9% for private institutions. By 1995-1996, revenue from tuition and fees comprised 18.8% of public institution revenues and 41.5% of private institution revenues (Snyder & Tan, 2005). Information relating to tuition and fee reporting changed for private institutions after the 1995-1996 fiscal year (Budak, 2000) making it more difficult to make multi-year comparisons. Private colleges began using new accounting standards that required institutions to report net tuition, or tuition minus discounts, on the financial statements rather than gross tuition as was used previously (Cheslock, 2006). For 1996-1997, 27.9% of private institution revenue came from net tuition and fees (Snyder & Hoffman, 2001). This increased to 39.7 % in 2001-2002 (Snyder & Tan, 2005) and fell to 29% in 2005-2006 (Snyder et al., 2008). For the private baccalaureate institutions, a greater percentage of revenue came from this source with 36.3% (Snyder & Hoffman, 2001), 56.3% (Snyder & Tan, 2005), and 39% (Snyder et al., 2008) respectively indicating a greater dependence on tuition and fees for revenue generation than for other types of institutions. Both public and private institutions have received support from federal and state

government sources. Small amounts came from federal sources while larger state funds, primarily in the form of appropriations, were provided to public institutions. In 1980-1981, private institutions received more from state appropriations than unrestricted state grants. By 1990-1991, that trend was reversed and private institutions received more restricted grants than appropriations while unrestricted grants remained relatively stable (Snyder et. al, 2008). Tables 5 and 6 show the revenue sources for private and public institutions between 1980 and 1996.

Table 5

*Revenue Distribution By Percentage For All Private, Not-For-Profit Institutions, Selected Years:**1980-2005*

<i>Source of Revenue</i>	<i>1980-81</i>	<i>1985-86</i>	<i>1990-91</i>	<i>1995-96</i>	<i>2000-01</i>	<i>2005-06</i>
Tuition and fees	35.9	37.8	39.4	41.5	38.11	28.88
Federal government	19.0	16.8	15.7	14.1	16.28	12.89
Appropriations	1.0	0.6	0.4	0.3		
Unrestricted grants / contracts	2.7	2.4	2.2	2.3		
Restricted grants / contracts excluding Pell grants	9.9	7.8	7.0	7.0		
Independent operations including federally funded research and development centers	5.4	6.0	6.0	4.5		
State governments	1.9	2.0	2.3	1.9	1.43	1.02
Appropriations	1.2	1.0	0.7	0.3		
Unrestricted grants / contracts	0.2	0.2	0.2	0.2		
Restricted grants / contracts	0.6	0.8	1.4	1.3		
Local governments	0.8	0.6	0.7	0.7	0.62	0.34
Appropriations	0.0	0.0	0.0	0.0		
Unrestricted grants / contracts	0.1	0.1	0.1	0.3		
Restricted grants / contracts	0.6	0.5	0.6	0.5		
Private gifts, grants, contracts	9.4	9.5	8.8	9.5	19.30	12.01
Endowment income (Investment return, gain or loss for 2000-01 and 2005-06)	5.2	5.4	5.3	5.3	-4.38	23.33
Other sources	27.7	28.1	27.8	27.0	28.64	21.43
Total Revenue (%)	100.0	100.0	100.0	100.0	100.0	100.0

Data Source: Digest of Education Statistics 2000, (NCES, 2001) Table 330. Current-fund revenue of private not-for-profit degree-granting institutions, by source: 1980-81 to 1995-96 and Digest of Education Statistics 2009, (NCES, 2010) Table 355. Total revenue of private not-for-profit degree granting institutions, by source of funds and type of institution: 1997-98 through 2006-07.

Table 6

Revenue Distribution By Percentage For All Public Institutions, Selected Years: 1980-2005

<i>Source of Revenue</i>	<i>1980-81</i>	<i>1985-86</i>	<i>1990-91</i>	<i>1995-96</i>	<i>2000-01</i>	<i>2005-06</i>
Tuition and fees	12.9	14.5	16.1	18.8	18.1	16.97
Federal government	12.8	10.5	10.3	11.1	11.2	14.48
Appropriations	2.6	2.2	1.7	1.5	1.0	0.76
Unrestricted grants / contracts	1.2	1.3	1.4	1.6		
Restricted grants / contracts excluding Pell grants	8.8	6.9	7.0	7.8	9.7	13.46
Independent operations including federally funded research and development centers	0.2	0.2	0.2	0.2	0.5	0.26
State governments	45.6	45.0	40.3	35.8	35.6	27.26
Appropriations	44.0	43.2	37.8	32.5	31.9	23.85
Unrestricted grants / contracts	0.1	0.1	0.3	0.7		
Restricted grants / contracts	1.4	1.6	2.2	2.6	3.8	3.41
Local governments	3.8	3.6	3.7	4.1	4.0	6.48
Appropriations	3.4	3.3	3.3	3.6	3.2	3.35
Unrestricted grants / contracts			0.1	0.1		
Restricted grants and contracts	0.3	0.2	0.3	0.4	0.8	3.13
Private gifts, grants, and contracts	2.5	3.2	3.8	4.1	5.1	3.06
Endowment income	0.5	0.6	0.5	0.6	0.8	0.41
Other sources	22.0	22.6	25.3	25.5	25.4	31.33
Total Revenue (%)	100	100	100	100	100	100

Percentages are rounded.

Data Source: Digest of Educational Statistics 2008 (NCES, 2009), Table 349. Current-fund revenue of public degree-granting institutions, by source: 1980-81 through 2000-2001 and Table 350. Revenues of public degree-granting institutions by source of revenue and type of institution: 2003-04, 2004-05, and 2005-06.

Tuition Discounting

Tuition discounting, or institutional financial aid, has become part of many institutions' enrollment management plan, both public and private. Many colleges and universities use tuition discounting practices to influence enrollments at the institutions. Tuition discounting is the practice of offering students a discount on the institution's sticker price. These discounts may be funded, where aid money is provided from an alternative source for the student, or unfunded, where the institutions simply reduce the price and, thus, operate on less revenue. Some institutions use the institutional aid to increase the overall enrollment, and therefore revenues, of the institution. Some institutions use institutional aid to help achieve specific goals for enrollment such as to increase the diversity of the student body or to increase the academic achievement level. McPherson and Shapiro (1998) identified three primary concepts of tuition discounting. They include

1. Institutions who follow the "need blind, full need" approach accept students without regard to their ability to pay and provide the amount of financial aid necessary to cover costs of attendance;
2. The second approach is the "budget stretch" approach. Institutions using this method will use allocated aid money in a way to maximize its effectiveness while also disregarding ability to pay as much as possible; and
3. The third approach is the "strategic maximization" approach in which institutions try to affect the enrollment in a desired way while also trying to maximize revenue for the institution.

Macpherson and Shapiro (1998) noted that institutions typically do not follow these methods in a pure form, but the most selective institutions are more likely to favor the "need blind, full need"

approach while less selective, smaller, and less wealthy institutions are more likely gravitate to the “strategic maximization” approach.

There is a growing body of literature on tuition discounting practices with much of it being concerned with increasing tuition discounting rates (Allan, 1999; Blumenstyk, 2009; Davis, 2003; Goral, 2003; Lapovsky & Hubbell, 2003; Martin, 2002a; Pulley, 2001; Redd, 2000). Tuition discounting has increased in recent years. Using data from the National Association of College and University Business Officers, Breneman, Doti, and Lapovsky (2001) compared institutions awarding institutional aid, the percentage of students receiving aid and the amount of the aid in terms of percentage of tuition. In 1990, 14.2% of independent institutions offered institutional grants to more than 90% of their freshmen. In contrast, 43.3% offered institutional grants to more than 90% of freshman students in 1999 (Breneman et. al, 2001). The trend appears to be increasing for institutions that are not considered among the most selective and prestigious. The percentage of students receiving institutional aid was less than 5% from 1990 to 1999 at the “best” independent liberal arts colleges and just over 6% for the “best” independent universities (Breneman et al., 2001). During the same time period, students receiving aid increased from 66.8% to 83.8% at all other independent institutions (Breneman et al., 2001). The authors argue that this trend of competing for students will result in increasing institutional aid in terms of individual amounts offered to more students. Because much of this aid is offered as merit aid to lure students who are able but unwilling to pay full price, it is decreasing the amount of need-based aid being offered to students (Breneman et al., 2001). The data show a drastic increase in the use of tuition discounting for those intuitions that are less selective and prestigious in comparison with the top independent institutions in the nation. These are the same institutions that are most dependent upon tuition and fees for revenue.

Summary

This literature review has examined the historical role and mission of the private baccalaureate college, the establishment of higher education for African Americans, and the development of the Carnegie Classification system. It has also explored the financial side of higher education including institutional and student costs, economic theory, price response, and revenue and tuition discounting. This review has indicated the importance of the baccalaureate college to the history of higher education as well as the need for understanding of the relationship between the student costs and the enrollments for the various groups of baccalaureate colleges. This study sought to provide a basis for a better understanding of this relationship.

The literature reviewed has shown the increasing concern over the rising costs of higher education to students and parents. It has also shown the opposing theories behind the increasing costs that institutions and families are facing. As indicated in the literature, college and universities may be asked to respond to these concerns about the rising costs of attendance. Higher education institutions, specifically the smaller institutions with lower endowments and operating funds, face great obstacles. Moreover, the nation's prospective students and their families face great obstacles in the quest for their own higher learning.

CHAPTER III: RESEARCH METHODOLOGY

Introduction

The primary purpose of this study was to determine any relationship between the student cost of tuition and fees and enrollment levels in private, not-for-profit, less than highly competitive, baccalaureate institutions. Hauptman (1990) explored the rising student cost of tuition and hypothesized that there was a correlation between college charges and enrollment levels. Astin and Lee (1972) discussed the role of the “invisible colleges,” or those less than highly selective, private, not-for-profit institutions, and the importance of this segment of higher education. This study sought to find any relationship between student costs and enrollment changes within this type of institution.

Study Population

This study focused exclusively on private, not-for-profit, undergraduate, baccalaureate institutions that are not highly competitive and were primarily residential. Institutions included those categorized as baccalaureate by the Carnegie Classification 2005 Basic system. Colleges identified as for-profit, or proprietary, institutions were excluded as were institutions with incomplete data for the period of time included in the study. Also excluded were institutions that are considered to be among the more selective or competitive colleges and universities in regard to the admissions process. The use of ACT or SAT scores is common in determining selectivity (Davies & Guppy, 1997) and has been an effective method used in other studies (Astin & Lee,

1972; Astin & Oseguera, 2004; Davies & Guppy, 1997; Pascarella et al., 2006; Smyth & McArdle, 2004) In addition, Pascarella et al. (2006) stated that average scores on such standardized tests provide a method that can be generalized across institutions while Astin and Henson (1977) found that selectivity and institutional rankings tend to remain stable over time. Barron's College Admissions Selector uses a combination of standardized test scores, high school class rank, high school grade point averages and acceptance rates to rank the institutions on a selector scale using Most Competitive, Highly Competitive, Very Competitive, Competitive, Less Competitive, Noncompetitive, and Special. Institutions categorized as Most Competitive or Highly Competitive by the College Admissions Selector in *Barron's Profiles of American College 2009* were excluded from the study while all other private, not-for-profit, undergraduate, baccalaureate institutions were included in the study.

Out of an initial dataset of 508 private, not-for-profit institutions, a total of 72 institutions were removed for being classified by Barron's Admissions Selector as being Most or Highly Competitive; 33 of which were listed as Most Competitive with the remaining 39 being listed as Highly Competitive. Twenty-seven institutions were excluded because they were not residential colleges. Another 43 institutions were excluded from the study population because of missing data during the twenty year span year of 1988-2008. Six institutions included in the initial dataset lacked regional accreditation and were excluded. The resulting study population included 360 institutions. The included colleges and universities are listed in Appendix B.

The institutions in the study population were grouped in three ways according to 1) Carnegie classification; 2) geographic region; and 3) whether or not they are Historically Black (HBCU) serving institutions. Within these primary groupings, the institutions were divided into subgroups. The Carnegie Classification 2005 Basic system was used to determine the

Baccalaureate institutions and their sub groupings of Arts and Sciences, Diverse Fields, and Baccalaureate/Associate's. The institutions were grouped among five geographic regions of Northeast, Mid States, Southeast, Rocky Mountains, and West. The regional divisions used in this study primarily follow those used in IPEDS but was amended to consolidate the nine IPEDS geographic regions into five. The New England and Mid East were consolidated into a Northeast region. The Great Lakes and Plains regions were consolidated into Mid States and the Southwest and Far West regions were consolidated into a single grouping of West. The IPEDS regions of Rocky Mountain and Southeast were not modified. Outlying areas that include Guam, Puerto Rico, and the Virgin Islands were not included in this study.

Data Source

The primary data sources used in this study were the National Center for Education Statistics' (NCES) annual Integrated Postsecondary Education Data System (IPEDS) surveys. Title IV of the 1965 Higher Education Act, as amended, requires that all institutions participating in federal financial assistance programs also participate in this survey. This study utilized data from academic years 1988-1989 through 2008-2009 that are available to the public through the IPEDS Data Center data mining tool. The data provide a longitudinal view of trends in student costs and enrollments. Variables in this study included the control of the institution, Carnegie Classification 2005 Basic, HBCU status, and geographic region from the IPEDS Institutional Characteristics (IC) survey. Additional variables from the Institutional Characteristics Survey (IC) survey were the annual undergraduate student charges for tuition, fees, room, and board. The IPEDS Fall Enrollment (EF) survey provided the undergraduate fall enrollment. A data dictionary, shown in Appendix A, indicates the variables, data source and description of the data extracted from the IPEDS system for this study. Using these data elements, the enrollment levels

and institutional charges are compared with respect to the classification subclasses, geographic region, and HBCU status of Baccalaureate institutions. A data dictionary of variables from the IPEDS datasets appears as Appendix A at the end of this study.

Data Collection

Data were mined from existing NCES/IPEDS datasets for each year of a 20 year period of 1988-1989 through 2008-2009. Approval for use of this existing national dataset was secured from the University of Alabama Institutional Review Board as is indicated in the letter appearing as Appendix B. The IPEDS Data Center was utilized to mine data concerning institutional characteristics that include control, Carnegie classification, geographic region, HBCU status, published tuition and fees, and room and board charges. The IPEDS Data Center was also used to gather data concerning the undergraduate fall enrollment from the IPEDS Enrollment survey for each year of the period with the exception of 1999, when no surveys were conducted. Data were grouped according to the sample population cohorts. The cohorts are Baccalaureate – Diverse Fields, Baccalaureate-Arts and Sciences, Baccalaureate- Baccalaureate/Associate’s, HBCU institutions, non-HBCU institutions, and five geographic regions of Northeast, Mid States, Southeast, West, and Rocky Mountains. Data for the study population were downloaded and imported into an Excel file and subsequently imported into SPSS[®] for statistical analysis in this study.

Research Questions

This study endeavored to answer the following research questions:

1. What are the changes in a) the mean undergraduate tuition and fees b) the mean total student cost (tuition, fees, room and board), and c) the mean enrollment of undergraduate attendance among private, less than highly competitive, regionally

accredited, undergraduate, residential, baccalaureate institutions over the defined twenty-year period of 1988-2008;

2. What are the changes in the mean undergraduate tuition and fees, total student cost (tuition, fees, room and board) of undergraduate attendance, and enrollment based upon a) the HBCU status, b) the geographic region, and c) Carnegie classification of the institutions;
3. What is the relationship between the twenty-year mean annual change in undergraduate tuition and fees and the twenty-year mean annual change in undergraduate enrollment private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions;
4. What is the relationship between the five-year mean annual change in undergraduate tuition and fees of undergraduate attendance and a) enrollment, b) HBCU status, c) geographic region, and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions;
5. What is the relationship between the twenty-year mean annual change in undergraduate tuition and fees and a) enrollment, b) HBCU status, c) geographic region, and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions;
6. What is the relationship between the twenty-year mean annual change in total student cost (tuition, fees, room and board) of undergraduate attendance and the 20 year mean annual change in undergraduate enrollment in private, less than

highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions;

7. What is the relationship between the five-year mean annual change in total cost (tuition, fees, room, and board) of undergraduate attendance and a) enrollment, b) HBCU status, c) geographic region, and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions; and
8. What is the relationship between the twenty-year mean annual change in total cost (tuition, fees, room, and board) of undergraduate attendance and a) enrollment, b) HBCU status, c) geographic region, and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions?

Statistical/Data Analysis

This study was a historical analysis of costs and enrollments in the selected institutions. The trends in the variables of interest in this study were explored to obtain insight into the change in tuition and fee price, total student cost and enrollment. Data files were downloaded from IPEDS Data Center for use with statistical software for this study.

To answer research questions one and two, information from data mining was analyzed through descriptive statistics reporting the mean values of tuition and total student cost for cohort groups separated by Carnegie Classification, HBCU status, and geographic region. The mean annual change in the values over twenty years (1988-2008) and over five years (2003-2008) were calculated for the areas of Tuition and Fees, Total Student Cost, which included tuition, fees,

room and board, and Enrollment. Data were organized into a series of charts to illustrate the trends of tuition and fees, total student cost, and institutional enrollments over time.

In exploring the other research questions posed in this study, any relationship between the change in cost, region, classification, HBCU status and the change in enrollment was examined through Bivariate and Multiple Linear Regression techniques. Bivariate regression was chosen to analyze the relationship between cost and enrollment. This technique is appropriate when exploring the relationship between two continuous variables (Tabachnick & Fidell, 2007). Multiple regression techniques have been commonly used when predictive value was of interest to the researcher (Ferguson, 1981). Tabachnick and Fidell (2007) indicated that this technique can be used to predict or explain the value of a dependent variable from several dependent variables. Because the research questions explored multiple variables and examined the explanatory and predictive relationships among those variables, regression analyses were determined to be the most appropriate statistical techniques for this study. The analyses included descriptive, correlation, Analysis of Variance (ANOVA), coefficient, collinearity, and residual statistics.

Summary

This chapter discussed the methods that were used to explore the relationship between costs, enrollment, classification, region, and HBCU status among a group of private four-year institutions. The study population, data collection, and the chosen statistical techniques were presented. The following chapter will present the research questions and the results of the analyses.

CHAPTER IV:
PRESENTATION OF DATA

Introduction

The purpose of this study was to explore the relationship between student costs, enrollment, classification, region, and HBCU status among the selected group of institutions and to look at the cost and enrollment changes over time. By analyzing the variables of HBCU status, geographic region, Carnegie classification, and mean annual enrollment change, the study sought to determine if a relationship existed among these variables and students costs for higher education. The following data will present the results of analysis using descriptive statistics and regression models.

The total study population included 360 institutions that met the criteria of 1) being a baccalaureate institution as categorized by the Carnegie Classification System; 2) being categorized as something other than Most or Highly Competitive as determined by Barron's Profiles of American Colleges; 3) being privately controlled; 4) being primarily a residential institution; and 5) having complete data for the time period studied.

The institutions in the study population were grouped into cohorts based upon HBCU status, geographic regions, and Carnegie Classification. There were 37 institutions in the study population with the designation of Historically Black Colleges and Universities; 323 did not have the HBCU designation. The institutions were divided into five geographic regions of Northeast (72 institutions), Mid States (121 institutions), Southeast (127 institutions), West (36

institutions), and Rocky Mountains (4 institutions). There were three subgroups within the Carnegie Classification category of Baccalaureate; Arts and Sciences; Diverse Fields; and Baccalaureate/Associate's. There were 152 institutions in the Arts and Sciences subgroup, 198 in Diverse Fields, and 10 in the Baccalaureate/Associate's subgroup.

