

PERCEPTIONS OF HIGHER EDUCATION: PRIVATE GOOD OR PUBLIC GOOD?

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And hereby certify that, in their opinion, it is worthy of acceptance.

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS i

LIST OF FIGURES v

LIST OF TABLES vi

ABSTRACT vii

Chapter

1. INTRODUCTION TO THE STUDY 1

 Problem Statement

 Research Purpose and Questions

 Hypotheses

 Conceptual Framework

 Research Paradigm and Theoretical Perspective

 Design and Methods

 Assumptions

 Definition of Key Terms

 Significance of the Research for Leadership Practice

 Summary

2. REVIEW OF RELATED LITERATURE 14

 Post-Secondary Education Attainment Trends in the United States of America

 Benefits of Post-Secondary Education Attainment

 Perceptions of Higher Education

 Post-Secondary Education: Private Good or Public Good

 Socioeconomic Data for Southeast Missouri

 Conclusion

3. RESEARCH DESIGN AND METHODOLOGY..... 40

 Research Purpose

 Research Questions

 Research Design

 Research Design Methodology

 Population and Sample to be Studied

 Data Gathering Tools and Procedures

 Human Subjects Protection

 Data Analysis Procedures

 Quality Strategies

 Summary

4. ANALYSIS AND PRESENTATION OF DATA	60
Study Design and Overview	
Demographic and Socioeconomic Breakdown	
Research Questions and Associated Hypotheses	
Data Set Reliability Analysis	
Research Question One Findings	
Research Question Two Findings	
Research Question Three Findings	
Summary	
5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FUTURE RESEARCH	104
Summary of the Research Study	
Conclusions	
Implications	
Recommendations for Future Research	
REFERENCES	121
APPENDIX	
A. Survey Instrument	126
B. Letter of Informed Consent	128
VITA	129

LIST OF FIGURES

Figure	Summary	Page
1	Scatterplot Matrix: Relationship Between Private Good Public Good Perception and Value of Higher Education	75

LIST OF TABLES

Table	Summary	Page
1	Per Capita Income and Higher Ed. Attainment Rates for SE MO Counties	35
2	Free and Reduced Lunch Statistics for Southeast MO Schools	37
3	Cronbach's Alpha Reliability Analysis for 10 Item Pilot Survey	51
4	Cronbach's Alpha Reliability Analysis for Eight Item Pilot Survey	51
5	Categorical Breakdown of Survey Questions	67
6	Cronbach's Alpha Reliability Analysis for Eight Item Survey	69
7	Private Good or Public Good? Descriptive Statistics	70
8	Survey Questions: Descriptive Statistics	71
9	One-sample t-Test: Private Good or Public Good?	72
10	Correlation: Private Good Public Good Perception & Value of Higher Ed.	74
11	ANOVA Results for Hypothesis Three	76
12	ANOVA Results for Hypothesis Four	77
13	ANOVA Results for Hypothesis Five	78
14	ANOVA Results for Hypothesis Five - Post Hoc Test	79
15	ANOVA Results for Hypothesis Six	80
16	ANOVA Results for Hypothesis Six - Post Hoc Test	81
17	ANOVA Results for Hypothesis Seven	81
18	ANOVA Results for Hypothesis Seven - Post Hoc Test	82
19	ANOVA Results for Hypothesis Eight – Mother's Ed. Level	83
20	ANOVA Results for Hypothesis Eight – Father's Ed. Level	84
21	Factorial ANOVA Test One Results	86
22	Factorial ANOVA Test Two Results	88
23	Factorial ANOVA Test Three Results	89
24	Effects of Income on Ed. – Less than a High School Ed. – Mean/Std. Dev.	91
25	Effects of Income on Ed. – Less than a High School Ed. – ANOVA	92
26	Effects of Income on Ed. – High School Ed. – Mean/Std. Dev.	93
27	Effects of Income on Ed. – High School Ed. – ANOVA	93
28	Effects of Income on Ed. – Some College – Mean/Std. Dev.	94
29	Effects of Income on Ed. – Some College – ANOVA	95
30	Effects of Income on Ed. – Associate's Degree – Mean/Std. Dev.	96
31	Effects of Income on Ed. – Associate's Degree – ANOVA	97
32	Effects of Income on Ed. – Bachelor's Degree – Mean/Std. Dev.	98
33	Effects of Income on Ed. – Bachelor's Degree – ANOVA	98
34	Effects of Income on Ed. – Master's Degree – Mean/Std. Dev.	99
35	Effects of Income on Ed. – Master's Degree – ANOVA	100
36	Effects of Income on Ed. – Professional degree – Mean/Std. Dev.	101
37	Effects of Income on Ed. – Professional degree – ANOVA	101