Table 7

Number of Institutions in Study Population by Cohort

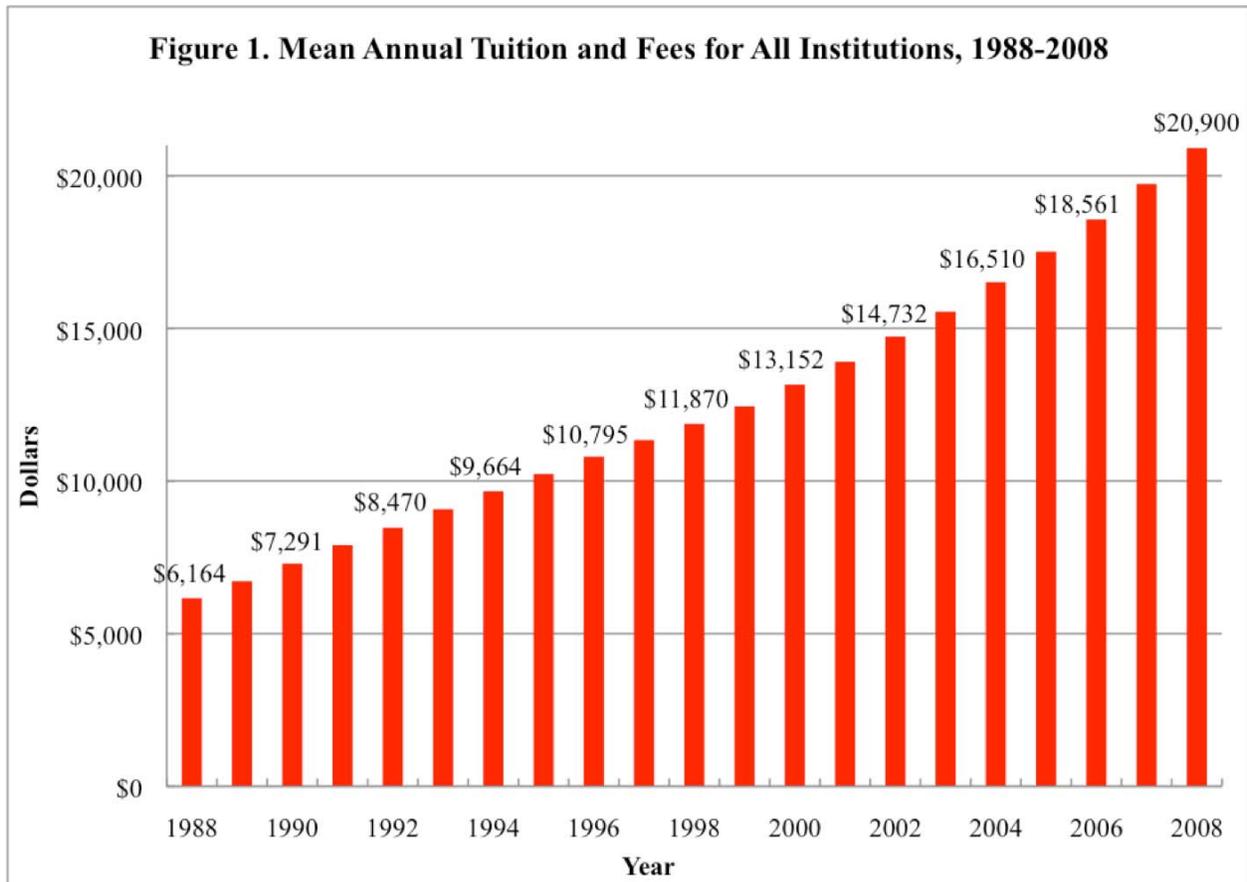
Characteristic	HBCU Status	Region	Carnegie Classification
HBCU Status			
HBCU Designation	37		
Non HBCU	323		
	<i>N</i> = 360		
Region			
Northeast		72	
Mid States		121	
Southeast		127	
West		36	
Rocky Mountains		4	
		<i>N</i> = 360	
Carnegie Classification, 2005 Basic			
Arts & Sciences			152
Diverse Fields			198
Baccalaureate/Associate's			10
			<i>N</i> = 360

Results

Research Question One

What are the changes in a) the mean undergraduate tuition and fees b) the mean total student cost (tuition, fees, room and board), and c) the mean enrollment of undergraduate attendance among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions over the defined twenty-year period of 1988-2008?

Data for the study population was compiled in an Excel file. Descriptive statistics were calculated using the formula functions located in Excel. Mean tuition and fees, total student cost, and enrollment were calculated for 1988-2008 overall as well as for each year. Also, the annual changes in means for each year were calculated in terms of dollar value and percentage value.



Mean tuition and fees increased from \$6,164 in 1988 to \$20,900 in 2008 when considering all institutions in the study population. This was an increase of \$14,736 over the twenty-year period. Figure 1 shows the trend in mean annual tuition and fees costs for the period. The mean tuition and fees cost appears to have risen more quickly during the later part of the period studied, particularly from 2005 to 2008, than in the earlier part of the period. The mean annual increase over the twenty-year period was \$737.

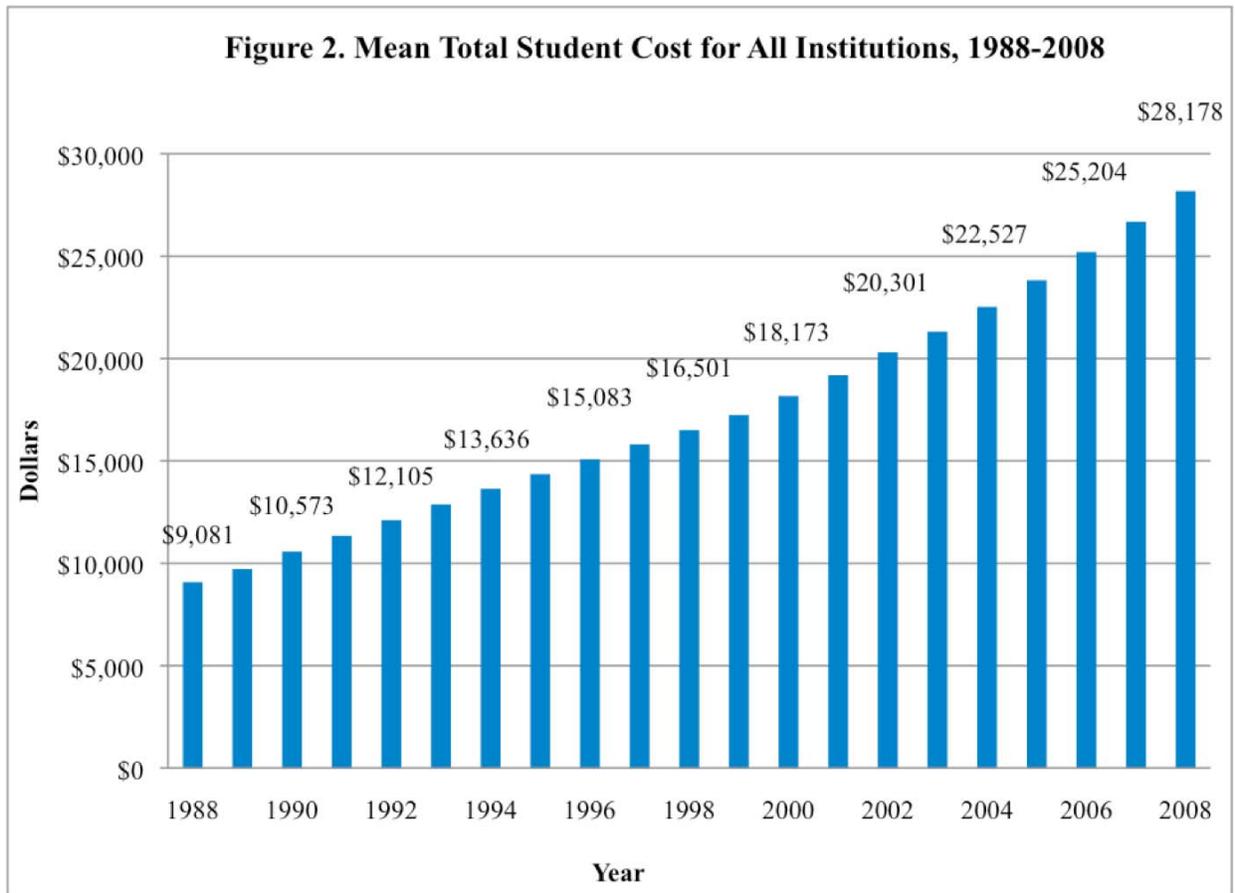
Table 8

Mean Tuition and Fees and Percentage Changes, 1988-2008

Year	Mean Tuition and Fees	% Change from Prior Year	% Change Since 1988
1988	\$6,164	n/a	n/a
1989	\$6,718	9.0%	9.0%
1990	\$7,291	8.5%	18.3%
1991	\$7,899	8.3%	28.2%
1992	\$8,470	7.2%	37.4%
1993	\$9,078	7.2%	47.3%
1994	\$9,664	6.5%	56.8%
1995	\$10,226	5.8%	65.9%
1996	\$10,795	5.6%	75.1%
1997	\$11,342	5.1%	84.0%
1998	\$11,870	4.7%	92.6%
1999	\$12,446	4.8%	101.9%
2000	\$13,152	5.7%	113.4%
2001	\$13,899	5.7%	125.5%
2002	\$14,732	6.0%	139.0%
2003	\$15,544	5.5%	152.2%
2004	\$16,510	6.2%	167.9%
2005	\$17,509	6.0%	184.1%
2006	\$18,561	6.0%	201.1%
2007	\$19,727	6.3%	220.1%
2008	\$20,900	5.9%	239.1%

Table 8 presents the mean annual tuition and fee costs for each year of 1988 to 2008 and the mean annual cost change as a percentage. Although the cost of tuition and fees increased each year during this period, they did so at varying rates. The rate of annual change in mean tuition and fees from the previous year ranged from 4.7% to 9%. The largest rate of increase

occurred between 1988 and 1989. There was a decrease in the annual rate of change from 1988 to 1998 followed by both increases and decreases in the rate of change from 1999 to 2008.



The mean total student cost, which included tuition, fees, room and board, increased from \$9,081 in 1988 to \$28,178 in 2008. This was a total increase of \$19,097 from 1988 to 2008. The annual change in mean ranged from \$637 to \$1,498. The twenty-year mean annual increase in total student cost was \$955 over the twenty-year period. As shown in Figure 2, the total student cost increased with slight fluctuations in the amount of increase from year to year.

As shown in Table 9, the mean total student costs increased by 210% from 1988 to 2008. The rate of mean annual change from the prior year has both increased and decreased during the twenty-year period. The largest rate of increase in mean annual total student cost occurred

between 1989 and 1990 (8.8%) while the smallest rate of increase occurred between the years of 1997 and 1998.

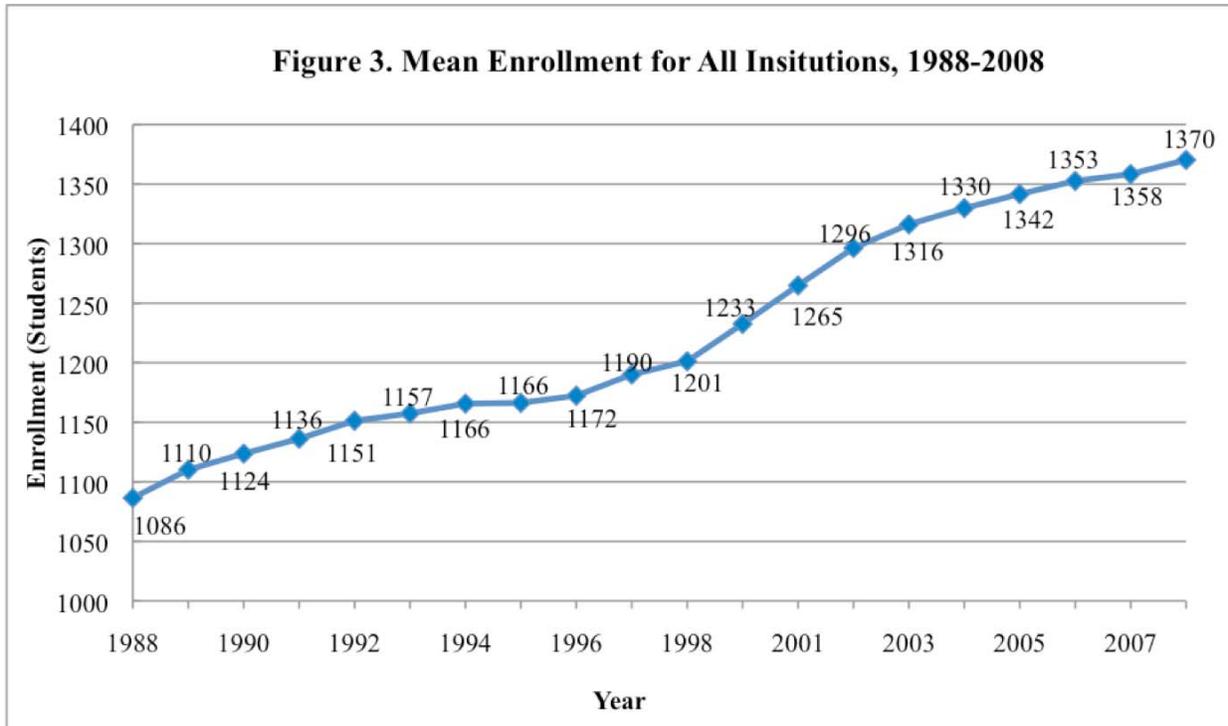
Table 9

Mean Total Student Cost and Percentage Changes, 1988-2008

Year	Mean Total Student Cost*	% Change from Prior Year	% Change Since 1988
1988	\$9,081	n/a	n/a
1989	\$9,719	7.0%	7.0%
1990	\$10,573	8.8%	16.4%
1991	\$11,349	7.3%	25.0%
1992	\$12,105	6.7%	33.3%
1993	\$12,879	6.4%	41.8%
1994	\$13,636	5.9%	50.2%
1995	\$14,356	5.3%	58.1%
1996	\$15,083	5.1%	66.1%
1997	\$15,808	4.8%	74.1%
1998	\$16,501	4.4%	81.7%
1999	\$17,240	4.5%	89.9%
2000	\$18,173	5.4%	100.1%
2001	\$19,183	5.6%	111.2%
2002	\$20,301	5.8%	123.6%
2003	\$21,316	5.0%	134.7%
2004	\$22,527	5.7%	148.1%
2005	\$23,824	5.8%	162.4%
2006	\$25,204	5.8%	177.5%
2007	\$26,680	5.9%	193.8%
2008	\$28,178	5.6%	210.3%

* Mean total student cost includes tuition, fees, room and board.

Figure 3 presents the mean enrollment for all institutions. Mean enrollment increased over the twenty-year period, although not at the same rate for each year. There was a slight increase in the mean enrollment from 1988 to 1994, after which, the mean enrollment leveled off until approximately 1996. A sharper increase occurred between 1998 and 2002, followed by a smaller increase through 2008.



The mean enrollment increased from 1086 students in 1988 to 1370 students in 2008. There was an overall mean enrollment increase of 284 students per institution from 1988 to 2008. The mean annual increase in enrollment was 15 students per institution over the twenty-year period. Mean annual enrollment and the rate of change in mean annual enrollment are presented in Table 10 for the years of 1988 to 2008 with the exception of 1999 when no IPEDS enrollment surveys were conducted. As shown in Table 10, the largest rate of change (2.6%) in mean annual enrollment in a single year occurred between 2000 and 2001. The smallest rate of change occurred between 1994 and 1995 when the mean annual enrollment increased by only

.1%. The mean annual enrollment for all institutions included in the study population increased by 26.1% from 1988 to 2008.

Table 10

Mean Enrollment and Percentage Changes, 1988-2008

Year	Mean Enrollment	% Change from Prior Reported Year	% Change Since 1988
1988	1,086	n/a	n/a
1989	1,110	2.2%	2.2%
1990	1,124	1.2%	3.4%
1991	1,136	1.1%	4.6%
1992	1,151	1.3%	6.0%
1993	1,157	0.5%	6.5%
1994	1,166	0.7%	7.3%
1995	1,166	0.1%	7.3%
1996	1,172	0.5%	7.9%
1997	1,190	1.5%	9.5%
1998	1,201	0.9%	10.6%
1999	n/a	n/a	n/a
2000	1,233	2.6%	13.5%
2001	1,265	2.6%	16.4%
2002	1,296	2.5%	19.3%
2003	1,316	1.5%	21.1%
2004	1,330	1.0%	22.4%
2005	1,342	0.9%	23.5%
2006	1,353	0.8%	24.5%
2007	1,358	0.4%	25.0%
2008	1,370	0.9%	26.1%

* Percentage change from prior reporting year

Research Question Two

What are the changes in the mean undergraduate tuition and fees, total student cost (tuition, fees, room and board) of undergraduate attendance, and enrollment based upon a) the HBCU status, b) the geographic region, and c) Carnegie classification of the institutions?

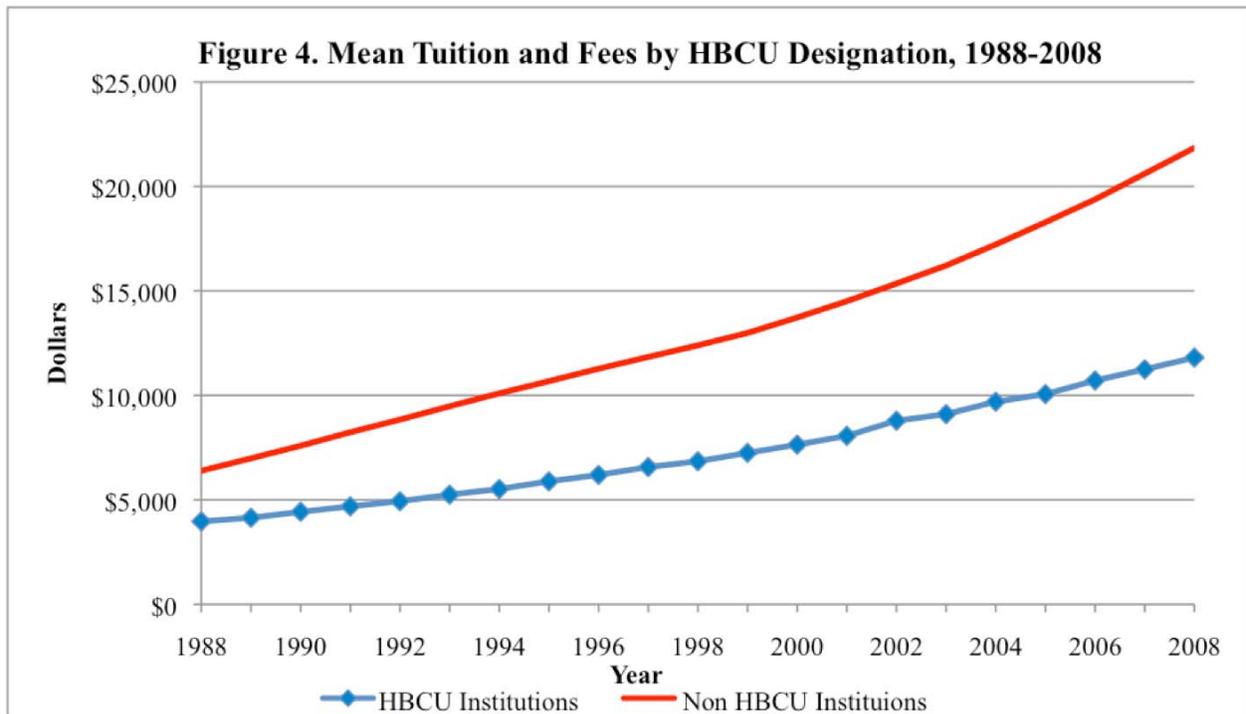
Tuition and fees varied by the differing institutional characteristics of HBCU designation, geographic region, and the Carnegie classification Baccalaureate subgroup. Table 11 presents the mean tuition and fee costs by the institutional characteristics. When considering the cohorts, the largest changes in mean tuition and fees that occurred over the twenty-year period was with the cohorts of non HBCU designation, Northeast region, and Carnegie classification of Arts and Sciences.

Table 11

Mean Tuition and Fees by Institutional Characteristic

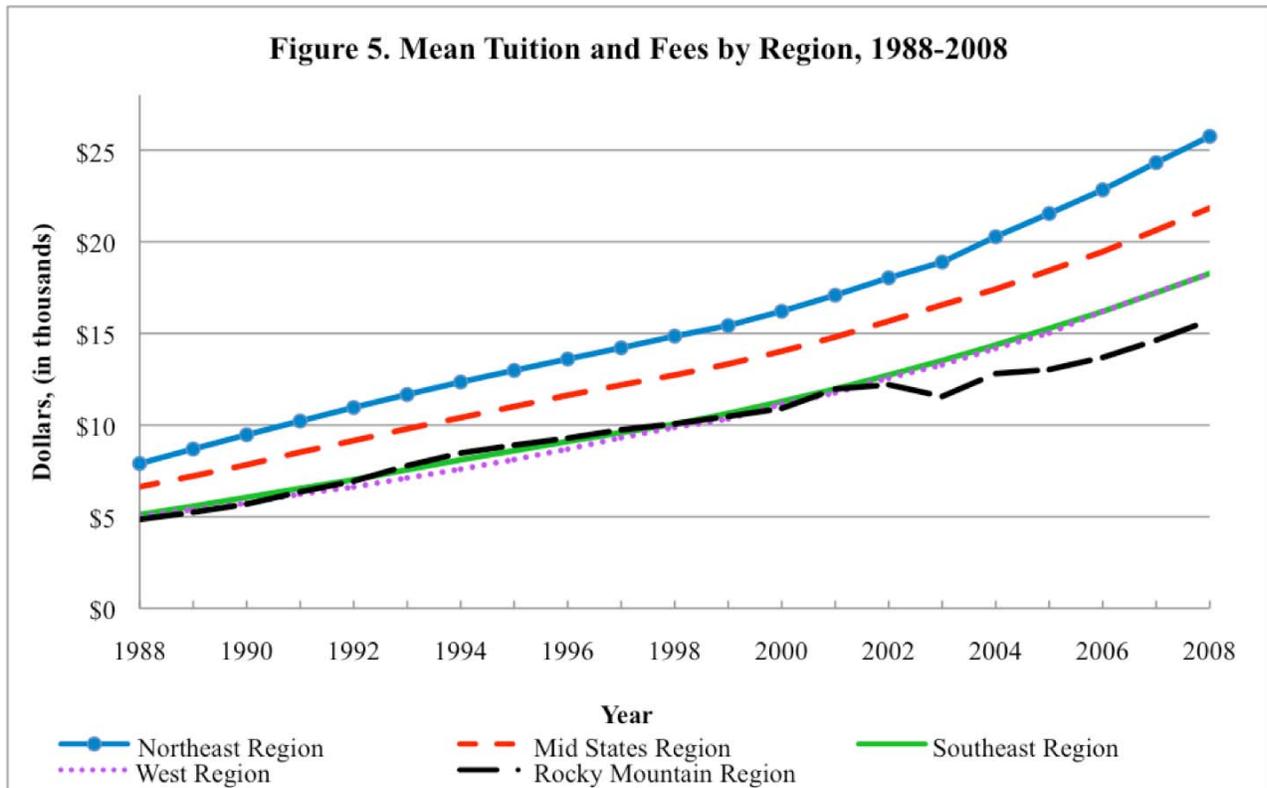
Characteristic	Mean Tuition and Fees, 1988	Mean Tuition and Fees, 2008	Total 20 Year Change	Annual Change in Mean Over 20 Years
HBCU Designation	3,968	11,809	7,841	392
Non HBCU	6,393	21,848	15,455	773
Northeast Region	7,900	25,744	17,844	892
Mid States Region	6,627	21,833	15,205	760
Southeast Region	5,116	18,264	13,147	657
West Region	5,033	18,257	13,224	661
Rocky Mountain Region	4,848	15,711	10,863	543
Carnegie - Arts & Sciences	7,333	24,005	16,672	834
Carnegie - Diverse Fields	5,324	18,738	13,414	671
Carnegie - Baccalaureate/Associate's	5,013	16,514	11,501	575

Institutions with the HBCU designation had a mean tuition and fees of \$3,968 in 1998 and \$11,809 in 2008. This represents a total increase in mean tuition and fees of \$7,841 over the twenty-year period. The mean annual change was \$392. The group of institutions without the HBCU designation had higher mean tuition and fees in 1988 at \$6393 than the HBCU designated institutional group. In 2008 the mean had increased to \$21,848. The total increase was \$15,455 with a mean annual increase of \$773.



The institutions grouped in the Northeast region had mean tuition and fees that ranged from \$7,900 in 1988 to \$25,744 in 2008 for a total increase of \$17,844. The mean annual change was an increase of \$892. The Mid States region had mean tuition and fees of \$6,627 in 1988. That increased to \$21,833 by 2008 for a total increase of \$15,205. The annual changes in mean tuition and fees increased \$760. The mean tuition and fees for institutions in the Southeast region was \$5,116 in 1988. In 2008, the mean tuition and fees were \$18,264. The total increase from 1988 to 2008 was \$13,147. The annual change in mean was \$657. The mean tuition and fees for

the West region was \$5033 in 1988 and \$18,257 in 2008. There was an annual change in mean of \$661 and a total increase of \$13,224. The Rocky Mountain region had mean tuition and fees of \$4,848 in 1988 and \$15,711 in 2008. The annual change in mean was \$543 with a total change for the period of \$10,863.



Mean annual tuition and fees among institutions in the Carnegie Classification

Baccalaureate, subgroup Arts and Sciences increased from \$7,333 in 1988 to \$24,005 in 2008.

This was an increase of \$16,672 for the twenty year time period. The mean annual change was

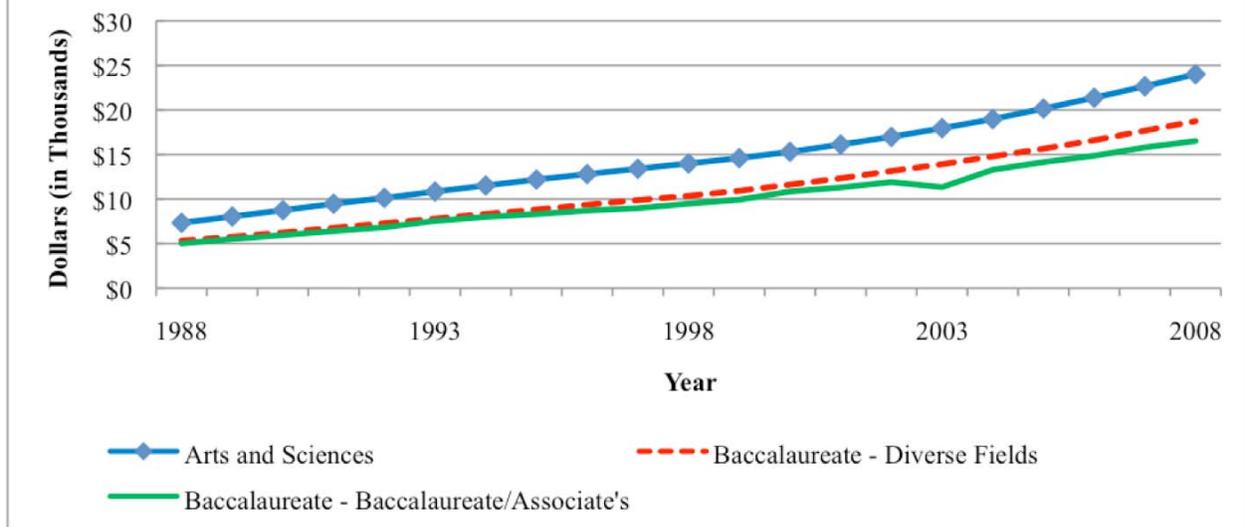
\$834. Institutions classified as Diverse Fields increased from \$5,324 in 1988 to \$18,738 in 2008

for a total of \$13,414. The mean annual change was \$671. The mean tuition and fees for

Baccalaureate/Associate's Colleges was \$5,013 in 1988. By 2008, it had increased by \$11,501 to

\$16,514. The mean annual change was an increase of \$575.

Figure 6. Mean Tuition and Fees by Carnegie Classification



The mean total student cost varied by the institutional characteristic. For this study, total student cost included tuition, fees, room and board. Dollar values ranged from a low of \$3,968 in 1988 for HBCU colleges and universities to a high of \$25,744 in 2008 in the Northeast region.

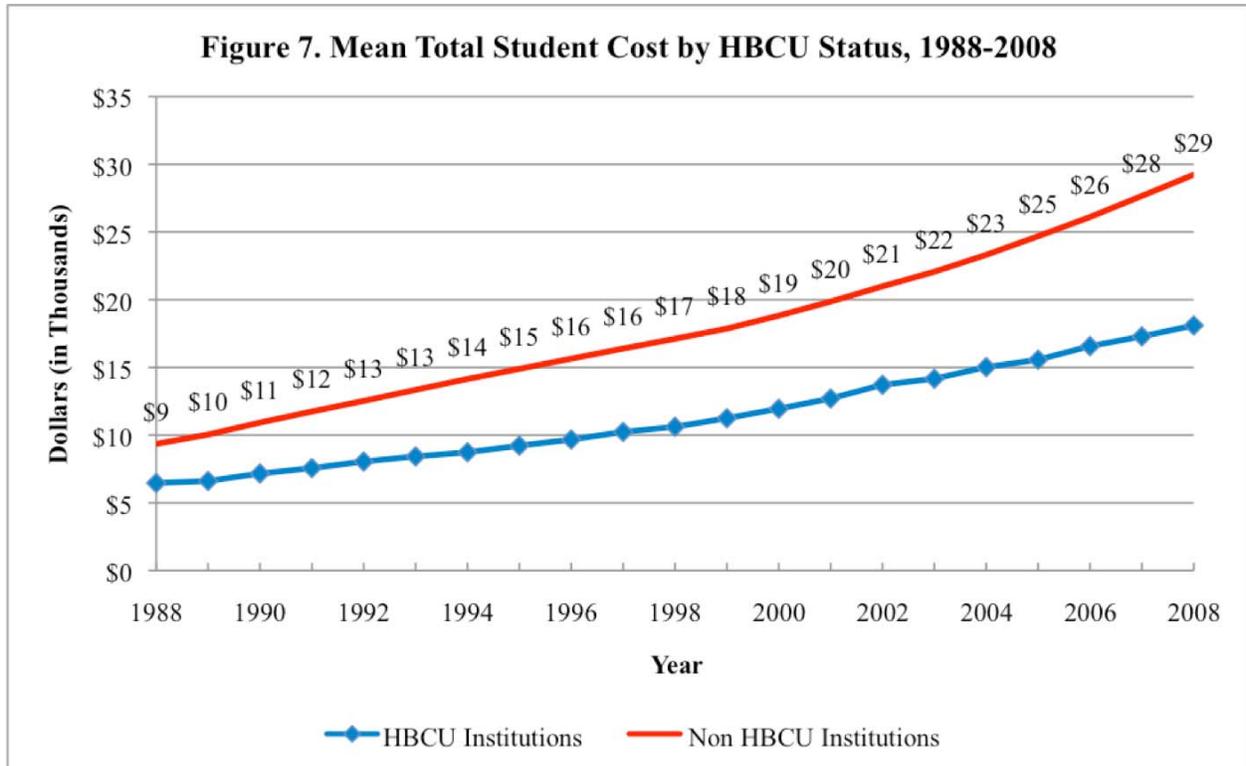
Table 12 presents the mean total student cost by institutional characteristic.

Table 12

Mean Total Student Cost by Institutional Characteristic

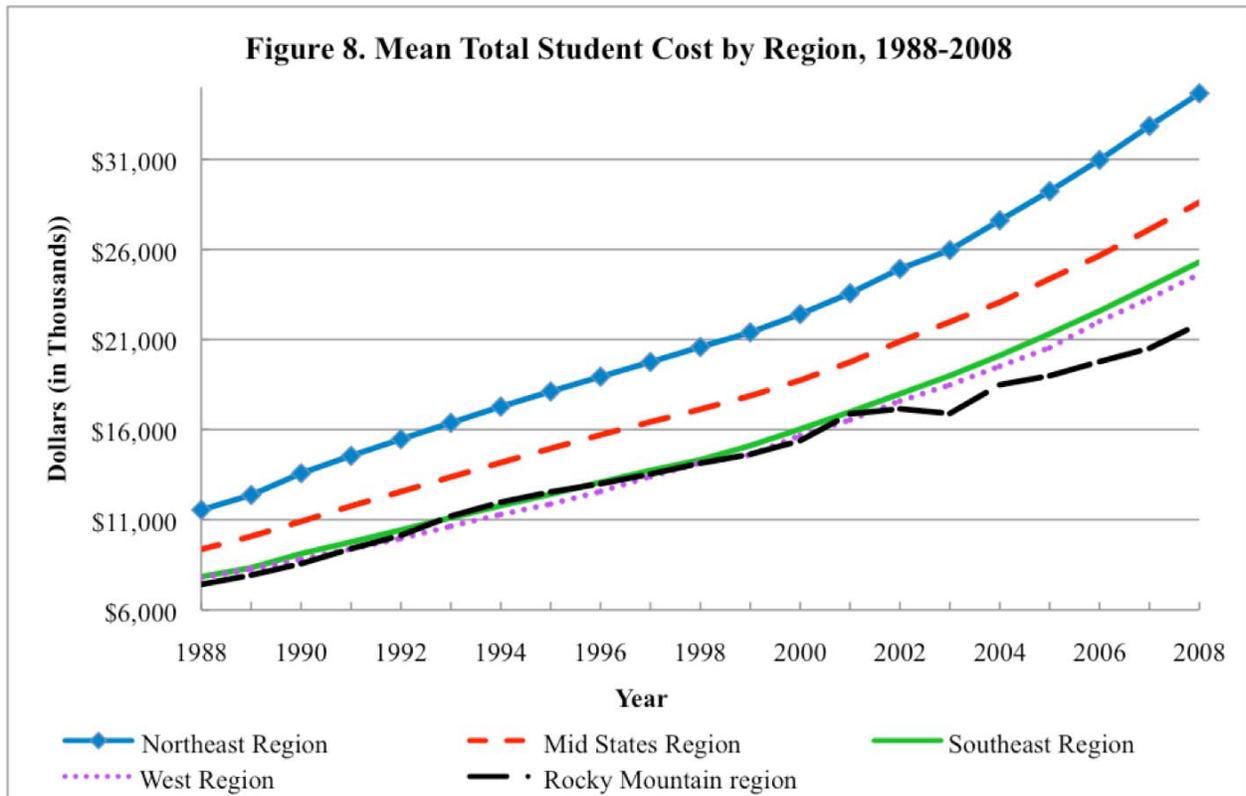
Characteristic	Mean Total Student Cost, 1988	Mean Total Student Cost, 2008	Total Twenty-year Change in Mean	Annual Change in Mean Over 20 Years
HBCU	6,466	18,097	11,631	582
Non HBCU	9,354	29,229	19,876	994
Northeast Region	11,548	34,659	22,722	1,156
Mid States Region	9,358	28,606	19,249	962
Southeast Region	7,839	25,299	17,461	873
West Region	7,785	24,630	16,845	842
Rocky Mountain Region	7,410	21,868	14,457	723
Carnegie – Arts & Sciences	10,440	31,856	21,416	1,071
Carnegie – Diverse Fields	8,097	25,601	17,504	875
Carnegie – Baccalaureate/Associate's	7,901	23,285	15,384	769

Institutions designated as HBCUs had a total student cost mean of \$6,466 in 1988. The mean total student cost was \$18,097 in 2008 that represented a total change of \$11,631. The mean annual change was \$582. Institutions without the HBCU designation had a mean total student cost of \$9,354 in 1988 and \$29,229 in 2008. The twenty-year change in mean total student cost was \$19,876 with a mean annual change of \$994.



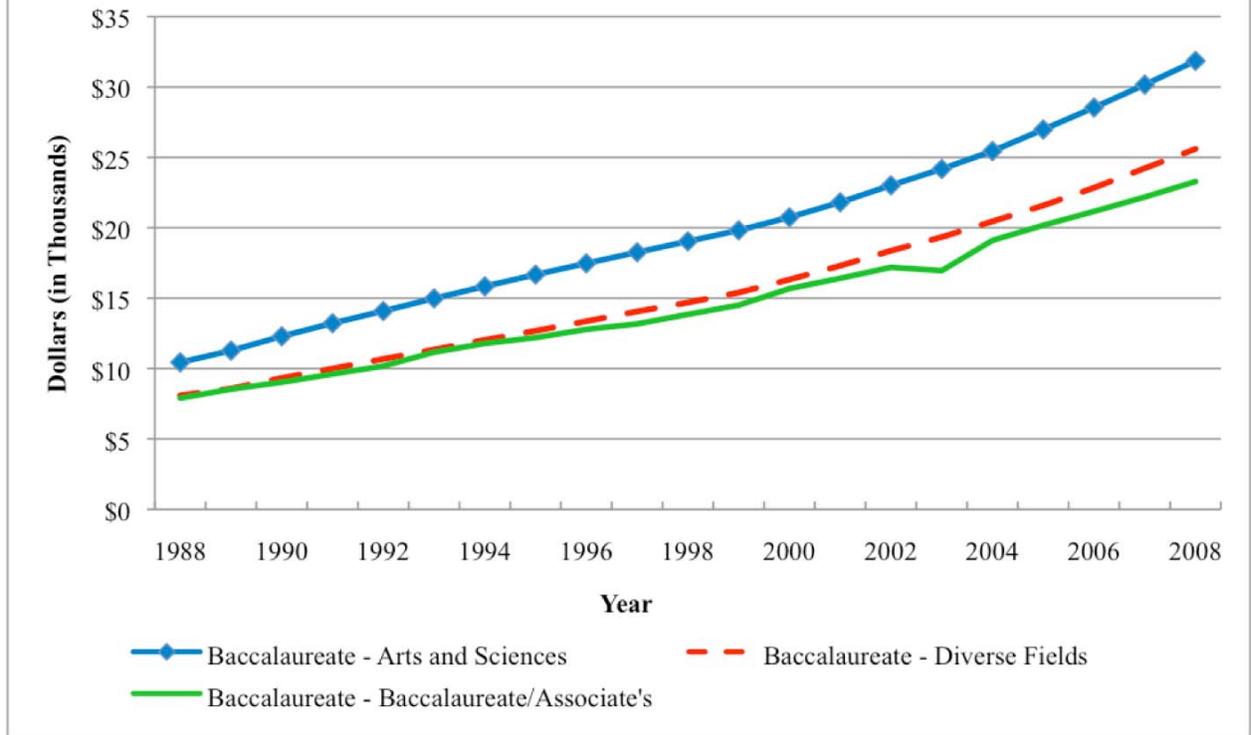
The mean total student cost for the Northeast Region was \$11,548 in 1988. The total student cost increased \$22,722 to \$34,659 in 2008. The mean annual change was an increase of \$1,156. The Mid States region saw an increase of \$19,249 during the 1988-2008 period. The total student cost was \$9,358 in 1988 and \$28,606 in 2008. The mean annual change was \$962. The Southeast region had a lower mean total student cost in 1988 and 2008 than the Northeast or the Mid States regions. The mean total student cost in 1988 was \$7839 and \$25,299 in 2008 for a difference of \$17,461. The mean annual change was \$873. The West region had a mean total

student cost of \$7,785 in 1988. This increased by \$16,845 to \$24,630 in 2008. The mean annual change was \$842. The Rocky Mountain region had a mean total student cost of \$7,410 in 1988 which increased to \$21,868 by 2008. This was a total increase of \$14,457 and a mean annual change of \$723.



The total student cost included the tuition, fees, room and board as reported to IPEDS by institutions in the study population. The Arts and Sciences subgroup had a mean total student cost of \$10,440 in 1988 and \$31,856 in 2008. The total change during the twenty year period was \$21,416. The mean annual change was \$1071. The mean total student cost for the Diverse Fields subgroup was \$8,097 in 1988 and \$25,601 in 2008 for a total change of \$17,504. The mean annual change was \$875. For the subgroup Baccalaureate/Associate's, the mean total cost was \$7,901 in 2008 and \$23,285 in 2008. The change in total cost from 1988-2008 was \$15, 384, with a mean annual change of \$769.

Figure 9. Mean Total Student Cost by Carnegie Classification, 1988-2008



Although the mean enrollment increased from 1988 to 2008 for all institutions, the mean annual change in enrollment varied greatly among the institutional groupings. Table 13 presents the mean enrollment from 1988 and 2008, as well as the mean annual change for each subgroup with the differing institutional characteristics. Among the geographic regions, the changes in the mean enrollment were similar with the exception of the Rocky Mountain region. This region had a mean enrollment increase of 1,642 students over the twenty-year period. The Rocky Mountain region included only four institutions, once of which reported much larger enrollments than the other institutions. Among the classification subgroups, there was more variation among all cohorts than in the other subgroups. The Arts and Sciences subgroup had a mean enrollment increase of seven students during the twenty-year period, whereas, the Diverse Fields subgroup

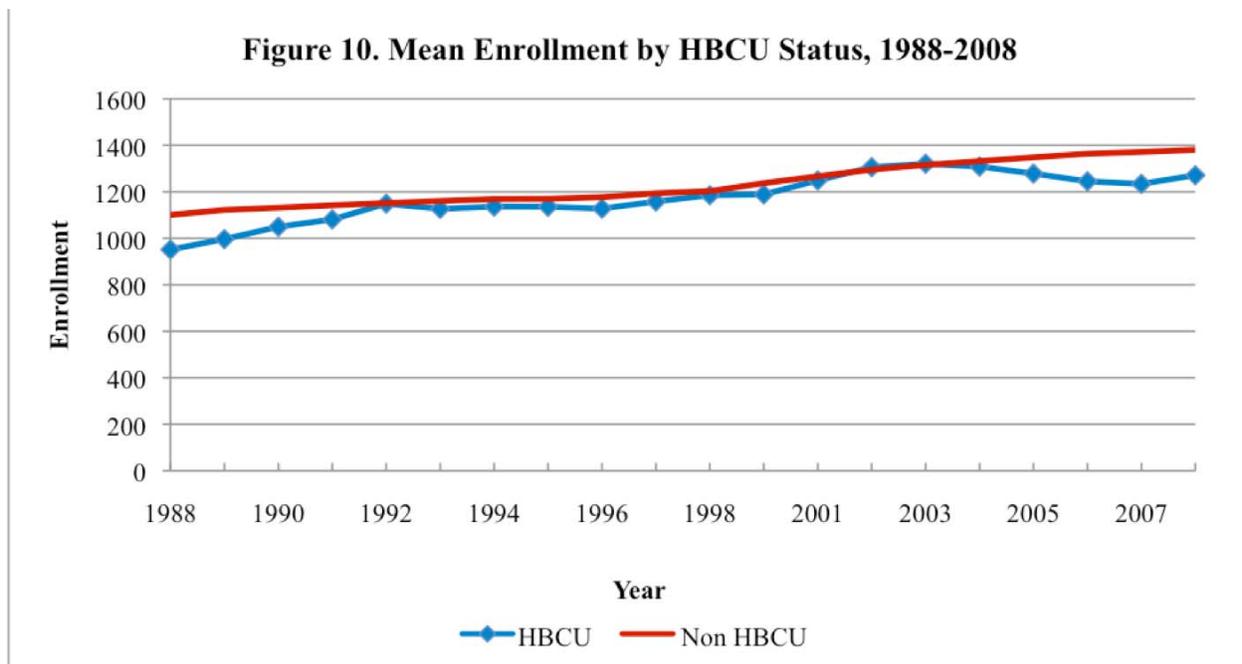
had an increase of 18. The Baccalaureate/Associates' subgroup had an increase of 40 students, which was more than triple the increase that the Arts and Sciences subgroup experienced.