PERCEPTIONS OF HIGHER EDUCATION:
PRIVATE GOOD OR PUBLIC GOOD?

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ABSTRACT

This study examined the perceptions representatives of southeast Missouri have towards higher education; specifically whether or not participants view higher education attainment as a private good or a public good. The researcher employed a quantitative research approach and collected data, via survey, from 400 participants currently residing in the target region. From these surveys a series of conclusions were drawn based upon demographic and socioeconomic characteristics of the sample population and data examined through descriptive analyses, correlational analyses, and analysis of variance testing.

The research showed that representatives of southeast Missouri perceive attainment of a Bachelor's degree or higher as more of a public good than a private good. Correlational analysis indicated that the more participants perceived higher education as public good, the more value they placed on higher education attainment. Significant differences among individual perceptions were identified based on gender, income bracket, perceived socioeconomic status when an adolescent, and education level. From these relationships a series of conclusions are drawn concerning the perceptions representatives of southeast Missouri have towards higher education.

CHAPTER 1

INTRODUCTION TO THE STUDY

In 2012 President Obama announced a goal for the United States of America (U.S.A) to become the world leader in higher education attainment by 2020 (*Top 10 Higher*, 2012). Although there are currently record numbers of students taking college classes in the U.S.A., the ratio of the number of students who have a college degree or certificate to the national population is falling. Bound (2010) states, “The rise in the proportion of high school graduates who attend college has not been met by a commensurate increase in the fraction who become college graduates” (p. 129).

Being the number one country in the world in higher education attainment has several advantages for its citizens. Studies have shown that individuals possessing a post-secondary education (PSE) have many benefits over those who do not possess a PSE; these include but are not limited to:

1. Increased lifetime earnings;
2. Increased job satisfaction;
3. Decreased unemployment rates;
4. Multiple health benefits;
5. Increased parental involvement with their children; and
6. Increased rate of volunteering and voting (Baum, 2010).

It is extremely difficult to see a downside of acquiring a PSE for a person. The benefits for the individual and, therefore, the U.S.A. are abundant. If, by 2020, the U.S. is able to secure the top spot in terms of education attainment it would be an impressive

achievement for the country. Furthermore, increasing education attainment in the U.S.A. has many advantages for the country. These include but are not limited to:

1. Higher government revenues;
2. Lower government spending;
3. Reducing enrollment in Medicaid;
4. Reduction in crime; and
5. Reducing welfare recipients (Levin, 2007).

It is problematic to formulate a good argument against increasing United States (U.S.) post-secondary education attainment in lieu of the vast number of potential benefits for the country.

The number of careers requiring a PSE is expected to climb in the coming years. Although in recent years the number of individuals pursuing a PSE has increased, the overall percentage of individuals residing in the United States holding a PSE degree has decreased indicating a decline in college completion rates (*Top 10 Higher*, 2012).

Results from a 2004:2009 survey indicate that “among students who anticipate completing a BA degree, 51.3 percent will end up with no degree” (Avery, 2012, p. 177).