Table 13

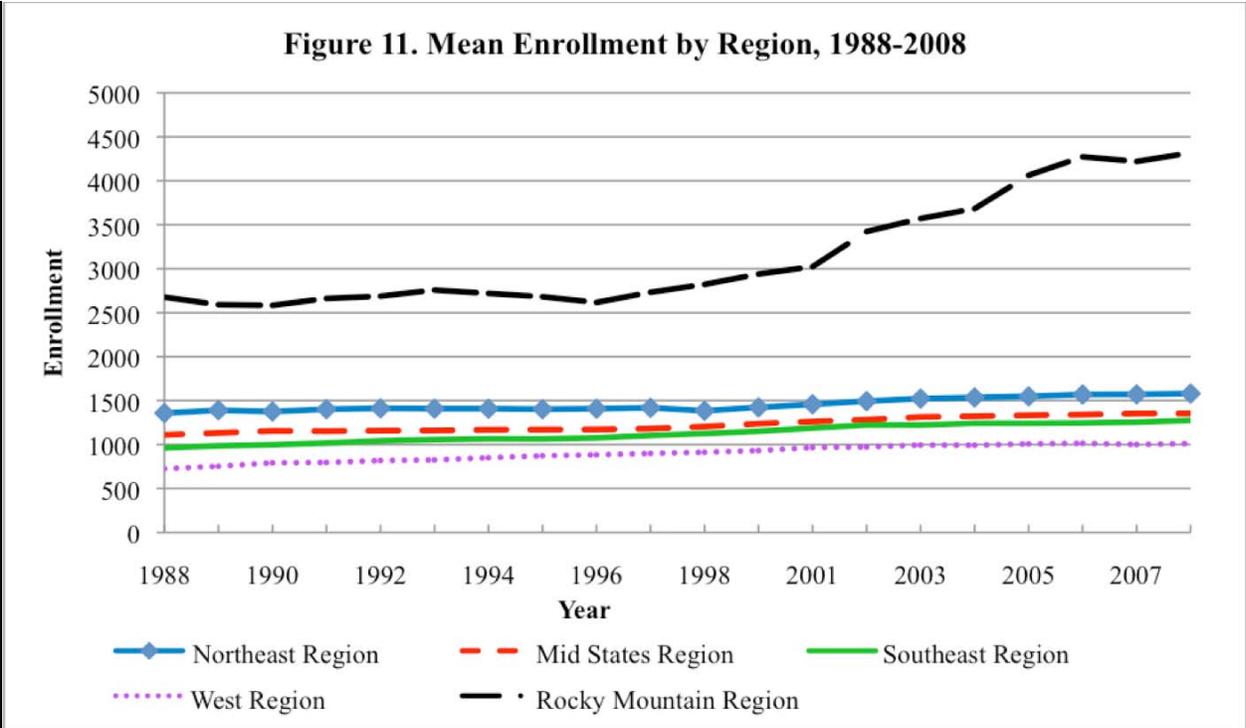
Mean Enrollment by Institutional Characteristic, 1988-2008

Characteristic	Mean Enrollment, 1988	Mean Enrollment, 2008	Total Twenty-Year Change in Mean Enrollment	Annual Change in Enrollment Over Twenty Years
HBCU Designation	951	1,271	320	16
Non HBCU	1,101	1,381	280	14
Northeast Region	1,359	1,580	221	11
Mid States Region	1,110	1,354	244	12
Southeast Region	973	1,281	308	16
West Region	726	1,013	287	14
Rocky Mountain Region	2,677	4,319	1,642	82
Carnegie – Arts & Sciences	1,262	1,400	138	7
Carnegie – Diverse Fields	937	1,307	370	18
Carnegie – Baccalaureate/Associate's	1,374	2,177	802	40

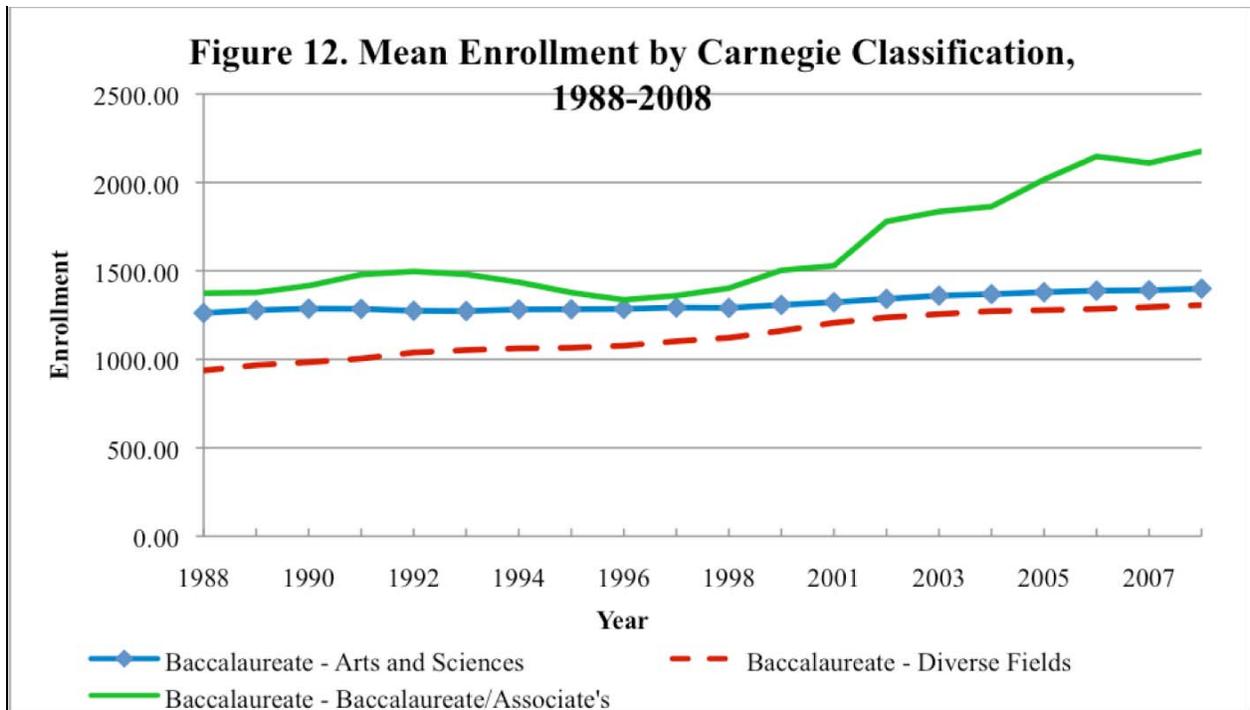
Mean enrollment at HBCU designated institutions increased from 951 students in 1988 to 1,271 students in 2008 for a total increase of 320. The mean ranged from a low of 951 in 1988 to a high of 1,321 in 2003. The mean annual change was sixteen students. The non-HBCU institutions had a mean enrollment of 1101 students in 1988 and 1,381 in 2008 for a total increase of 281. The mean annual change was fourteen.



Institutions in the Northeast region had a mean enrollment of 1,359 in 1988 and 1,580 in 2008 for a total change of 221. There was a mean annual change of 12. The Mid States region had a mean enrollment change of 244, from 1,110 in 1988 to 1,354 in 2008. The mean annual change was twelve. Mean annual enrollment for the Southeast region ranged from 973 in 1988 to 1,281 in 2008. The Southeast region had a mean total enrollment change of 308 over the twenty-year period. The mean annual change was sixteen. The West region had a mean enrollment of 726 in 1988 and 1,013 in 2008. There was a mean total change of 287 students with a mean annual change of fourteen. The Rocky Mountain region had higher mean enrollment overall with 2,677 students in 1988 and 4,319 students in 2008. The mean annual change in enrollment was 83. The mean annual change in enrollment varied from -86 between 1988-1989 to 400 between 2001 and 2002.



The mean annual enrollment for the subgroup of Arts and Sciences in the Carnegie Classification of Baccalaureate ranged from 1,262 students in 1988 to 1,400 students in 2008. The annual change was seven. The mean total change for the period was 138 students. The Diverse Fields subgroup has a mean enrollment of 937 in 1988 and 1,307 in 2008. The mean annual change ranged from a low of 3 to a high of 46. The mean annual change was 18. The total increase in enrollment for the period of 1988 to 2008 was 370 students. Among the Baccalaureate/Associate's subgroup, there was a mean enrollment of 1,374 in 1988. The mean enrollment increased to 2,177 in 2008. The mean total increase was 802 students.



Research Question Three

What is the relationship between twenty-year mean annual change in undergraduate tuition and fees and the twenty-year mean annual change in undergraduate enrollment private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions?

A bivariate linear regression analysis was performed to determine the relationship between the change in tuition and fees and enrollment. The twenty-year mean annual change in the enrollment and the twenty-year mean annual change in tuition and fees were calculated from the enrollment data from each of the 360 cases using the descriptive statistics function in SPSS[®]. The calculated twenty-year mean annual change in tuition and fees was used as the dependent variable. The calculated twenty-year mean annual change in enrollment was used as the predictor or independent variable. Analysis was performed using the regression function in SPSS[®] software for evaluation.

Utilizing data for all institutions in the study population, a bivariate regression was performed between the twenty-year mean annual change in tuition and fees as the dependant variable and the twenty-year mean annual change in enrollment as the independent variable. Following the recommendation of Tabachnick and Fidell (2007), the sample size was calculated using the formula $N \geq 50 + 8m$, where m is the number of independent variables. For this analysis with one independent variable, the number of cases ($N = 360$) was sufficient. Table 14 displays the correlation between the variables, the unstandardized regression coefficients (B) and constant, the standardized regression coefficients (β), R , R^2 , and adjusted R^2 . The residual scatterplot and histogram were examined to determine normality, linearity, homoscedasticity, and independence of residuals. Table 15 presents the ANOVA summary of the regression model. With the independent variable in the equation, $R^2 = .04$ with a 95% confidence interval, $F(1, 358) = 14.53$, $p < .01$ enrollment is shown to be a significant predictor variable. The significant results indicate that the mean annual change in enrollment can be used to predict the mean annual change in tuition and fees. However, the coefficient of determination (R^2) is .04, explaining only approximately 4% of the variance in the mean annual change in tuition and fees.

Table 14

Results of Bivariate Regression, Twenty-year Mean Annual Change in Tuition and Fees as the Dependent Variable and Twenty-year Mean Annual Enrollment Change as the Independent Variable

	Pearson Correlation	Standard Deviation	Mean	B	$SE B$	β	Adjusted R^2
Constant				759.22			
Enrollment Change (IV)	-.197	29.39	14.19	-1.58	.414	-.197	.036
Tuition and Fee Change (DV)		234.95	736.81				
							$R^2 = .039$
							$R = .197$

Table 15

ANOVA Summary of Regression Model with Twenty-year Mean Annual Change in Tuition and Fees as the Dependent Variable and Twenty-year Mean Annual Enrollment Change as the Independent Variable

	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Significance
Regression	772922.8	1	772922.8	14.53	$p < .01^*$
Residual	19044300.9	358	53196.371		
Total	19817223.7	359			

* Results are significant at $\alpha = .01$.

Research Question Four

What is the relationship between the five-year mean annual change in undergraduate tuition and fees of undergraduate attendance and a) enrollment, b) HBCU status, c) geographic region, and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions?

A forward multiple regression was performed to determine the relationship between the 5 year mean annual change in tuition and fees and HBCU status, geographic region, Carnegie classification, and enrollment. The five year mean annual change tuition and fee cost data and the five year mean annual change in enrollment were calculated in SPSS[®] from the cost and enrollment information provided to IPEDS for the years 2003 and 2008. Tabachnick and Fidell (2007) suggested that a sufficient sample size is $N \geq 50 + 8m$, where m is the number of independent variables. For this analysis there are eight independent variables that include HBCU status, four geographic regions, two Carnegie classifications, and mean enrollment change. The

minimum number of cases for sufficient sample size was 114. There were a total of 360 cases in the study population and therefore, a sufficient sample size existed.

The variable of HBCU status was entered as a dichotomous variable and coded as HBCU = 0, non HBCU = 1. Four geographic regions were entered as separate dichotomous variables as were two Carnegie classification subgroups. In the regression model, the variable for Rocky Mountain region and Carnegie subgroup of Baccalaureate/Associate's were omitted to prevent perfect multicollinearity.

The regression analysis was conducted using the five year mean annual change in tuition and fees as the dependent variable. Independent variables of Carnegie, - Arts and Sciences, Carnegie - Diverse Fields, Northeast region, Southeast region, West region, Mid States region, HBCU designation, and the five year mean annual change in enrollment were entered into the regression model. The Pearson Correlations showed that the five-year mean annual tuition and fees were correlated most highly with HBCU at .393 followed by Northeast region at .345 and Carnegie – Arts and Sciences at .273. All variables were statistically significant. The five-year mean annual enrollment was very slightly negatively correlated at -.033 but was not significant.

Table 16

ANOVA Summary of Regression Model with Five-year Mean Annual Change in Tuition and Fees and Independent Variables

	Sum of Squares	Df	Mean Square	F	Significance
Regression	19597365.759	3	6532455.253	47.993	$p < .01^*$
Residual	48456073.032	356	136112.565		
Total	68053438.791	359			

* Results are significant at $\alpha = .01$.

Table 16 presents the results of the ANOVA summary of the regression model with a five-year mean annual change in tuition and fees with the independent variables of HBCU status, region and category. With the inclusion of the independent variables of HBCU, Northeast region, and Carnegie – Arts and Sciences, $F(3, 359) = 47.993, p < .01$.

Table 17

Model Summary for Regression Analysis, Five-year Mean Annual Change in Tuition and Fees and Independent Variables

Model	R	R ²	Adjusted R ²	Change Statistics				
				R ² Change	F Change	df1	df2	Sig. F Change
1	.393	.155	.152	.155	65.524	1	358	.000
2	.486	.236	.232	.081	38.011	1	357	.000
3	.537	.288	.282	.052	25.959	1	356	.000

a Predictors: (constant), HBCU

b Predictors: (constant), HBCU, Northeast Region

c Predictors: (constant), HBCU, Northeast Region, Carnegie – Arts & Sciences,

For the model summary, the variable of five-year mean annual change in enrollment was automatically removed from the regression. As shown in Table 17, after step 1, with HBCU in the equation, $R^2 = .155, F_{inc}(1, 358) = 65.524, p < .001$. After step 2 with Northeast Region added to the equation, $R^2 = .236, F_{inc}(1, 357) = 38.011, p < .001$. After step 3, with the inclusion of Carnegie – Arts and Sciences, $R^2 = .288, F_{inc}(1, 356) = 25.959, p < .001$. The combination of three variables is shown to be significant and indicate that these variables can be used to predict the 5 year mean annual change in tuition and fees. The coefficient of determination (R^2) is .288, explaining approximately 29% of the variance in the five year mean annual change in tuition and fees.

Table 18

Coefficients for Regression Analysis, 5 Year Mean Annual Change in Tuition and Fees and Independent Variables

Independent Variables	<i>B</i>	<i>SE B</i>	β	sig	Tolerance	VIF
(Constant)	470.33	64.80		.000		
HBCU	505.58	67.40	.340	.000	.973	1.03
Northeast region	288.65	49.51	.266	.000	.964	1.04
Carnegie – Arts & Sciences	201.81	39.61	.229	.000	.988	1.01

The coefficients for the regression model are shown in Table 18. All of the independent variables are significant when entered into the model. Collinearity statistics of tolerance and variance inflation factor (VIF), as shown in Table 18, were examined and were found to present no issues with multicollinearity or singularity.

Research Question Five

What is the relationship between the twenty-year mean annual change in undergraduate tuition and fees and a) enrollment, b) HBCU status, c) geographic region, and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions?

A forward multiple regression was used to determine if enrollment, HBCU status, geographic region, or Carnegie classification contributed to change in mean tuition and fee costs among the 360 private, not-for-profit, Baccalaureate institutions in the study population. The twenty-year mean annual change in tuition and fees was chosen as the dependant variable. Four variable groups were chosen as independent variables; twenty-year mean annual change in

enrollment, HBCU status, the geographic region in which the institution is located, and the Carnegie 2005 Basic Classification Baccalaureate subgroup.

The variables were entered into the statistical software and coded for the regression analysis. The twenty-year mean annual change in the enrollment and the twenty-year mean annual change in tuition and fees were calculated in SPSS[®] from the enrollment data from each of the 360 cases. HBCU status was a dichotomous variable and coded as 0 = HBCU and 1 = Non HBCU. The five geographic regions were separated into five variable categories and also coded as dichotomous variables with 0 = not in the region and 1 = in the region. The Carnegie 2005 Basic Classification of Baccalaureate had three subgroups of Arts & Sciences, Diverse Fields, and Baccalaureate/Associates. One group from the geographic region and the Carnegie classification was omitted to prevent perfect multicollinearity.

A multiple regression analysis was conducted using the twenty-year mean annual change in tuition and fees as the dependent variable and eight independent variables of Carnegie, - Arts and Sciences, Carnegie - Diverse Fields, Northeast region, Southeast region, West region, Mid States region, HBCU designation, and the twenty-year mean annual change in enrollment. There were 360 cases in the study population that met the assumption of sufficient sample size as noted in the discussion of Research Question Four. Descriptive statistics of means and standard deviations were calculated. Significant variables that entered in the model were HBCU status, Carnegie Arts and Sciences, Northeast region, and twenty-year mean annual change in enrollment.

The calculated Pearson Correlations indicated that the highest correlation between the mean annual change in tuition and fees and an independent variable was with HBCU designation at .475 followed by Carnegie – Arts & Sciences (.353) and Northeast Region (.331). All

correlations were shown to be significant. The correlation between the twenty-year mean annual change in tuition and fees was also shown to be significant although it was slightly negatively correlated at -.197. Collinearity statistics of tolerance and VIF were examined and were found to present no issues with multicollinearity or singularity. In addition, the standardized residual histogram and standardized scatterplot was examined to determine normality, linearity, homoscedasticity, and independence of residuals.

Table 19

ANOVA Summary of Regression Model with Twenty-year Mean Annual Change in Tuition and Fees and Independent Variables

	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Significance
Regression	7906536.045	4	1976634.011	58.914	$p < .01^*$
Residual	11910687.667	355	33551.233		
Total	19817223.712	359			

* Results are significant at $\alpha = .01$.

Table 19 presents the ANOVA model summary of the regression with twenty-year mean annual change in tuition and fees and independent variables of HBCU status, Carnegie classification category, and region. With the independent variables of HBCU, Carnegie – Arts & Sciences, Northeast Region, and twenty-year mean annual change in enrollment included in the equation, , $F(4, 355) = 58.914, p < .01$.

Table 20

Model Summary for Regression Analysis, Twenty-year Mean Annual Change in Tuition and Fees and Independent Variables

Model	R	R ²	Adjusted	Change Statistics				
				R ²	F	df1	df2	Sig. F
				Change	Change			Change
1	.475	.225	.223	.225	104.060	1	358	.000
2	.579	.335	.331	.110	59.002	1	357	.000
3	.621	.386	.381	.051	29.515	1	356	.000
4	.632	.399	.392	.013	7.661	1	355	.006

a Predictors: (constant), HBCU

b Predictors: (constant), HBCU, Carnegie – Arts & Sciences

c Predictors: (constant), HBCU, Carnegie – Arts & Sciences, Northeast Region

d Predictors: (constant), HBCU, Carnegie – Arts & Sciences, Northeast Region, 20 Yr Mean Enrollment Change

As shown in Table 20 after step 1, with the HBCU in the equation, $R^2 = .23$, $F_{inc}(1, 358) = 104.060$, $p < .001$. After step 2 with Carnegie – Arts and Sciences added to the equation, $R^2 = .34$, $F_{inc}(1, 357) = 59.002$, $p < .001$. After step 3, with the inclusion of Northeast Region, $R^2 = .39$, $F_{inc}(1, 356) = 29.515$, $p < .001$. After step 4, with the independent variables of HBCU, Carnegie – Arts & Sciences, Northeast Region, and twenty-year mean annual change in enrollment in the equation, $R^2 = .40$ with a 95% confidence interval, $F_{inc}(1, 355) = 7.661$, $p < .05$ the combination of the four variables is shown to be significant. The significant results indicate that these variables can be used to predict the mean annual change in tuition and fees. The adjusted R^2 value of .39 indicates that approximately 40% of variance in the mean annual change in tuition and fees can be explained by the combination of the included variables. Table

21 presents the coefficients for the regression analysis. The constant is 359.24. The unstandardized coefficient for HBCU status is 339.22 followed by Carnegie – Arts and Sciences with 135.16 and Northeast region at 132.742. The entered variables of HBCU status, Carnegie classification, and geographic region were all significant at .000 when entered into the regression model. There was a negative relationship with the twenty-year mean enrollment change at -.932. This variable was also significant at the .006 level.

Table 21

Coefficients for Regression Analysis, Twenty-year Mean Annual Change in Tuition and Fees and Independent Variables

Independent Variables	<i>B</i>	<i>SE B</i>	B	sig	Tolerance	VIF
(Constant)	359.24	32.90		.000		
HBCU	339.22	33.46	.423	.000	.973	1.03
Carnegie – Arts & Sciences	135.16	20.11	.285	.000	.945	1.06
Northeast region	132.74	24.59	.226	.000	.963	1.04
20 yr. Change in Enrollment	-.932	.337	-.117	.006	.954	1.05

Research Question Six

What is the relationship between the twenty-year mean annual change in total student cost (tuition, fees, room and board) of undergraduate attendance and the twenty-year mean annual change in undergraduate enrollment in private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions?