Perceptions pertaining to the United States capability to remain competitive with other countries around the world are directly impacted by education levels and standards. The United States overall ranking in terms of percentage of population with a higher education has decreased over the past several years. President Obama’s higher education attainment policy directly impacts state PSE institutions and, consequentially, has sparked a great deal of dialogue among institutions of higher education as far as optimum methods pertaining to increasing graduation rates. Increasing public appeal associated

with PSE attainment is extremely important for leaders in higher education. Acquiring an understanding of how representatives of particular regions currently perceives higher education will assist higher education leaders in making informed decisions associated with the formulation of strategies appropriate for increasing enrollment in higher education programs and, consequently, PSE attainment rates.

Institutions of higher education were originally established with the public good in mind (Osamdia, 2011). Marginson (2011) defines a public good as something that is non-rivalrous, meaning unable to be depleted when consumed; and non-excludable, meaning the benefits are not limited to individual consumers. Public benefits of higher education include a better functioning society, healthier populations, enhanced regional development, increased social cohesion, reduced crime, enhanced parental promotion of education, and facilitation of social skills (Murray, 2009). Personal observations have indicated that the viewpoint of higher education as a public good has changed. Individuals are beginning to question how their tax, dollars which support higher education, are beneficial to them as an individual. They believe the benefits of a higher education are limited to the individual attaining that education. Although unsubstantiated, these beliefs are understandable when examining the benefits associated with PSE attainment (Baum, Ma, and Payea, 2013; Becker, 1994; Osumadia, 2011; & Tatlah, Naz, and Iqbal, 2011).

If we can determine how individuals view higher education and why they view it as such, we can then formulate appropriate ways of educating those individuals on the public benefits of a higher education. Establishing and implementing effective strategies designed to educate individuals on the benefits of a PSE will hopefully encourage the

number of individuals pursuing a PSE and, consequently, increase higher education attainment in the U.S.A.. For this study I will determine whether or not representatives of Southeast Missouri residing in Cape Girardeau County and Missouri counties bordering Cape Girardeau County perceive higher education as a private good or a public good.

Problem Statement

Despite the numerous benefits a PSE has for individuals and the country as a whole, the percentage of individuals attaining a PSE in the U.S.A. is declining (Bound, 2010). According to the U.S. Department of Education, National Center for Education Statistics (2011), in 2009 individuals 25-34 years of age “with a bachelor’s degree earned more than twice as much as those without a high school diploma or its equivalent” (p. 56). In today’s economy, a post-secondary education is a virtual necessity for those who aspire to maximize their career opportunities and earning potential. The U.S. Department of Education, National Center for Education Statistics (2008) reported, “Total college enrollment increased 28 percent between 1995 and 2007, and a further increase of 10 percent is expected between fall 2007 and fall 2017” (p. 10). It is interesting to note that, even though there has been a substantial increase in PSE student enrollment, there has been a decrease in the percentage of students attaining a college degree.

Post-secondary education attainment in southeast Missouri is low when compared to other areas of the state. Missouri is considered an underserved state; furthermore, southeast Missouri is classified as an underserved region within the state of Missouri (*Missouri Department of Elementary*, 2014; & *Missouri Office of Social*, 2014). “The U.S. average household income is \$71,169, while Missouri’s average household income

is \$61,180; per capita income for the U.S. is \$26,485, while Missouri's is \$23,844" (Kate McEnroe, 2010). The unemployment rate within areas of Southeast Missouri is approaching 8.0% which is well above the state average of 6.8% and national averages of 9.7% (*United States Department of Labor, 2014*); many companies that have job openings are experiencing difficulties filling positions due to the lack of education among applicants (Kate McEnroe, 2010). There is research suggesting how socioeconomic factors and status influence high school seniors' decisions to pursue a PSE (*What Factors Affect, 2013*); while evidence of this relationship has been established, research studies which examine U.S. citizens' perceptions of a PSE as a private good or a public good and whether or not those perceptions influence individual decisions to pursue a PSE are thin at best.