A regression analysis was used to determine the relationship between the change in total student cost, including tuition, fees, room and board, and enrollments. Utilizing data for all

institutions in the study population, a bivariate regression was performed between the twenty-year mean annual change in total student cost as the dependant variable and the twenty-year mean annual change in enrollment as the independent variable. Sample size of 360 was sufficient following the formula $N \geq 50 + 8m$, where m is the number of independent variables. Since one independent variable was used, the sample size needed to be equal to or greater than 58. An examination of Pearson Correlation coefficients, tolerance, and VIF indicated there were no issues with multicollinearity.

Table 22

Results of Bivariate Regression, Twenty-year Mean Annual Change in Total Student Cost as the Dependent Variable and Twenty-year Mean Annual Enrollment Change as the Independent Variable

	Pearson Correlation	Standard Deviation	Mean	B	SE B	β	Adjusted R ²
Constant				981.27			
Enrollment Change (IV)	-.202	29.39	14.19	-1.86	.477	-.202	.038
Total Student Cost Change (DV)		270.84	954.85				
							R ² = .041
							R = .202

Table 23

ANOVA Summary of Regression Model with Twenty-year Mean Annual Change in Total Student Cost as the Dependent Variable and Twenty-year Mean Annual Enrollment Change as the Independent Variable

	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Significance
Regression	1075072.649	1	1075072.649	15.237	$p < .01$
Residual	25259832.826	358	70558.192		
Total	26334905.474	359			

* Results are significant at $\alpha = .01$.

Table 22 displays the correlations between the variable, the unstandardized regression coefficients (*B*) and intercept, the standardized regression coefficients (β), *R*, R^2 , and adjusted R^2 . Table 23 presents the ANOVA summary of the regression model with the twenty-year annual enrollment change and twenty-year mean annual change in total student costs. With the independent variable in the equation, $R^2 = .04$ with a 95% confidence interval, $F(1, 358) = 15.237$, $p < .01$ enrollment is shown to be significant. As with the analysis of tuition and fees only, the significant results indicate that the mean annual change in enrollment can be used to predict the mean annual change in total student cost. However, the coefficient of determination (R^2) is .04, explaining only approximately 4% of the variance, indicating other variables may be a better at predicting change in the mean annual total student cost.

Research Question Seven

What is the relationship between the five-year mean annual change in total cost (tuition, fees, room, and board) of undergraduate attendance and a) enrollment, b) HBCU status, c) geographic region, and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions?

To answer Research Question Seven, a forward multiple regression was performed. The five year mean annual change in total student cost was calculated from SPSS[®] data files and was used as the dependant variable. The five-year mean annual enrollment change was also calculated from SPSS[®] data files and entered as an independent variable. Other independent variables entered from SPSS[®] data files were Carnegie – Arts and Sciences, Carnegie – Diverse Fields, Northeast region, Mid States region, Southeast region, and West region. The Carnegie – Baccalaureate/Associate’s and the Rocky Mountain region variables were omitted as independent variables to prevent perfect multicollinearity. The sample size was determined to be sufficient with 360 cases, following the recommendation by Tabachnick and Fidell (2007) as discussed earlier. The histogram showed normal distribution of the data.

As done with the previous five-year regression model, HBCU status, four geographic regions and two Carnegie classification subgroups were entered into the model. HBCU status was coded as HBCU = 0, non HBCU = 1. The geographic regions and Carnegie classification subgroups were entered as separate dichotomous variables. The variable for Rocky Mountain region and Carnegie subgroup of Baccalaureate/Associate’s were omitted to prevent perfect multicollinearity. The regression model was conducted with the five-year change in total student cost as the dependent variable and Carnegie, - Arts and Sciences, Carnegie - Diverse Fields, Northeast region, Southeast region, West region, Mid States region, HBCU designation, and the

five year mean annual change in enrollment as the independent variables. The Pearson Correlations indicated that HBCU status was most highly correlated with total student cost at .382. The Northeast region showed a correlation of .370 followed by Carnegie – Arts and Sciences at .282. These three independent variables were shown to be significant. Enrollment was slightly negatively correlated at -.054 and was shown not to be significant.

Table 24

ANOVA Summary of Regression Model with Five-year Mean Annual Change in Total Student Cost and Independent Variables

	Sum of Squares	df	Mean Square	F	Significance
Regression	26408692.789	3	8802897.596	50.513	$p < .01^*$
Residual	62040230.740	356	174270.311		
Total	88448923.529	359			

* Results are significant at $\alpha = .01$.

Table 24 presents the results of the ANOVA summary of the regression model with a five-year mean annual change in total student cost with the independent variables of HBCU status, region and classification subgroup. With the inclusion of the independent variables of HBCU, Northeast region, and Carnegie – Arts and Sciences, $F(3, 359) = 50.513, p < .01$.

As presented in Table 25, after step 3 with all significant independent variables in the equation, $R^2 = .229, F(3, 356) = 50.513, p < .001$. The adjusted R^2 value of .29 indicates that approximately 29% of variance in total student cost can be explained by the combination of HBCU status, being located in the Northeast region, and being classified as an Arts and Science institution in the Carnegie Classification 2005 Basic system.

Table 25

Model Summary for Regression Analysis, Five-year Mean Annual Change in Total Student Cost and Independent Variables

Model	R	R ²	Adjusted	Change Statistics				
				R ²	F	df1	df2	Sig. F
				Change	Change			Change
1	.382	.146	.143	.146	61.116	1	358	.000
2	.439	.243	.239	.098	46.064	1	357	.000
3	.546	.299	.293	.055	27.983	1	356	.000

a Predictors: (constant), HBCU

b Predictors: (constant), HBCU, Northeast Region

c Predictors: (constant), HBCU, Northeast Region, Carnegie – Arts & Sciences,

After step 1, with HBCU status in the equation, $R^2 = .146$, $F_{inc}(1, 358) = 61.116$, $p < .001$. After step 2 with Northeast Region added to the equation, $R^2 = .243$, $F_{inc}(1, 357) = 46.064$, $p < .001$. After step 3, with the inclusion of Carnegie – Arts and Sciences, $R^2 = .299$, $F_{inc}(1, 356) = 27.983$, $p < .001$. R was significantly different from zero at the end of each step. The coefficient of determination (R^2) is .299, explaining approximately 30% of the variance in the five year mean annual change in tuition and fees.

Table 26

Coefficients for Regression Analysis, 5 Year Mean Annual Change in Total Student Cost and Independent Variables

Independent Variables	<i>B</i>	<i>SE B</i>	B	sig	Tolerance	VIF
(Constant)	702.57	73.32		.000		
HBCU	549.05	76.27	.324	.000	.973	1.03
Northeast region	362.40	56.02	.292	.000	.964	1.04
Carnegie – Arts & Sciences	237.10	44.82	.236	.000	.988	1.01

The coefficients for the constant and the independent variables of HBCU status, Northeast region, and Carnegie – Arts and Sciences are shown in Table 26. All of the independent variables entered into the regression model are significant at $p < .01$.

Research Question Eight

What is the relationship between the twenty-year mean annual change in total cost (tuition, fees, room, and board) of undergraduate attendance and a) enrollment, b) HBCU status, c) geographic region, and d) Carnegie classification among private, less than highly competitive, regionally accredited, undergraduate, residential, baccalaureate institutions?

A forward multiple regression was used to determine if enrollment, HBCU status, geographic region, or Carnegie classification contributed to change in mean total student costs among the institutions in the study population. The twenty-year mean annual change in total student cost was chosen as the dependant variable. Four variable groups were chosen as independent variables; twenty-year mean annual change in enrollment, HBCU status, the geographic region in which the institution is located, and the Carnegie 2005 Basic Classification Baccalaureate subgroup.

The variables were entered into the statistical software and coded for the regression analysis. The twenty-year mean annual change in enrollment and the twenty-year mean annual change in tuition and fees were calculated in SPSS[®] from the enrollment data from each of the 360 cases. HBCU status was a dichotomous variable and coded as 0 = HBCU and 1 = Non HBCU. Four geographic regions were entered into the dataset as dichotomous variables and coded as 0 = not in region and 1 = in region. The Carnegie 2005 Basic Classification of Baccalaureate had three subgroups of Arts & Sciences, Diverse Fields, and Baccalaureate/Associates, two of which were entered as separate dichotomous variables. The Rocky Mountain geographic region and the Carnegie – Baccalaureate/Associates’ subgroup were omitted to prevent perfect multicollinearity.

A multiple regression analysis was conducted using the twenty-year mean annual change in total student cost as the dependent variable and eight independent variables of Carnegie, - Arts and Sciences, Carnegie - Diverse Fields, Northeast region, Southeast region, West region, Mid States region, HBCU status, and the twenty-year mean annual change in enrollment. Descriptive statistics of means and standard deviations were calculated. Significant variables that entered the model were HBCU, Carnegie Arts and Sciences, Northeast region, and twenty-year mean annual change in enrollment. The calculated Pearson Correlation showed a correlation between the mean annual change in total student cost and HBCU designation at .446. The correlation between the mean annual change in total student cost and the Northeast Region was .371 followed by Carnegie - Arts & Sciences at .366. Enrollment was negatively correlated at -.202. In addition to the significance shown on the correlation table, an ANOVA tested the variables to determine if they were significant. The histogram showed normal distribution and the scatterplot showed that the assumptions of normality, linearity, and homoscedasticity were met.

Table 27

ANOVA Summary Table of the Regression Model with Twenty-year Mean Annual Change In Total Student Cost and Independent Variables

	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Significance
Regression	10654590.995	4	2663647.749	60.305	$p < .01^*$
Residual	15680314.479	355	44169.900		
Total	26334905.474	359			

* Results are significant at $\alpha = .01$.

Table 27 presents the ANOVA summary of the regression model with the twenty-year mean annual change in total student cost and the independent variables of HBCU status, Carnegie classification, and geographic region. With the independent variables of HBCU, Carnegie – Arts & Sciences, Northeast Region, and twenty-year mean annual change in enrollment in the equation, $F (4, 355) = 60.305, p < .01$.

Table 28

Model Summary for Regression Analysis, Twenty-year Mean Annual Change in Total Student

Cost and Independent Variables

Model	R	R ²	Adjusted R ²	Change Statistics				
				R ² Change	F Change	df1	df2	Sig. F Change
1	.446	.199	.196	.199	88.760	1	358	.000
2	.565	.319	.315	.120	62.977	1	357	.000
3	.626	.391	.386	.073	42.488	1	356	.000
4	.636	.405	.398	.013	7.821	1	355	.005

a Predictors: (constant), HBCU
b Predictors: (constant), HBCU, Carnegie – Arts & Sciences
c Predictors: (constant), HBCU, Carnegie – Arts & Sciences, Northeast Region
d Predictors: (constant), HBCU, Carnegie – Arts & Sciences, Northeast Region, 20 Yr Mean Enrollment Change

Table 28 presents the model summary for the regression. After step 1, with HBCU in the equation, $R^2 = .20$, $F_{inc}(1, 358) = 88.760$, $p < .001$. After step 2 with Carnegie – Arts and Sciences added to the equation, $R^2 = .32$, $F_{inc}(1, 357) = 62.977$, $p < .001$. After step 3, with the inclusion of Northeast Region, $R^2 = .39$, $F_{inc}(1, 356) = 42.488$, $p < .001$. After step 4, with the independent variables of HBCU, Carnegie – Arts & Sciences, Northeast Region, and 20 year mean annual change in enrollment in the equation, $R^2 = .41$ with a 95% confidence interval and $F_{inc}(1, 355) = 7.821$, $p < .01$. Approximately 41% of the variance in the mean annual change in total student cost can be explained by the combination of the included variables. The significant results indicate that these variables can be used to predict the mean annual change in total student cost.

The coefficients for the regression analysis with the twenty-year mean change in total student cost as the dependent variable and HBCU status, Northeastern region, Carnegie, Arts and Sciences, and 20 year mean annual change in enrollment as the independent variables. The constant is 541.80. The unstandardized coefficients are 357.25 for HBCU status, 161.60 for Carnegie - Arts and Sciences, and 183.22 for the Northeast region. The unstandardized coefficient for the twenty-year mean annual change in enrollment was -1.081. The entered variables were all significant at .000 when entered into the regression model with the exception of the mean annual enrollment change, which was significant at .005.

Table 29

Coefficients for Regression Analysis, Twenty-year Mean Annual Change in Total Student Cost and Independent Variables

Independent Variables	<i>B</i>	<i>SE B</i>	β	sig	Tolerance	VIF
(Constant)	541.80	37.74		.000		
HBCU	357.25	38.40	.386	.000	.973	1.03
Carnegie – Arts & Sciences	161.60	23.07	.295	.000	.945	1.06
Northeast region	183.22	28.22	.271	.000	.963	1.04
20 yr. Change in Enrollment	-1.081	.386	-.117	.005	.954	1.05

Summary

This chapter presented the results of the data analyses undertaken to answer the eight research questions included in this study. The descriptive statistics as discussed in response to Research Questions One and Two provided a general overview of trends from 1988 to 2008

relating to student cost and enrollment. The data show that institutional characteristics such as HBCU designation, geographic region and the type of baccalaureate institution may influence enrollment and cost trends among the sector of higher education included in the study population. The following chapter will present findings and conclusions based upon data analyses. Recommendations for policy, practice, and future research will also be discussed.

CHAPTER V:
CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this study was to determine if there were any relationships between characteristics of institutions and the changes in the costs to students and to document the twenty-year history of enrollment and cost within a particular section of American higher education. Private postsecondary institutions educate almost 20% of all students in the United States. Approximately 5% of all students attending postsecondary education in the United States are enrolled in private, not-for-profit, baccalaureate colleges and universities (Snyder & Dillow, 2010). While institutions in this section of higher education do not enroll the majority of college students, they are important in American higher education (Shulman, 1974).

Across the board, prospective students have seen the student costs at private baccalaureate colleges and universities increase drastically from 1988 to 2008. Although all have seen a total increase for the twenty-year period, the amount of increase has varied based upon HBCU status, region, and Carnegie classification subgroup. By having an understanding of how various characteristics may affect costs, higher education professionals can be prepared for future cost changes and manage strategies that allow colleges and universities to adjust to those changes.

Summary of Findings

Finding One: Between 1988 and 2008, the mean annual cost to students and student enrollment increased. However, the enrollment increased by larger numbers in the institutional groups with lower cost increases.

As reported in Chapter IV, the mean annual student cost in terms of both tuition and fees and total student cost increased for all categories of institutions. Institutions without the HBCU designation, institutions in the Northeast region, and the Carnegie classification of Arts and Sciences had larger mean annual increases in tuition and fees and total student cost than institutions in the other individual subgroups in their cohorts. When considering the mean annual increases for tuition and fee data for the five geographic regions, the Northeast is followed by the Mid States, West, Southeast, and Rocky Mountains respectively. However, when considering the mean annual changes for total student cost, the institutional groups do not follow the same rankings. The Northeast still had the largest mean annual change but it is followed by the Mid States, Southeast, West and Rocky Mountain regions respectively. This indicates that the room and board costs may be increasing at a higher proportion to the tuition and fees in the Southeast region than in the West region. Table 30 presents the mean annual changes in tuition and fees, total student cost, and enrollment.

The enrollment picture is a bit different from the picture of costs we get from the analysis. Although the costs are increasing at a higher mean annual amount at the non-HBCU institutions, the mean annual enrollment is increasing by larger numbers at the HBCU institutions. The region with the highest mean annual enrollment increase is the Rocky Mountain region followed by the Southeast and West regions. The regions with the smallest mean annual

increase in enrollments are also those with the largest mean annual changes in costs, the Northeast and Mid States regions.

Table 30

Institutional Groups by Twenty-year Mean Annual Change in Costs and Enrollments, Largest to Smallest

	Tuition and Fees	Change in Mean	Total Student Cost	Change in Mean	Enrollment	Change in Mean
HBCU Status	1. Non HBCU	\$773	1. Non HBCU	\$994	1. HBCU	16
	2. HBCU	\$392	2. HBCU	\$582	2. Non HBCU	14
Region	1. Northeast	\$892	1. Northeast	\$1156	1. Rocky Mountain	82
	2. Mid States	\$760	2. Mid States	\$962	2. Southeast	16
	3. West	\$661	3. Southeast	\$873	3. West	14
	4. Southeast	\$657	4. West	\$842	4. Mid States	12
	5. Rocky Mountain	\$543	5. Rocky Mountain	\$723	5. Northeast	11
Carnegie	1. Arts & Sciences	\$834	1. Arts & Sciences	\$1071	1. Associate's	40
	2. Diverse Fields	\$671	2. Diverse Fields	\$875	2. Diverse Fields	18
	3. Associate's	\$575	3. Associate's	\$769	3. Arts & Sciences	7

Finding Two: Enrollment can be of some value as a predictor for student cost increases over a twenty-year period of time.

Bivariate regression analysis indicates that enrollment increases can be used as a predictor for cost changes over twenty years. The analyses indicate there is a relationship between mean annual costs and enrollment and that enrollment is statistically significant as a

predictor for cost changes over twenty years. The twenty-year mean annual change in tuition and fees alone was negatively correlated with the twenty-year mean annual change in enrollment at $-.197$ and was significant at $p < .05$. The correlation of twenty-year mean annual change in enrollment was slightly more negatively correlated with the twenty-year mean annual change in total student cost at $-.202$ with a significance of $p < .05$

The analyses also indicate that with $R^2 = .04$, enrollment alone is not a strong predictor and can explain only approximately 4% of mean cost changes to tuition and fees. The same is true for the total student cost that includes tuition, fees, room and board; enrollment is significant but accounts for only approximately 4% of the variations in the twenty-year mean change for total student costs. Other variables account for a larger part of the variation. When enrollment is entered into a multiple regression with other variables, there is only a very slight change in the values of the correlations or the significance. The value of R^2 attributed to enrollment change was only approximately $.01$, accounting for approximately 1% of the variance in the mean annual cost changes. The results are different when looking at the regression models where five year mean annual change for enrollment and student costs were considered. In an analysis where the independent variables of five year mean annual change in enrollment, Carnegie Classification, geographic region, and HBCU status were entered with the dependent variable of five year mean annual change in tuition and fees, there was a slightly negative correlation between the cost change and enrollment change at $-.033$. With the independent variables and the dependent variable of five year mean annual change in total student cost, the correlation was shown to be $-.054$. However; in both regression analyses, the enrollment was shown to be insignificant at $p < .05$.

Finding Three: The regression analysis including the twenty-year mean annual changes in cost and enrollment provide better predictors and explanations than the regression analysis including the five year mean annual changes in cost and enrollment.

The twenty-year regression models provided higher total R^2 values and higher beta weights in than the five year models with the exception of the Northeast region. Non HBCU designation, Northeast region and Carnegie –Arts and Sciences classification were all shown to be significant in the five year and the twenty-year models. However, in the five-year models, the mean annual change in enrollment was only slightly negatively correlated with the five-year mean annual change in student costs and were not significant. The cumulative R^2 value for the twenty-year models were approximately .38 for both. This is in comparison with the R^2 value of approximately .28 for the five-year models with the variables of non HBCU, Carnegie – Arts and Sciences, and Northeast region.

Finding Four: The five-year models show higher mean annual changes in student costs and lower mean annual enrollment changes than in the twenty-year models.

The five-year regression models showed higher mean annual changes in student cost than the regression models using data from 1988 to 2008. In the five-year model with tuition and fees as the dependent variable, the mean change in annual tuition and fees was \$1,071 with a mean annual enrollment change of eleven students per institution. In the twenty-year regression models with tuition and fees as the dependent variable, the mean change in annual tuition and fees was lower at \$737 and the mean annual enrollment change was fourteen students per institution. When considering the total student cost of tuition, fees, room, and board, the picture was much the same. The five-year mean annual change in total student cost was \$1,372 with a mean annual enrollment change of eleven. Over the twenty-year period, the mean annual change in total

student cost was \$955 with a mean annual enrollment change of fourteen students. In the most recent period, as the mean annual cost changes have increased, the mean annual enrollment has decreased among the private, not-for-profit, Baccalaureate institutions.

Finding Five: HBCU designation, Carnegie classification of Baccalaureate - Arts & Sciences, location in the Northeast Region, and enrollment change were influential on mean cost changes.

When multiple regressions were performed that included the dependent variables of twenty-year mean cost changes and the independent variables of HBCU designation, Carnegie classification, the geographic regions, and twenty-year mean annual enrollment change, the variables of HBCU, Carnegie – Arts and Sciences, Northeast region, and twenty-year mean annual enrollment change were shown to be significant. When considered alone, HBCU designation was shown to explain between 20% and 22% of the variation in mean annual tuition and fee, and total cost changes respectively. With the addition of Carnegie classification of Arts and Sciences, the two variables accounted for approximately 31% and 33% of variance in mean annual tuition and fee, and total cost changes respectively. Being located in the northeast region was shown to be statistically significant but only accounted for an additional 5% and 7% of mean annual tuition and fee changes and mean annual change in total student cost respectively. The final variable, the twenty-year mean annual enrollment change, increased the overall value of R^2 to .40 for both twenty-year mean annual changes to tuition and fees and total student cost. The combination of the four independent variables explains approximately 40% of the variation in the mean annual changes in tuition and fees as well as total student cost over the period of 1988-2008.

The analysis showed that out of the entered independent variables of HBCU designation, Carnegie classification of Art & Sciences, the Northeast region, and twenty-year mean annual enrollment change, HBCU designation had the largest correlation value, the highest beta weight, and explained a greater portion of the variation in total student cost changes with $R^2 = .20$. Art & Science categorization accounted for an additional 12% of the variation while being located in the Northeast region accounted for an additional 7% of the variation when being included in the analysis. Twenty-year change in enrollment provided explanation of another 1% of the variance in mean annual changes in total student cost. The Northeast region variable was slightly more influential when considering change in total student cost (7%) than when considering change in tuition and fees only (5%).