Research Purpose

The purpose of this quantitative study is to ascertain whether or not representatives of southeast Missouri residing in the Cape Girardeau region perceives higher education as a private good or a public good. The notion that higher education is viewed primarily as a private good will frame this study. Specifically, this research study seeks to determine whether or not individuals residing in the target area perceive higher education as a private good or public good and whether these perceptions vary based on gender, age, individual level of education, parental level of education, income level of the individual, and perceived socioeconomic status when the participant was an adolescent.

Research Questions

Within the context of this study, the following research questions will be addressed:

1. Do representatives of southeast Missouri view higher education as a private good or a public good?
2. How do perceptions of higher education as a private good or public good influence the value representatives of southeast Missouri place on higher education attainment?
3. How do perceptions of higher education as a private good or public good vary based on demographic and socioeconomic factors among representatives of southeast Missouri?

Hypothesis

From these three research questions, a series of eight questions can be tested. By comparing the respondent's perceptions of higher education to demographic and socioeconomic variables which include gender, age, income bracket, level of education, parent or guardian's level of education, and perceived socioeconomic status when the participant was an adolescent, the following eight null hypotheses can be tested:

1. There are no differences in overall perceptions representatives of southeast Missouri have of higher education as a private good or public good.
2. There is no difference in the value representatives of southeast Missouri place on higher education attainment based on their perception of higher education as a private good or public good.

3. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the gender of the southeast Missourian.
4. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the age of the southeast Missourian.
5. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the income bracket of the southeast Missourian.
6. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the perceived income bracket of the southeast Missourian's parents when an adolescent.
7. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the education level of the southeast Missourian.
8. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the education level of the southeast Missourian's parent or guardian.

Conceptual Framework

Ravitch & Riggan (2012) state, "a conceptual framework is an argument about why the topic one wishes to study matters" (p. 7). The importance of this study hinges on the benefits all U.S. citizens' receive as a result of increasing the number of citizens with

a PSE. The results of this study will provide insights as to the value U.S. citizens' place on higher education and PSE attainment; furthermore, this study will look at specific factors impacting individual perceptions of higher education and PSE attainment. Enhancing our understanding of how individuals perceive higher education and their understanding of how post-secondary educational attainment benefits everyone is important. Increasing our knowledge in this area will assist universities in formulating specific strategies designed to educate citizens on the benefits of a PSE in the hopes of boosting higher education attainment in the U.S.A..

As previously stated, the perception that higher education is viewed primarily as a private good will frame this study, meaning representatives of southeast Missouri do not perceive the benefits of a PSE extending beyond the individual attaining the PSE (Labaree, 1997; Marginson, 2011; Murray, 2009; Sandlin, Burdick & Norris, 2012; Tatlah, Naz, & Iqbal, 2011). Independent variables will include demographic and socioeconomic characteristics of each individual represented in the sample. The dependent or outcome variable will include participant's perception of a PSE as a public good or a private good. Research supports the assertion that individual perceptions of higher education fluctuate based on demographic and socioeconomic factors (*What Factors Affect*, 2013).

Research Paradigm and Theoretical Perspective

I will approach this study from a post-positivist epistemological research paradigm. Hatch (2002) asserts the following regarding this paradigm: "Post-positivist researchers work to capture close approximations of reality" (p. 14). They remain purely objective when conducting research and make generalizations pertaining to samples of

populations based purely on empirical evidence (Grix, 2004). As a researcher, I will have minimal direct contact with participants. Quantitative data will be collected via survey and statistical analysis will be utilized to compile and analyze the data. It is my intent to explain a specific phenomenon which is appearing in the world. This study is not designed to deal with why this phenomenon is occurring, but to explain what is occurring based on a theory.