The regression analysis with the twenty-year mean annual change in tuition and fees as the dependent variable and the entered independent variables of HBCU designation, Carnegie – Arts and Sciences, Northeast region, and twenty-year mean annual change in enrollment indicated that HBCU designation explained a greater portion of the variance in the mean annual change in tuition and fees at $R^2 = .23$ than the other included variables. HBCU designation also had the largest correlation and beta weights among the included variables. The contributions to the explained variance of the twenty-year mean annual change in tuition and fees was similar to that of the twenty-year mean annual change in total student cost with Carnegie – Arts and Sciences explaining an additional 11%, Northeast region adding 5% and enrollment 1%. In both the twenty-year models, enrollment had a negative coefficient of approximately -1.

For the regression equation of $y' = a + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4$, where a is the constant, b_1 is HBCU, b_2 is Carnegie – Arts and Sciences, b_3 is Northeast region, and b_4 is twenty-year mean annual change in enrollment, the predicted cost change can be calculated for

enrollment variations using the coefficients from the regression analysis. The coefficients as determined by the separate regression analyses for the mean annual tuition and fee cost change and the mean annual total student cost change as dependent variables are shown in Table 31.

Table 31

Unstandardized Coefficients for Tuition and Fees and Totals Student Cost

Unstandardized Coefficient	<i>B</i>	<i>B</i>
	Tuition and Fees	Total Student Cost
Constant	359.24	541.80
Non HBCU	339.22	357.25
Arts and Sciences	135.16	161.60
Northeast Region	132.74	183.22
Twenty-year Mean Enrollment Change	-.93	-1.08

Using the coefficients from Table 31, for an institutional group with the characteristics of non HBCU, not in the Arts and Sciences classification, not in the Northeast region (Group 1), with a mean annual change in enrollment of 100, the mean change in annual tuition and fee costs can be predicted to increase \$605 more than the constant of \$359, for a total of \$964. For the same group, using a mean enrollment increase of 25, the tuition and fee cost can be predicted to increase at a mean annual rate of \$675 above the constant, a total of \$1,034. For institutions with the characteristics of non HBCU institutions, categorized as Arts and Sciences in the Northeast region (Group 2), the mean annual tuition and fee cost changes can be calculated to increase \$873 more than the constant for a total of \$1,232 with a mean enrollment increase of 100. For a mean enrollment increase of 25, the mean annual tuition and fees cost can be predicted to change \$943 more than the constant of \$359, or a total of \$1,302.

Following the same equation and using the unstandardized coefficients from the regression, the total cost change for an institutional group with the characteristics of non HBCU, not in the Arts and Sciences classification, not in the Northeast region (Group 1) with mean annual change in enrollment of 100, the total mean annual student cost change can be predicted to increase \$791 above the constant of \$542, or a total of \$1,333. With an increase in mean annual enrollment of 25, the mean annual total student cost change can be predicted to increase \$872 than the constant. For institutions with the characteristics of non HBCU institutions, categorized as Arts and Sciences in the Northeast region (Group 2), total mean annual student cost could be predicted as increasing \$1,136 above the constant or a total of \$1,678. With an increased mean enrollment of 25, the mean total cost could be predicted to increase \$1,217 more than the constant of \$542, or \$1,759. Because the mean annual enrollments have remained relatively stable over time for this institutional population, drastic increases or decreases in enrollments may not themselves to this formula and this may not be applicable to other institutional types.

The multiple regression analysis showed that the institutional characteristics of HBCU status, geographic region, and Carnegie classification could be used as predictors for mean annual change in costs. Non-HBCU institutions had higher mean annual cost changes than did institutions with the HBCU designation while institutions in the Northeast region had higher mean annual cost changes than those in other regions. It was also shown that institutions categorized as Arts and Sciences in the Carnegie classification system experienced higher mean annual cost changes than those of other types. The regression analysis and the resulting calculations indicate that a slight but inverse relationship exists between the cost and enrollment. As the annual change in enrollment increases the annual change in costs go down while annual

change in costs increase more quickly with lower annual enrollment increases or with enrollment decreases. The statistical analysis is congruent with the descriptive statistics discussed in Finding One.

Conclusions

The purpose of this study was to determine the relationship between costs, institutional characteristics and enrollment among private, not-for-profit, Baccalaureate institutions and to document the twenty-year history of changes in cost and enrollment. The institutional type of primary focus was the residential, non-competitive institution that Astin and Lee (1972) called “invisible.” There are several conclusions that can be drawn from this study.

Conclusion One

Based upon the descriptive statistical data, the student cost of higher education has increased from 1988 to 2008 while student enrollment had been relatively stable within this sector of higher education.

Overall, mean annual tuition and fees have increased from \$6,000 to over \$20,000 from 1988 to 2008. The mean annual total student costs which include tuition, fees, room and board have increased from approximately \$9,000 in 1988 to over \$28,000 in 2008. Additionally, student costs are increasing more for non-HBCU institutions than at institutions with the HBCU designation. Student costs are increasing faster at colleges and universities that concentrate on the Arts and Sciences than at institutions in other Baccalaureate classification groups. Finally, costs are also increasing at faster pace at institutions in the Northeast region than at institutions in other regions. In some cases, the mean annual tuition and fees have increased three fold during the time period as did the total student cost for all institutions combined.

The mean enrollment has increased from 1,086 students in 1988 to just over 1,200 students in 2008. The descriptive statistics show that the mean annual enrollment has increased over 20 years. However, the enrollment only increase slightly with fewer than 200 students per institution over twenty years, indicating that enrollment is relatively stable for private, not-for-profit, Baccalaureate institutions in the study population. The stability may be a product of the culture of such institutions. The more established colleges and universities, in particular, may have achieved the level of enrollment desired by the institutions to meet their specific missions. When also considering Finding One that indicates that the institutional groups with larger cost increases also had smaller enrollment increases, it leads one to wonder if higher changes in enrollment have led to lower tuition and fee increases or if the lower tuition and fee increases have led to higher enrollment changes.

Conclusion Two

Enrollment can be a predictor for cost changes but it is not a good predictor alone.

The relationship between the cost change and enrollment was shown to be statistically significant. However, $R^2 = .04$ in the regressions with both mean annual change in tuition and fees and the mean annual change in total student cost indicating that it could account for only about 4% of the variance in mean annual cost change. This leads to the conclusion that enrollment is a poor predictor of cost change when taken alone. When combined with other variables though, it does add to the equation but it is a very poor predictor adding only approximately 1% to the explanation of variance. When considered in regression models with five-year mean annual change in tuition and fees and total student cost, the five year mean annual change in enrollment is not statistically significant and is removed from the models. In all models where the five-year mean annual change in enrollment is included, the unstandardized

coefficient is approximately -1. This indicates that although not statistically significant, enrollment and the mean annual change in costs move slightly in opposition. As mean enrollment changes decrease mean cost changes increase.

Conclusion Three

The various characteristics of private, not-for-profit, baccalaureate institutions impact the amount of increases as the student costs of higher education increase.

When analyzed with the variables of HBCU status, geographic region, Carnegie classification and mean annual enrollment change, the HBCU status of an institution made the greatest contribution over the twenty-year period. The HBCU designation explained approximately 23% of mean annual tuition and fee changes and almost 20% of mean annual total student cost changes from 1988 to 2008. This variable also had the largest beta weight of .446. Being classified in the Carnegie 2005 Basic classifications system as Baccalaureate, Arts and Sciences made the next greatest impact, although it only accounted for an additional 11% of the variance in mean annual tuition and fees and 12% of the variance in mean annual total student costs. The geographic region of Northeast accounted for an additional 5% of variance in mean annual tuition and fees and 7% variance in mean annual total student cost. Enrollment was shown to make a small but statistically significant contribution, accounting for an additional 1% of the variance when taken together with all other variables. Although enrollment was shown to account for the smallest percentage of variance, it is the variable that is able to be easily changed and manipulated in calculations to determine the effects on the cost changes.

Because institutions cannot readily change their geographic location, HBCU status, or classification, enrollment is the variable that allows for the greatest amount of manipulation, Institutions can impact the student costs through enrollment changes. While this type of model

does not provide an explanation of all variance in cost changes, administrators in higher education may use this model to help predict changes in their own student costs and to assist in setting tuition and fee charges for students.

Recommendations for Policy and Practice and Future Research

Based upon the findings of and conclusions drawn from the current study, the researcher makes the following recommendations for policy and practice:

1. College and university administrators should consider the impact of institutional characteristics when determining price changes for institutions.

The results of this study show the impact that institutional characteristics can have on changes of student costs. The geographic region, HBCU designation, and the type of institution all impact the mean annual change in tuition and fees and the mean annual change in total student cost. The U.S. Census Bureau projected that the overall population in the northeast would increase more quickly than in other regions (U.S. Census Bureau, 2005). The regression models indicated this region is significantly correlated with and can explain a portion of the mean annual student cost increases. While relocating to another geographic region is not typically a feasible or attractive alternative, institutions can consider other characteristics, reexamine their missions and look toward enrollment management strategies.

Institutions that are designated as HBCU institutions have lower mean annual cost increases than the non-HBCU institutions. Non-HBCU institutions should try to learn from those designated as HBCUs why they are better able to control student cost increases. Institutions that focus on the Arts and Sciences had higher mean annual cost changes than other types of institutions. If controlling student cost is a goal of an institution that is currently designated as an Arts and Sciences college or university, it may wish to investigate the potential impact of

diversifying its curriculum or award levels. There is some discussion to be held concerning the mission of the institution and if an adjustment is required to continue to attract students to the institution and to keep the students costs within a range that is affordable for students.

2. Although enrollment is only a small part of the explanation for cost changes, it is the variable that most easily can be manipulated to influence cost changes. Financial officers and enrollment services officers should work together using predictive modeling to determine the best benchmarks for enrollment.

The combination of the regression models in this study, as well as the evidence from the descriptive statistics, indicate that enrollment growth is going to occur, however slowly it may be. The level of growth may be influenced negatively by the increases in the cost to students as shown by the negative enrollment coefficients. Descriptive statistics show the mean enrollment growth for the twenty-year period was approximately fourteen students per year. However, the five-year mean enrollment change between 2003 and 2008 decreased to approximately eleven students. If the student costs continue to increase at the same rate, the higher enrollment growths experienced in the 1990s may disappear. By planning ahead, higher education administrators can begin plans to deal with such a situation. Most fundamentally, college administrators must understand that increasing student costs will erode their institutions' enrollment.

3. Higher education professionals should consider long-term trends in higher education research.

The results of the regression models presented in this study indicate that there is value to taking a long term view in higher educational research. The multiple and bivariate regression models in this study that considered data over the longer period provided more information concerning the impact of the various independent variables than did the five year regression

models. The twenty-year models specified which variables were accountable for a greater proportion of the variance in the mean annual change in student costs. The five-year models found very slight correlation between enrollment and mean annual cost changes although it was not statistically significant and was removed from the model. The regression models with the longer view also showed slightly negative correlation but also showed that twenty-year mean annual change in enrollment were significant and could account for apportion of the mean annual changes in student costs.

4. Administrators in private, less than highly competitive, not-for-profit, residential institutions should work to determine the optimal level of enrollment for their own colleges and universities remaining cognizant of the relationship between cost changes and enrollment.

Administrators within the sector of higher education included in the study population should work to determine the optimal level of enrollment for their own colleges and universities. As illustrated through the descriptive statistics, enrollments remained stable over a period of twenty years. Many of the institutions included may already be at the desired level of enrollment. Should this be the situation, additional enrollment may not be beneficial to the institution. However, by understanding the potential enrollment loss based upon student cost, the administrators can seek other methods to control the cost increases that many of these institutions are experiencing.

5. Administrators in other segments of higher education should utilize the methods, data, and statistical analysis techniques presented in this research to develop an enrollment and cost change model appropriate for their types of institutions.

Administrators in other areas of higher education can utilize the methods and techniques presented in this study to develop a model of student cost and enrollment for their own

institutions. Many areas of higher education face challenges in financing college and university operations. This study can be used as the groundwork for creating models for various sectors of higher education to assist in strategic planning and institutional operations.

Based upon the findings of and conclusions drawn from the current study, the researcher makes the following recommendations for future/further research:

1. Study the relationship between the variables for institutions within their own geographic region.

While comparison of relationship between variables for institution within broad categories provide general information that can be helpful to institutional planners, more specific comparisons and analysis within the broad categories would be beneficial for institutions within the smaller groups. For example, the study of HBCU institutions in the Southeast region as compared to non-HBCU institutions in the Southeast region would be beneficial for those institutions within the specific geographic region.

2. Study the causal relationship between increased student costs and enrollments.

As discussed in Finding Two, institutional groups with higher mean annual enrollment changes also had lower mean annual cost changes. While the regression models show that enrollment can explain a small portion of the cost changes, it does not indicate a specific causal relationship. Do students choose colleges based upon the lower increases in student costs? This is an area for additional study in the area of student choice.

3. Using existing data in this study, conduct a time series analysis with forecasting models.

The bivariate and multiple regression models from this study provide an explanation of what has occurred in relation to mean annual changes in student costs and mean annual changes

to enrollment. It has some predictive value and can be used to gain a better understanding of the relationship between the variables that can be applied to future projections. A time series analysis using the same data may provide a more in depth explanation of the relationship between the variables and a better model for future projections.

4. Conduct a qualitative study to determine why enrollment has remained so stable in this sector of higher education.

The descriptive statistics reported in this study indicate that the enrollment at the private, residential, not-for-profit, Baccalaureate institutions has remained relatively stable over the twenty-year period of 1988-2008. There does not appear to be tremendous growth or drastic decreases in enrollment within this sector of higher education. Other types of institutions have experienced greater growth as evidenced by the increased participation in higher education documented in the literature review. Understanding why the private, residential, not-for-profit, Baccalaureate institutions have remained stable for such a long period of time may provide greater insight into this type of institution and may help in long term planning within these colleges and universities.

5. Study the relationship between institutional cost changes and student cost changes

This study examined the changes to student costs in relation to institutional characteristics and enrollment changes. As discussed in the literature review, the increase in student costs may be directly related to the institutional costs. By understanding this relationship, higher education professionals can be better equipped to influence public policy concerning higher education, plan strategically for their institutions, and join the debate concerning increasing costs and public access to higher education.

6. Study the cost control effectiveness at HBCU designated institutions.

Other colleges and universities may benefit from knowing how costs are controlled within the HBCU institutions and the effectiveness of these methods. Because HBCU institutions have experienced smaller changes in mean student costs than non-HBCU designated institutions, it leads one to question whether those same methods may be applicable and effective in other sectors of higher education.

7. Using the same study population, study the relationship between cost and enrollment using modified regional groupings.

This study utilized five geographical regions of unequal size. The descriptive and regression statistics may differ with modified groupings of institutions that included regions of a similar size. Institutions should be grouped into regions with similar numbers of institutions in each. This will alleviate any issues with increased weight being given to any small group of colleges and will provide a clearer understanding of the differences among the various regions.

Concluding Thoughts

The research presented here focuses on the private, not-for-profit, baccalaureate institution that is less than highly selective and is a residential college or university. The results of the research provide the reader with some insight into the impact of institutional characteristics on the mean annual changes in student costs for this particular type of institution. It also describes the trends in enrollment and in costs for the period beginning in 1988 until 2008.

The descriptive statistics, bivariate regressions, and multiple regressions presented in this work indicate the trends in this particular section of higher education. The mean annual changes in students cost for both tuition and fees and the total student cost, which include tuition, fees, room, and board, are increasing. Although the mean enrollment has increased over the twenty-year period, it has increased only by approximately fourteen students per year, indicating that

enrollment at this type of institution is relatively stable. The figures presented in Chapter IV show that the mean enrollment has increased or remained stable for all institutions taken as a whole. When disaggregated, the Carnegie classification groups of Baccalaureate/ Associates' and Arts and Sciences have experienced both increases and decreases while the Diverse Fields group had mean increases for each year from 1988 to 2008. HBCU institutions and the geographic regions of the Southeast and Mid States have experienced predominately increasing enrollments while the Northeast has experienced both increases and decreases. The Rocky Mountain region has the largest enrollment and has also experienced a relatively substantial amount of volatility as has the Baccalaureate/Associates' institutions. Overall, the private, not-for-profit baccalaureate institutions have experienced very slow and steady growth.

The regression models found that annual change in enrollment is significant in predication equations for annual cost changes over a twenty-year period but alone, does not provide much benefit in terms of it predictive power. It explains even less of the variance in the mean annual cost changes when it is analyzed with other variables such as HBCU designation, region, and institutional classification and adds nothing to the five year regression models. Not being designated as an HBCU, being classified in the Carnegie Classification System as a Baccalaureate, Arts and Sciences institution, and being located in the Northeast region of the United States all are related to higher mean annual change in student costs, as do annual decreased in enrollment, albeit to a lesser degree.

In the analyses where mean annual enrollment change affects mean annual cost changes, the relationship is negative. If the mean enrollment change is an increase, the mean annual cost changes are less than if the mean annual changes in enrollment decrease. When using the regression equation, the calculations show that institutions without HBCU designation, in the

Arts and Sciences classification, in the Northeast region, that also experience a twenty-year mean annual enrollment decrease of 100 students would be expected to have a twenty-year mean annual total student cost increase of \$1,894. The same institutions that experience a twenty-year mean annual enrollment increase of 100 students would be expected to have a twenty-year mean annual total student cost increase of \$1,678.

It is important to mention that this model may not fit institutions and institutional groups that experience more volatile enrollment changes. With tremendous annual changes to mean enrollment, the equation results in expected mean annual cost changes below the constant. In reality, institutions do not typically decrease the student costs in ways that would provide visible effects on long term mean cost changes. Should institutions of the type included in this research experience drastic changes in enrollment, it would be very disruptive. As discussed in the literature review, tuition and fees make up a large portion of the operating expenses. If there were to be a sudden and large decrease in that revenue, the cost for all remaining students would be much greater. Because these institutions also operate as non-profits, they typically do not accumulate large amounts of capital. If there were a large influx of students, the institutions may have difficulty in adjusting to the sudden large addition of revenue as well accommodations for the additional students on campus.

It is not highly probable that most of these institutions would experience a tremendous growth, for example, a 1,000 student mean annual enrollment increase over a twenty-year period. The institutional culture affects the desired growth and may prohibit such an occurrence. If the trends seen in this research hold true in the future, the size of most institutions of this type are going to remain relatively stable unless a change is caused by an outside force.

The results of this study present a model that can be used to explain the trends over the previous twenty years and can provide insight to assist with planning for the next twenty years. By considering the impact of institutional characteristics and enrollments, college and university professionals can prepare for cost changes and can determine the impact of enrollment fluctuations on student costs.

Small, private, not-for-profit institutions play an important role in the American higher education landscape. These institutions are, by their nature, often dependent upon revenue from the students they serve for their own survival. As costs increase and prices rise, these trends may impact the enrollments and the ultimate success or failure of many of these institutions. These institutions educate a small percentage of all college students but provide a variety of choice in educational opportunities for many individuals. By understanding the relationship among variables within this type of institution, the higher education community can contribute to the survival and success of private, not-for-profit Baccalaureate colleges and universities

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APPENDICES

Appendix A

Data Dictionary of Variables of Interest



<i>Variable Name</i>	<i>Variable Type</i>	<i>Data Sources</i>	<i>Description</i>
Institution ID	Categorical	IPEDS; Institutional Characteristics (IC)	Institution ID as assigned in IPEDS
Institution Name	Categorical	IPEDS; Institutional Characteristics (IC)	Institution Name
City location of institution	Categorical	IPEDS; Institutional Characteristics (IC)	City location of institution
State abbreviation	Categorical	IPEDS; Institutional Characteristics (IC)	US Postal Service state abbreviation
Control of institution	Categorical	IPEDS; Institutional Characteristics (IC)	<p>Value Label Public (1), Private not-for-profit (2), Private for-profit (3), Not available (-3)</p> <p>A classification of whether an institution is operated by publicly elected or appointed officials or by privately elected or appointed officials and derives its major source of funds from private sources. Public institution - An educational institution whose programs and activities are operated by publicly elected or appointed school officials and which is supported primarily by public funds. Private not-for-profit institution - A private institution in which the individual(s) or agency in control receives no compensation, other than wages, rent, or other expenses for the assumption of risk. These include both independent not-for-profit schools and those affiliated with a religious organization. Private for-profit institution - A private institution in which the individual(s) or agency in control receives compensation other than wages, rent, or other expenses for the assumption of risk.</p>
Historically Black College or University	Dichotomous	IPEDS; Institutional Characteristics (IC)	Institutions with the HBCU designation were established prior to 1964, have a principal mission of education of African Americans, and is accredited by a nationally recognized accrediting agency or other association approved by the U. S. Secretary of Education.
Geographic Region	Categorical	IPEDS; Institutional Characteristics (IC)	Institutions are grouped by states into the following geographic regions. 1) New England-CT, ME, MA, NH, RI, VT, 2) Mid East-DE, DC, MD, NJ, NY, PA, 3) Great Lakes IL, IN, MI, OH, WI, 4) Plains-IA, KS, MN, MO, NE, ND, SD, 5) Southeast-AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV, 6)-Southwest-AZ, NM, OK, TX, 7) Rocky Mountains-CO, ID, MT, UT, WY, 8) Far West-AK, CA, HI, NV, OR, WA
Carnegie Classification 2005 Basic	Categorical	IPEDS; Institutional Characteristics (IC)	Carnegie Classification 2005: Basic Classification. The Basic Classification is an update of the traditional classification framework developed by the Carnegie Commission on Higher Education.
Institution provide on-campus housing 2008, 2007, 2006, 2005, 2004, 2003	Categorical	IPEDS; Institutional Characteristics (IC)	Does your institution provide on-campus housing? Value Label / Frequency Percentage -2 / Not applicable
Total dormitory capacity	Continuous	IPEDS; Institutional Characteristics (IC)	Dormitory capacity - The maximum number of students that the institution can provide residential facilities for, whether on or off campus. (off-campus dormitory space that is reserved by the institution).
Institution provides board or meal plan	Categorical	IPEDS; Institutional Characteristics (IC)	Response to question "Does your institution provide board or meal plans to your students?" Value Label / Frequency 1/Yes, number of meals in the maximum meal plan offered 2/Yes, number of meals per week can vary 3/No -2/Not applicable

<p>In-district average tuition for full-time undergraduates 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008</p>	<p>Continuous</p>	<p>IPEDS; Institutional Characteristics (IC)</p>	<p>In-district tuition - The tuition charged by the institution to those students residing in the locality in which they attend school. This may be a lower rate than in-state tuition if offered by the institution. Tuition - Amount of money charged to students for instructional services. Tuition may be charged per term, per course, or per credit. Undergraduate - A student enrolled in a 4- or 5-year bachelor's degree program, an associate's degree program, or a vocational or technical program below the baccalaureate. Full-time student undergraduate - A student enrolled for 12 or more semester credits, or 12 or more quarter credits, or 24 or more contact hours a week each term</p>
<p>In-district comprehensive fee for full-time undergraduates, for: 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008</p>	<p>Continuous</p>	<p>IPEDS; Institutional Characteristics (IC)</p>	<p>In-district comprehensive fee - The amount charged by the institution to those students residing in the locality in which they attend school. This may be a lower rate than in-state amount if offered by the institution. Comprehensive fee - The one fixed amount of money charged by an institution that covers tuition, required fees, room, and board. For some institutions, this amount may also cover books and supplies Undergraduate - A student enrolled in a 4- or 5-year bachelor's degree program, an associate's degree program, or a vocational or technical program below the baccalaureate. Full-time student undergraduate - A student enrolled for 12 or more semester credits, or 12 or more quarter credits, or 24 or more contact hours a week each term</p>
<p>In-district comprehensive fee (Current year): 2005, 2007, 2006, 2008</p> <p>In-district comprehensive fee (Prior year-1): 2005, 2007, 2006, 2008</p> <p>In-district comprehensive fee (Prior year-2): 2005, 2007, 2006, 2008</p>	<p>Continuous</p>	<p>IPEDS; Institutional Characteristics (IC)</p>	<p>Comprehensive fee- The one fixed amount of money charged by an institution that covers tuition, required fees, room, and board. For some institutions, this amount may also cover books and supplies.</p>

In-district required fees for full-time undergraduates: 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008	Continuous	IPEDS; Institutional Characteristics (IC)	Charges to full-time undergraduate students for the full academic year 2006-07 In-district Required fees In-district fees - The fees charged by the institution to those students residing in the locality in which they attend school. This may be a lower rate than in-state fees if offered by the institution. Required fees - Fixed sum charged to students for items not covered by tuition and required of such a large proportion of all students that the student who does NOT pay the charge is an exception Undergraduate - A student enrolled in a 4- or 5-year bachelor's degree program, an associate's degree program, or a vocational or technical program below the baccalaureate. Full-time student undergraduate - A student enrolled for 12 or more semester credits, or 12 or more quarter credits, or 24 or more contact hours a week each term
Tuition and fees, full-time undergraduate in-district: 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995-96, 1996-97, 1997-98, 1998,	Continuous	IPEDS; Institutional Characteristics (IC)	students - Undergraduate, in-district (local resident) Undergraduate tuition and required fees for full-time, full-year
Combined charge for room and board: 1992, 1993, 1994, 1995-96, 1996-97, 1997-98, 1998, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008	Continuous	IPEDS; Institutional Characteristics (IC)	Room charges - The charges for an academic year for rooming accommodations for a typical student sharing a room with one other student. Board charges - The charge for an academic year for meals, for a specified number of meals per week Combined room and board charge (applicable only if institution CANNOT separate room and board charges.)
Typical board charge for academic year: 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995-96, 1996-97, 1997-98, 1998, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008	Continuous	IPEDS; Institutional Characteristics (IC)	Board charges - The charge for an academic year for meals, for a specified number of meals per week.
Typical room charge for academic year: 1988: 1989, 1991, 1992, 1993, 1994, 1995-96, 1996-97, 1997-1998, 1998, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008	Continuous	IPEDS; Institutional Characteristics (IC)	Room charges - The charges for an academic year for rooming accommodations for a typical student sharing a room with one other student.

1996, Grand total: All students, Undergraduate total) : 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008	Continuous	IPEDS, Winter and Spring Enrollment component	Grand total men and women enrolled for credit Credit - Recognition of attendance or performance in an instructional activity (course or program) that can be applied by a recipient toward the requirements for a degree, diploma, certificate, or other formal award. NOTE: Enrollment reported is of the institution's official fall reporting date or October 15.
Published in-district tuition and fees (Current year): 2000, 2001, 2002, 2005, 2007, 2006, 2008	Continuous	IPEDS; Institutional Characteristics (IC)	Combined charges of tuition and fees as reported to IPEDS In-district tuition - The tuition charged by the institution to those students residing in the locality in which they attend school. This may be a lower rate than in-state tuition if offered by the institution. Tuition and required fees - Tuition is the amount of money charged to students for instructional services. Tuition may be charged per term, per course, or per credit. Required fees are fixed sum charged to students for items not covered by tuition and required of such a large proportion of all students that the student who does NOT pay the charge is an exception.
Published in-district tuition and fees (Prior year-1): 2000, 2001, 2002, 2005, 2007, 2006, 2008,	Continuous		
Published in-district tuition and fees (Prior year-2): 2000, 2001, 2002, 2005, 2007, 2006, 2008	Continuous		
On campus, room and board (Current year): 2000, 2001, 2002, 2003, 2004, 2005, 2007, 2006, 2008	Continuous	IPEDS; Institutional Characteristics (IC)	Combination of room charges and board charges as provided through various IPEDS variables as listed. Room charges - The charges for an academic year for rooming accommodations for a typical student sharing a room with one other student. Board charges - The charge for an academic year for meals, for a specified number of meals per week.
On campus, room and board (Prior year-1): 2000, 2001, 2002, 2003, 2004, 2005, 2007, 2006, 2008			
On campus, room and board (Prior year-2): 2000, 2001, 2002, 2003, 2004, 2005, 2007, 2006, 2008			
Published tuition and fees	continuous		Combined amounts from tuition and fees, when reported separately, from IPEDS data from listed variables.
Total student cost	continuous		Combined amounts from all tuition, fees, room and board data as provided by IPEDS through various variables listed.

Appendix B

Listing of Institutions in Study Population

UnitID	Institution Name	City	State	HBCU Designation	Carnegie Classification, Baccalaureate Category	Geographic Region
168528	Adrian College	Adrian	MI	Non HBCU	Diverse Fields	Mid States
128498	Albertus Magnus College	New Haven	CT	Non HBCU	Arts & Sciences	Northeast
168546	Albion College	Albion	MI	Non HBCU	Arts & Sciences	Mid States
210571	Albright College	Reading	PA	Non HBCU	Arts & Sciences	Northeast
237118	Alderson Broaddus College	Philippi	WV	Non HBCU	Diverse Fields	Southeast
210669	Allegheny College	Meadville	PA	Non HBCU	Arts & Sciences	Northeast
168591	Alma College	Alma	MI	Non HBCU	Arts & Sciences	Mid States
103787	American Indian College of the Assemblies of God Inc	Phoenix	AZ	Non HBCU	Diverse Fields	West
116846	American Jewish University	Los Angeles	CA	Non HBCU	Arts & Sciences	West
217633	Anderson University	Anderson	SC	Non HBCU	Diverse Fields	Southeast
156213	Asbury College	Wilmore	KY	Non HBCU	Arts & Sciences	Southeast
138868	Atlanta Christian College	East Point	GA	Non HBCU	Diverse Fields	Southeast
164571	Atlantic Union College	South Lancaster	MA	Non HBCU	Arts & Sciences	Northeast
219000	Augustana College	Sioux Falls	SD	Non HBCU	Diverse Fields	Mid States
231420	Averett University	Danville	VA	Non HBCU	Diverse Fields	Southeast
206817	Bacone College	Muskogee	OK	Non HBCU	Associates	West
154688	Baker University	Baldwin City	KS	Non HBCU	Arts & Sciences	Mid States
176664	Baptist Bible College and Graduate School	Springfield	MO	Non HBCU	Arts & Sciences	Mid States
211024	Baptist Bible College and Seminary	Clarks Summit	PA	Non HBCU	Diverse Fields	Northeast
167792	Bard College at Simon's Rock	Great Barrington	MA	Non HBCU	Associates	Northeast
197911	Barton College	Wilson	NC	Non HBCU	Diverse Fields	Southeast
164632	Bay Path College	Longmeadow	MA	Non HBCU	Diverse Fields	Northeast
164720	Becker College	Worcester	MA	Non HBCU	Diverse Fields	Northeast
197984	Belmont Abbey College	Belmont	NC	Non HBCU	Diverse Fields	Southeast
217721	Benedict College	Columbia	SC	HBCU	Diverse Fields	Southeast
197993	Bennett College for Women	Greensboro	NC	HBCU	Arts & Sciences	Southeast
139144	Berry College	Mount Berry	GA	Non HBCU	Arts & Sciences	Southeast
154721	Bethany College	Lindsborg	KS	Non HBCU	Diverse Fields	Mid States
237181	Bethany College	Bethany	WV	Non HBCU	Arts & Sciences	Southeast
173142	Bethany Lutheran College	Mankato	MN	Non HBCU	Associates	Mid States
110051	Bethany University	Scotts Valley	CA	Non HBCU	Diverse Fields	West
150145	Bethel College	Mishawaka	IN	Non HBCU	Diverse Fields	Mid States
154749	Bethel College	North Newton	KS	Non HBCU	Arts & Sciences	Mid States
132602	Bethune-Cookman University	Daytona Beach	FL	HBCU	Diverse Fields	Southeast
100937	Birmingham Southern College	Birmingham	AL	Non HBCU	Arts & Sciences	Southeast
143288	Blackburn College	Carlinville	IL	Non HBCU	Diverse Fields	Mid States
183822	Bloomfield College	Bloomfield	NJ	Non HBCU	Arts & Sciences	Northeast
175430	Blue Mountain College	Blue Mountain	MS	Non HBCU	Diverse Fields	Southeast

231554	Bluefield College	Bluefield	VA	Non HBCU	Diverse Fields	Southeast
201371	Bluffton University	Bluffton	OH	Non HBCU	Diverse Fields	Mid States
156356	Brescia University	Owensboro	KY	Non HBCU	Diverse Fields	Southeast
198066	Brevard College	Brevard	NC	Non HBCU	Arts & Sciences	Southeast
139205	Brewton-Parker College	Mount Vernon	GA	Non HBCU	Diverse Fields	Southeast
152992	Briar Cliff University	Sioux City	IA	Non HBCU	Diverse Fields	Mid States
231581	Bridgewater College	Bridgewater	VA	Non HBCU	Arts & Sciences	Southeast
230047	Brigham Young University- Hawaii	Laie	HI	Non HBCU	Arts & Sciences	West
142522	Brigham Young University-Idaho	Rexburg	ID	Non HBCU	Associates	Rocky Mountain
219790	Bryan College	Dayton	TN	Non HBCU	Diverse Fields	Southeast
153001	Buena Vista University	Storm Lake	IA	Non HBCU	Diverse Fields	Mid States
169080	Calvin College	Grand Rapids	MI	Non HBCU	Arts & Sciences	Mid States
156365	Campbellsville University	Campbellsville	KY	Non HBCU	Diverse Fields	Southeast
180106	Carroll College	Helena	MT	Non HBCU	Arts & Sciences	Rocky Mountain
219806	Carson-Newman College	Jefferson City	TN	Non HBCU	Arts & Sciences	Southeast
238476	Carthage College	Kenosha	WI	Non HBCU	Diverse Fields	Mid States
198215	Catawba College	Salisbury	NC	Non HBCU	Diverse Fields	Southeast
189848	Cazenovia College	Cazenovia	NY	Non HBCU	Diverse Fields	Northeast
211468	Cedar Crest College	Allentown	PA	Non HBCU	Arts & Sciences	Northeast
201654	Cedarville University	Cedarville	OH	Non HBCU	Diverse Fields	Mid States
158477	Centenary College of Louisiana	Shreveport	LA	Non HBCU	Arts & Sciences	Southeast
106713	Central Baptist College	Conway	AR	Non HBCU	Diverse Fields	Southeast
154855	Central Christian College of Kansas	McPherson	KS	Non HBCU	Diverse Fields	Mid States
153108	Central College	Pella	IA	Non HBCU	Arts & Sciences	Mid States
176947	Central Methodist University- College of Liberal Arts & Sciences	Fayette	MO	Non HBCU	Diverse Fields	Mid States
230852	Champlain College	Burlington	VT	Non HBCU	Diverse Fields	Northeast
198303	Chowan University	Murfreesboro	NC	Non HBCU	Diverse Fields	Southeast
217873	Claflin University	Orangeburg	SC	HBCU	Diverse Fields	Southeast
153126	Clarke College	Dubuque	IA	Non HBCU	Arts & Sciences	Mid States
133085	Clearwater Christian College	Clearwater	FL	Non HBCU	Diverse Fields	Southeast
153144	Coe College	Cedar Rapids	IA	Non HBCU	Arts & Sciences	Mid States
217907	Coker College	Hartsville	SC	Non HBCU	Diverse Fields	Southeast
182634	Colby-Sawyer College	New London	NH	Non HBCU	Diverse Fields	Northeast
167394	College of Our Lady of the Elms	Chicopee	MA	Non HBCU	Diverse Fields	Northeast
174747	College of Saint Benedict	Saint Joseph	MN	Non HBCU	Arts & Sciences	Mid States
181604	College of Saint Mary	Omaha	NE	Non HBCU	Diverse Fields	Mid States
190248	Concordia College	Bronxville	NY	Non HBCU	Arts & Sciences	Northeast
173300	Concordia College at Moorhead	Moorhead	MN	Non HBCU	Arts & Sciences	Mid States
101073	Concordia College-Selma	Selma	AL	HBCU	Associates	Southeast
180984	Concordia University	Seward	NE	Non HBCU	Diverse Fields	Mid States
224004	Concordia University Texas	Austin	TX	Non HBCU	Diverse Fields	West
169363	Concordia University-Ann Arbor	Ann Arbor	MI	Non HBCU	Diverse Fields	Mid States
153162	Cornell College	Mount Vernon	IA	Non HBCU	Arts & Sciences	Mid States
139393	Covenant College	Lookout Mountain	GA	Non HBCU	Diverse Fields	Southeast
220941	Crichton College	Memphis	TN	Non HBCU	Diverse Fields	Southeast
174862	Crown College	Saint	MN	Non HBCU	Diverse Fields	Mid States

		Bonifacius				
177144	Culver-Stockton College	Canton	MO	Non HBCU	Diverse Fields	Mid States
165529	Curry College	Milton	MA	Non HBCU	Diverse Fields	Northeast
219091	Dakota Wesleyan University	Mitchell	SD	Non HBCU	Diverse Fields	Mid States
181011	Dana College	Blair	NE	Non HBCU	Diverse Fields	Mid States
182661	Daniel Webster College	Nashua	NH	Non HBCU	Diverse Fields	Northeast
237358	Davis & Elkins College	Elkins	WV	Non HBCU	Diverse Fields	Southeast
202514	Defiance College	Defiance	OH	Non HBCU	Diverse Fields	Mid States
211981	Delaware Valley College	Doylestown	PA	Non HBCU	Diverse Fields	Northeast
202523	Denison University	Granville	OH	Non HBCU	Arts & Sciences	Mid States
150400	DePauw University	Greencastle	IN	Non HBCU	Arts & Sciences	Mid States
158802	Dillard University	New Orleans	LA	HBCU	Arts & Sciences	Southeast
181020	Doane College	Crete	NE	Non HBCU	Arts & Sciences	Mid States
153250	Dordt College	Sioux Center	IA	Non HBCU	Diverse Fields	Mid States
184348	Drew University	Madison	NJ	Non HBCU	Arts & Sciences	Northeast
150455	Earlham College	Richmond	IN	Non HBCU	Arts & Sciences	Mid States
224527	East Texas Baptist University	Marshall	TX	Non HBCU	Diverse Fields	West
232043	Eastern Mennonite University	Harrisonburg	VA	Non HBCU	Arts & Sciences	Southeast
165644	Eastern Nazarene College	Quincy	MA	Non HBCU	Diverse Fields	Northeast
133492	Eckerd College	Saint Petersburg	FL	Non HBCU	Arts & Sciences	Southeast
133526	Edward Waters College	Jacksonville	FL	HBCU	Diverse Fields	Southeast
212197	Elizabethtown College	Elizabethtown	PA	Non HBCU	Diverse Fields	Northeast
190983	Elmira College	Elmira	NY	Non HBCU	Diverse Fields	Northeast
139630	Emmanuel College	Franklin Springs	GA	Non HBCU	Diverse Fields	Southeast
232025	Emory and Henry College	Emory	VA	Non HBCU	Arts & Sciences	Southeast
165699	Endicott College	Beverly	MA	Non HBCU	Diverse Fields	Northeast
217998	Erskine College and Seminary	Due West	SC	Non HBCU	Diverse Fields	Southeast
144971	Eureka College	Eureka	IL	Non HBCU	Diverse Fields	Mid States
177339	Evangel University	Springfield	MO	Non HBCU	Arts & Sciences	Mid States
101189	Faulkner University	Montgomery	AL	Non HBCU	Diverse Fields	Southeast
232089	Ferrum College	Ferrum	VA	Non HBCU	Arts & Sciences	Southeast
172440	Finlandia University	Hancock	MI	Non HBCU	Diverse Fields	Mid States
220181	Fisk University	Nashville	TN	HBCU	Arts & Sciences	Southeast
133711	Flagler College	Saint Augustine	FL	Non HBCU	Diverse Fields	Southeast
134079	Florida Southern College	Lakeland	FL	Non HBCU	Diverse Fields	Southeast
150604	Franklin College	Franklin	IN	Non HBCU	Diverse Fields	Mid States
182795	Franklin Pierce University	Rindge	NH	Non HBCU	Arts & Sciences	Northeast
220206	Free Will Baptist Bible College	Nashville	TN	Non HBCU	Diverse Fields	Southeast
212656	Geneva College	Beaver Falls	PA	Non HBCU	Diverse Fields	Northeast
156745	Georgetown College	Georgetown	KY	Non HBCU	Arts & Sciences	Southeast
165936	Gordon College	Wenham	MA	Non HBCU	Arts & Sciences	Northeast
150668	Goshen College	Goshen	IN	Non HBCU	Arts & Sciences	Mid States
162654	Goucher College	Baltimore	MD	Non HBCU	Arts & Sciences	Northeast
170000	Grace Bible College	Wyoming	MI	Non HBCU	Diverse Fields	Mid States
150677	Grace College and Theological Seminary	Winona Lake	IN	Non HBCU	Diverse Fields	Mid States
153375	Grand View College	Des Moines	IA	Non HBCU	Diverse Fields	Mid States
230898	Green Mountain College	Poultney	VT	Non HBCU	Arts & Sciences	Northeast

198598	Greensboro College	Greensboro	NC	Non HBCU	Arts & Sciences	Southeast
145372	Greenville College	Greenville	IL	Non HBCU	Diverse Fields	Mid States
198613	Guilford College	Greensboro	NC	Non HBCU	Arts & Sciences	Southeast
232256	Hampden-Sydney College	Hampden-Sydney	VA	Non HBCU	Arts & Sciences	Southeast
177542	Hannibal-Lagrange College	Hannibal	MO	Non HBCU	Diverse Fields	Mid States
191533	Hartwick College	Oneonta	NY	Non HBCU	Arts & Sciences	Northeast
181127	Hastings College	Hastings	NE	Non HBCU	Arts & Sciences	Mid States
191621	Hilbert College	Hamburg	NY	Non HBCU	Diverse Fields	Northeast
203128	Hiram College	Hiram	OH	Non HBCU	Arts & Sciences	Mid States
191630	Hobart William Smith Colleges	Geneva	NY	Non HBCU	Arts & Sciences	Northeast
232308	Hollins University	Roanoke	VA	Non HBCU	Arts & Sciences	Southeast
170301	Hope College	Holland	MI	Non HBCU	Arts & Sciences	Mid States
191676	Houghton College	Houghton	NY	Non HBCU	Arts & Sciences	Northeast
225548	Howard Payne University	Brownwood	TX	Non HBCU	Diverse Fields	West
101435	Huntingdon College	Montgomery	AL	Non HBCU	Arts & Sciences	Southeast
150941	Huntington University	Huntington	IN	Non HBCU	Diverse Fields	Mid States
225575	Huston-Tillotson University	Austin	TX	HBCU	Arts & Sciences	West
145691	Illinois College	Jacksonville	IL	Non HBCU	Arts & Sciences	Mid States
153621	Iowa Wesleyan College	Mount Pleasant	IA	Non HBCU	Diverse Fields	Mid States
200156	Jamestown College	Jamestown	ND	Non HBCU	Diverse Fields	Mid States
225885	Jarvis Christian College	Hawkins	TX	HBCU	Arts & Sciences	West
107141	John Brown University	Siloam Springs	AR	Non HBCU	Diverse Fields	Southeast
198756	Johnson C Smith University	Charlotte	NC	HBCU	Arts & Sciences	Southeast
101541	Judson College	Marion	AL	Non HBCU	Arts & Sciences	Southeast
146339	Judson University	Elgin	IL	Non HBCU	Diverse Fields	Mid States
213251	Juniata College	Huntingdon	PA	Non HBCU	Arts & Sciences	Northeast
155414	Kansas Wesleyan University	Salina	KS	Non HBCU	Diverse Fields	Mid States
157076	Kentucky Wesleyan College	Owensboro	KY	Non HBCU	Arts & Sciences	Southeast
192192	Keuka College	Keuka Park	NY	Non HBCU	Diverse Fields	Northeast
213303	Keystone College	La Plume	PA	Non HBCU	Diverse Fields	Northeast
220516	King College	Bristol	TN	Non HBCU	Diverse Fields	Southeast
140234	LaGrange College	Lagrange	GA	Non HBCU	Diverse Fields	Southeast
203580	Lake Erie College	Painesville	OH	Non HBCU	Diverse Fields	Mid States
146481	Lake Forest College	Lake Forest	IL	Non HBCU	Arts & Sciences	Mid States
220589	Lambuth University	Jackson	TN	Non HBCU	Arts & Sciences	Southeast
220598	Lane College	Jackson	TN	HBCU	Arts & Sciences	Southeast
213507	Lebanon Valley College	Annville	PA	Non HBCU	Diverse Fields	Northeast
198808	Lees-McRae College	Banner Elk	NC	Non HBCU	Diverse Fields	Southeast
198835	Lenoir-Rhyne University	Hickory	NC	Non HBCU	Diverse Fields	Southeast
209056	Lewis & Clark College	Portland	OR	Non HBCU	Arts & Sciences	West
218238	Limestone College	Gaffney	SC	Non HBCU	Diverse Fields	Southeast
146676	Lincoln College	Lincoln	IL	Non HBCU	Associates	Mid States
157216	Lindsey Wilson College	Columbia	KY	Non HBCU	Arts & Sciences	Southeast
198862	Livingstone College	Salisbury	NC	HBCU	Diverse Fields	Southeast
153825	Loras College	Dubuque	IA	Non HBCU	Diverse Fields	Mid States
159568	Louisiana College	Pineville	LA	Non HBCU	Diverse Fields	Southeast
153834	Luther College	Decorah	IA	Non HBCU	Arts & Sciences	Mid States
213668	Lycoming College	Williamsport	PA	Non HBCU	Arts & Sciences	Northeast
146825	MacMurray College	Jacksonville	IL	Non HBCU	Diverse Fields	Mid States
151777	Manchester College	North	IN	Non HBCU	Diverse Fields	Mid States

		Manchester				
239071	Maranatha Baptist Bible College Inc	Watertown	WI	Non HBCU	Diverse Fields	Mid States
151786	Marian College	Indianapolis	IN	Non HBCU	Diverse Fields	Mid States
203845	Marietta College	Marietta	OH	Non HBCU	Diverse Fields	Mid States
230940	Marlboro College	Marlboro	VT	Non HBCU	Arts & Sciences	Northeast
198899	Mars Hill College	Mars Hill	NC	Non HBCU	Diverse Fields	Southeast
220701	Martin Methodist College	Pulaski	TN	Non HBCU	Diverse Fields	Southeast
192864	Marymount Manhattan College	New York	NY	Non HBCU	Arts & Sciences	Northeast
220710	Maryville College	Maryville	TN	Non HBCU	Arts & Sciences	Southeast
164270	McDaniel College	Westminster	MD	Non HBCU	Arts & Sciences	Northeast
147013	McKendree University	Lebanon	IL	Non HBCU	Diverse Fields	Mid States
226587	McMurry University	Abilene	TX	Non HBCU	Diverse Fields	West
155511	McPherson College	McPherson	KS	Non HBCU	Arts & Sciences	Mid States
198950	Meredith College	Raleigh	NC	Non HBCU	Arts & Sciences	Southeast
166850	Merrimack College	North Andover	MA	Non HBCU	Arts & Sciences	Northeast
213996	Messiah College	Grantham	PA	Non HBCU	Diverse Fields	Northeast
198969	Methodist University	Fayetteville	NC	Non HBCU	Diverse Fields	Southeast
245953	Mid-America Christian University	Oklahoma City	OK	Non HBCU	Diverse Fields	West
181330	Midland Lutheran College	Fremont	NE	Non HBCU	Diverse Fields	Mid States
157377	Midway College	Midway	KY	Non HBCU	Diverse Fields	Southeast
101675	Miles College	Fairfield	AL	HBCU	Diverse Fields	Southeast
221014	Milligan College	Milligan College	TN	Non HBCU	Diverse Fields	Southeast
147244	Millikin University	Decatur	IL	Non HBCU	Arts & Sciences	Mid States
175980	Millsaps College	Jackson	MS	Non HBCU	Arts & Sciences	Southeast
239318	Milwaukee School of Engineering	Milwaukee	WI	Non HBCU	Diverse Fields	Mid States
178369	Missouri Valley College	Marshall	MO	Non HBCU	Diverse Fields	Mid States
129774	Mitchell College	New London	CT	Non HBCU	Associates	Northeast
147341	Monmouth College	Monmouth	IL	Non HBCU	Arts & Sciences	Mid States
199032	Montreat College	Montreat	NC	Non HBCU	Diverse Fields	Southeast
214157	Moravian College and Moravian Theological Seminary	Bethlehem	PA	Non HBCU	Arts & Sciences	Northeast
140553	Morehouse College	Atlanta	GA	HBCU	Arts & Sciences	Southeast
154004	Morningside College	Sioux City	IA	Non HBCU	Diverse Fields	Mid States
218399	Morris College	Sumter	SC	HBCU	Diverse Fields	Southeast
214166	Mount Aloysius College	Cresson	PA	Non HBCU	Associates	Northeast
166948	Mount Ida College	Newton	MA	Non HBCU	Diverse Fields	Northeast
154013	Mount Mercy College	Cedar Rapids	IA	Non HBCU	Diverse Fields	Mid States
199069	Mount Olive College	Mount Olive	NC	Non HBCU	Diverse Fields	Southeast
204185	Mount Union College	Alliance	OH	Non HBCU	Arts & Sciences	Mid States
204194	Mount Vernon Nazarene University	Mount Vernon	OH	Non HBCU	Diverse Fields	Mid States
181446	Nebraska Wesleyan University	Lincoln	NE	Non HBCU	Arts & Sciences	Mid States
218414	Newberry College	Newberry	SC	Non HBCU	Diverse Fields	Southeast
199209	North Carolina Wesleyan College	Rocky Mount	NC	Non HBCU	Diverse Fields	Southeast
174437	North Central University	Minneapolis	MN	Non HBCU	Diverse Fields	Mid States
218441	North Greenville University	Tigerville	SC	Non HBCU	Arts & Sciences	Southeast
239512	Northland College	Ashland	WI	Non HBCU	Arts & Sciences	Mid States
209409	Northwest Christian University	Eugene	OR	Non HBCU	Diverse Fields	West

236133	Northwest University	Kirkland	WA	Non HBCU	Diverse Fields	West
154101	Northwestern College	Orange City	IA	Non HBCU	Diverse Fields	Mid States
174491	Northwestern College	Saint Paul	MN	Non HBCU	Diverse Fields	Mid States
204468	Notre Dame College	Cleveland	OH	Non HBCU	Diverse Fields	Mid States
101912	Oakwood University	Huntsville	AL	HBCU	Diverse Fields	Southeast
140696	Oglethorpe University	Atlanta	GA	Non HBCU	Arts & Sciences	Southeast
201964	Ohio Christian University	Circleville	OH	Non HBCU	Diverse Fields	Mid States
204635	Ohio Northern University	Ada	OH	Non HBCU	Diverse Fields	Mid States
237640	Ohio Valley University	Vienna	WV	Non HBCU	Diverse Fields	Southeast
204909	Ohio Wesleyan University	Delaware	OH	Non HBCU	Arts & Sciences	Mid States
207403	Oklahoma Baptist University	Shawnee	OK	Non HBCU	Diverse Fields	West
206835	Oklahoma Wesleyan University	Bartlesville	OK	Non HBCU	Diverse Fields	West
171599	Olivet College	Olivet	MI	Non HBCU	Arts & Sciences	Mid States
155627	Ottawa University	Ottawa	KS	Non HBCU	Diverse Fields	Mid States
107512	Ouachita Baptist University	Arkadelphia	AR	Non HBCU	Diverse Fields	Southeast
120865	Pacific Union College	Angwin	CA	Non HBCU	Diverse Fields	West
140720	Paine College	Augusta	GA	HBCU	Arts & Sciences	Southeast
121071	Patten University	Oakland	CA	Non HBCU	Diverse Fields	West
227429	Paul Quinn College	Dallas	TX	HBCU	Diverse Fields	West
194392	Paul Smiths College of Arts and Science	Paul Smiths	NY	Non HBCU	Associates	Northeast
199272	Peace College	Raleigh	NC	Non HBCU	Arts & Sciences	Southeast
107600	Philander Smith College	Little Rock	AR	HBCU	Diverse Fields	Southeast
157535	Pikeville College	Pikeville	KY	Non HBCU	Arts & Sciences	Southeast
167455	Pine Manor College	Chestnut Hill	MA	Non HBCU	Arts & Sciences	Northeast
218539	Presbyterian College	Clinton	SC	Non HBCU	Arts & Sciences	Southeast
148016	Principia College	Elsah	IL	Non HBCU	Arts & Sciences	Mid States
148131	Quincy University	Quincy	IL	Non HBCU	Diverse Fields	Mid States
233301	Randolph College	Lynchburg	VA	Non HBCU	Arts & Sciences	Southeast
233295	Randolph-Macon College	Ashland	VA	Non HBCU	Arts & Sciences	Southeast
140872	Reinhardt College	Waleska	GA	Non HBCU	Diverse Fields	Southeast
239628	Ripon College	Ripon	WI	Non HBCU	Arts & Sciences	Mid States
233426	Roanoke College	Salem	VA	Non HBCU	Arts & Sciences	Southeast
170967	Rochester College	Rochester Hills	MI	Non HBCU	Diverse Fields	Mid States
180595	Rocky Mountain College	Billings	MT	Non HBCU	Diverse Fields	Rocky Mountain
217518	Roger Williams University	Bristol	RI	Non HBCU	Diverse Fields	Northeast
195128	Russell Sage College	Troy	NY	Non HBCU	Arts & Sciences	Northeast
183239	Saint Anselm College	Manchester	NH	Non HBCU	Arts & Sciences	Northeast
199582	Saint Augustines College	Raleigh	NC	HBCU	Diverse Fields	Southeast
207689	Saint Gregorys University	Shawnee	OK	Non HBCU	Diverse Fields	West
174792	Saint Johns University	Collegeville	MN	Non HBCU	Arts & Sciences	Mid States
152363	Saint Josephs College	Rensselaer	IN	Non HBCU	Diverse Fields	Mid States
152381	Saint Mary-of-the-Woods College	Saint Mary-Of-The-Woods	IN	Non HBCU	Diverse Fields	Mid States
152390	Saint Mary's College	Notre Dame	IN	Non HBCU	Arts & Sciences	Mid States
231059	Saint Michaels College	Colchester	VT	Non HBCU	Arts & Sciences	Northeast
239716	Saint Norbert College	De Pere	WI	Non HBCU	Arts & Sciences	Mid States
233499	Saint Pauls College	Lawrenceville	VA	HBCU	Diverse Fields	Southeast
215798	Saint Vincent College	Latrobe	PA	Non HBCU	Arts & Sciences	Northeast
199607	Salem College	Winston Salem	NC	Non HBCU	Arts & Sciences	Southeast
228042	Schreiner University	Kerrville	TX	Non HBCU	Diverse Fields	West

215947	Seton Hill University	Greensburg	PA	Non HBCU	Diverse Fields	Northeast
221519	Sewanee: The University of the South	Sewanee	TN	Non HBCU	Arts & Sciences	Southeast
199643	Shaw University	Raleigh	NC	HBCU	Diverse Fields	Southeast
140988	Shorter College	Rome	GA	Non HBCU	Diverse Fields	Southeast
195474	Siena College	Loudonville	NY	Non HBCU	Arts & Sciences	Northeast
182458	Sierra Nevada College	Incline Village	NV	Non HBCU	Arts & Sciences	West
154350	Simpson College	Indianola	IA	Non HBCU	Arts & Sciences	Mid States
123457	Simpson University	Redding	CA	Non HBCU	Arts & Sciences	West
137564	Southeastern University	Lakeland	FL	Non HBCU	Diverse Fields	Southeast
221661	Southern Adventist University	Collegedale	TN	Non HBCU	Diverse Fields	Southeast
231086	Southern Vermont College	Bennington	VT	Non HBCU	Diverse Fields	Northeast
228468	Southwestern Adventist University	Keene	TX	Non HBCU	Diverse Fields	West
228325	Southwestern Assemblies of God University	Waxahachie	TX	Non HBCU	Diverse Fields	West
228486	Southwestern Christian College	Terrell	TX	HBCU	Associates	West
141060	Spelman College	Atlanta	GA	HBCU	Arts & Sciences	Southeast
199698	St Andrews Presbyterian College	Laurinburg	NC	Non HBCU	Arts & Sciences	Southeast
245652	St John's College	Santa Fe	NM	Non HBCU	Arts & Sciences	West
195216	St Lawrence University	Canton	NY	Non HBCU	Arts & Sciences	Northeast
179548	Stephens College	Columbia	MO	Non HBCU	Arts & Sciences	Mid States
155937	Sterling College	Sterling	KS	Non HBCU	Arts & Sciences	Mid States
102270	Stillman College	Tuscaloosa	AL	HBCU	Diverse Fields	Southeast
167996	Stonehill College	Easton	MA	Non HBCU	Arts & Sciences	Northeast
216278	Susquehanna University	Selinsgrove	PA	Non HBCU	Arts & Sciences	Northeast
233718	Sweet Briar College	Sweet Briar	VA	Non HBCU	Arts & Sciences	Southeast
155973	Tabor College	Hillsboro	KS	Non HBCU	Diverse Fields	Mid States
102298	Talladega College	Talladega	AL	HBCU	Arts & Sciences	Southeast
152530	Taylor University	Upland	IN	Non HBCU	Diverse Fields	Mid States
221731	Tennessee Wesleyan College	Athens	TN	Non HBCU	Diverse Fields	Southeast
228884	Texas College	Tyler	TX	HBCU	Diverse Fields	West
228981	Texas Lutheran University	Seguin	TX	Non HBCU	Arts & Sciences	West
142294	The College of Idaho	Caldwell	ID	Non HBCU	Arts & Sciences	Rocky Mountain
206589	The College of Wooster	Wooster	OH	Non HBCU	Arts & Sciences	Mid States
117751	The Master's College and Seminary	Santa Clarita	CA	Non HBCU	Diverse Fields	West
216357	Thiel College	Greenville	PA	Non HBCU	Arts & Sciences	Northeast
161563	Thomas College	Waterville	ME	Non HBCU	Diverse Fields	Northeast
183275	Thomas More College of Liberal Arts	Merrimack	NH	Non HBCU	Arts & Sciences	Northeast
141185	Toccoa Falls College	Toccoa Falls	GA	Non HBCU	Diverse Fields	Southeast
176406	Tougaloo College	Tougaloo	MS	HBCU	Arts & Sciences	Southeast
157818	Transylvania University	Lexington	KY	Non HBCU	Arts & Sciences	Southeast
152567	Trine University	Angola	IN	Non HBCU	Diverse Fields	Mid States
149505	Trinity Christian College	Palos Heights	IL	Non HBCU	Diverse Fields	Mid States
102377	Tuskegee University	Tuskegee	AL	HBCU	Diverse Fields	Southeast
181738	Union College	Lincoln	NE	Non HBCU	Diverse Fields	Mid States
161572	Unity College	Unity	ME	Non HBCU	Diverse Fields	Northeast
237312	University of Charleston	Charleston	WV	Non HBCU	Diverse Fields	Southeast
153278	University of Dubuque	Dubuque	IA	Non HBCU	Diverse Fields	Mid States

219383	University of Sioux Falls	Sioux Falls	SD	Non HBCU	Diverse Fields	Mid States
156541	University of the Cumberlands	Williamsburg	KY	Non HBCU	Diverse Fields	Southeast
107558	University of the Ozarks	Clarksville	AR	Non HBCU	Diverse Fields	Southeast
206330	Urbana University	Urbana	OH	Non HBCU	Diverse Fields	Mid States
216524	Ursinus College	Collegeville	PA	Non HBCU	Arts & Sciences	Northeast
216542	Valley Forge Christian College	Phoenixville	PA	Non HBCU	Diverse Fields	Northeast
123651	Vanguard University of Southern California	Costa Mesa	CA	Non HBCU	Diverse Fields	West
233912	Virginia Intermont College	Bristol	VA	Non HBCU	Diverse Fields	Southeast
234164	Virginia Union University	Richmond	VA	HBCU	Diverse Fields	Southeast
234173	Virginia Wesleyan College	Norfolk	VA	Non HBCU	Arts & Sciences	Southeast
218919	Voorhees College	Denmark	SC	HBCU	Diverse Fields	Southeast
152673	Wabash College	Crawfordsville	IN	Non HBCU	Arts & Sciences	Mid States
154518	Waldorf College	Forest City	IA	Non HBCU	Diverse Fields	Mid States
210304	Warner Pacific College	Portland	OR	Non HBCU	Diverse Fields	West
138275	Warner University	Lake Wales	FL	Non HBCU	Diverse Fields	Southeast
199865	Warren Wilson College	Swannanoa	NC	Non HBCU	Arts & Sciences	Southeast
154527	Wartburg College	Waverly	IA	Non HBCU	Arts & Sciences	Mid States
216667	Washington & Jefferson College	Washington	PA	Non HBCU	Arts & Sciences	Northeast
164216	Washington College	Chestertown	MD	Non HBCU	Arts & Sciences	Northeast
197230	Wells College	Aurora	NY	Non HBCU	Arts & Sciences	Northeast
131098	Wesley College	Dover	DE	Non HBCU	Diverse Fields	Northeast
141325	Wesleyan College	Macon	GA	Non HBCU	Arts & Sciences	Southeast
237969	West Virginia Wesleyan College	Buckhannon	WV	Non HBCU	Arts & Sciences	Southeast
179946	Westminster College	Fulton	MO	Non HBCU	Arts & Sciences	Mid States
216807	Westminster College	New Wilmington	PA	Non HBCU	Arts & Sciences	Northeast
125763	Whittier College	Whittier	CA	Non HBCU	Arts & Sciences	West
206491	Wilberforce University	Wilberforce	OH	HBCU	Diverse Fields	Mid States
229887	Wiley College	Marshall	TX	HBCU	Diverse Fields	West
210401	Willamette University	Salem	OR	Non HBCU	Arts & Sciences	West
179955	William Jewell College	Liberty	MO	Non HBCU	Arts & Sciences	Mid States
154590	William Penn University	Oskaloosa	IA	Non HBCU	Diverse Fields	Mid States
107877	Williams Baptist College	Walnut Ridge	AR	Non HBCU	Diverse Fields	Southeast
206507	Wilmington College	Wilmington	OH	Non HBCU	Diverse Fields	Mid States
217013	Wilson College	Chambersburg	PA	Non HBCU	Diverse Fields	Northeast
199962	Wingate University	Wingate	NC	Non HBCU	Arts & Sciences	Southeast
240338	Wisconsin Lutheran College	Milwaukee	WI	Non HBCU	Arts & Sciences	Mid States
206525	Wittenberg University	Springfield	OH	Non HBCU	Arts & Sciences	Mid States
218973	Wofford College	Spartanburg	SC	Non HBCU	Arts & Sciences	Southeast
181853	York College	York	NE	Non HBCU	Diverse Fields	Mid States
217059	York College Pennsylvania	York	PA	Non HBCU	Diverse Fields	Northeast

Appendix C

IRB Determination Letter

Office for Research
Institutional Review Board for the
Protection of Human Subjects

June 23, 2010



David E. Hardy, Ph.D.
Associate Dean for Research & Service and
Associate Professor of Higher Education
College of Education

Re: IRB Requirement for Ms. Dana Davis' Dissertation"

Dr. Hardy:

This letter comes as a response to your communication received May 21, 2010. Following review it has been determined that activities outlined within the project description do meet the criteria set forth within UA IRB Policy # 39 titled "Research Using Publically Available Datasets".

Because the research involves use of an approved public dataset, the activity does not require IRB approval and is therefore excluded from review by the IRB. If you have any questions or if I can be of further assistance please do not hesitate to contact me.

Sincerely,

Carpan to T. Myles, MSM, CIP
Director of Research Compliance & Research Compliance Officer
Office of Research Compliance
The University of Alabama



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