Theoretical perspectives have a direct relationship with a researcher's paradigm. According to Grix (2004), "Theories are, of course, bound up with certain ways of seeing world" (p. 104). Positivists "apply deductive research strategy and see theory as a tool to 'order, explain and predict facts'" (p. 106). Creswell (2009) defines theory as "an interrelated set of constructs formed into... hypothesis that specify the relationship among variables" (p. 51). I believe a specific set of demographic and socioeconomic conditions (independent variables) are influencing individual perceptions (dependent variable) of higher education; specifically the notion of higher education as a private good or public good.

Design and Methods

I will take a quantitative survey research approach to the study. Creswell (2009) states, "Survey research provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (p. 12). The population will be bounded within Cape Girardeau County and Missouri counties bordering Cape Girardeau County with participants being selected through a convenience sampling process. Quantitative data will be collected via survey. Mean and mode descriptive analysis will be utilized to determine overall perceptions and analysis of

variance (ANOVA) tests to determine differences in perceptions based on demographic and socioeconomic factors. For the purposes of the study a representative of southeast Missouri will be defined as an individual residing in the target region age 18 or over; higher education will be defined as holding a Bachelor's, Master's, or Doctoral degree.

Assumptions

“All dissertations, like all practices, are predicated on beliefs” (Bryant, 2004, p. 21). This study is based on particular beliefs or assumptions I have regarding a specific phenomenon. Following are a list of those assumptions which pertain to this study:

1. The view of a PSE as a private good is negatively impacting PSE attainment in southeast Missouri.
2. Individuals holding a PSE are more inclined to view PSE as a public good.
3. Demographic and socioeconomic factors influence individual perceptions of PSE as a private good or public good.

Approaching this study from a post-positivist epistemological research paradigm will assist in eliminating research bias which is often produced as a result of specific beliefs or assumptions. Hatch (2002) posits, post-positivist epistemologists “seek to maintain an objective position in relation to the phenomena they are studying” (p. 14). Remaining independent from my research participants, collecting data which is purely quantitative in nature, and analyzing that data void of inference will help avoid bias associated with these assumptions.

Definition of Key Terms

Examination of perceptions of a PSE as a private good or public good among representatives of southeast Missouri requires specific terms to be defined.

1. Bachelor's Degree: A Bachelor's degree is an academic degree obtained at a college or university. Bachelor's degrees are comprised of undergraduate course work and typically take students approximately four years as full time students to attain.
2. Post-Secondary Education (PSE): A post-secondary education is education obtained beyond high school. For the purposes of this study a PSE will be limited to the attainment of a Bachelor's, Master's, or Doctoral degree.
3. Private Good: A private good is something in which the benefits of acquiring a good or service are limited to the individual consumer acquiring that good or service.
4. Public Good: Marginson (2011) defines a public good as something that is non-rivalrous, meaning unable to be depleted when consumed; and non-excludable, meaning the benefits are not limited to individual consumers. For example, the notion of a PSE as a public good means the benefits of procuring a Bachelor's are not restricted to the person who attained the degree but extend to everyone else as well.
5. Representative of southeast Missouri: For the purposes of this study, a representative of southeast Missouri refers to an individual 18 years or older permanently residing in Cape Girardeau County and Missouri counties bordering Cape Girardeau County.

Significance of the Research for Leadership Practice

The education, skills and technical competencies required by today's workforce vary greatly from that of even a decade ago. Over 70% of the jobs in the U.S. require training beyond high school (Kate McEnroe, 2010). Consequently, the mission of Southeast Missouri State University, a PSE institution which serves the target region of this study, is to "provide professional education grounded in the liberal arts and sciences and in practical experience" (*Mission*, 2011). The University strives to instill in its' students a lifelong passion for learning and prepare them to participate responsibly in a diverse and technologically-advanced world and make positive contributions to the economic development of the region, state and nation.

This study builds upon the work of Mueller (2011) by providing additional insights pertaining to individual perceptions of higher education. The importance of this research proposal rests on the benefits all U.S. citizens' receive as a result of increasing the number of citizens with a postsecondary education. By learning more about individual perceptions and understanding of higher education among representatives of southeast Missouri and how post-secondary educational attainment benefits everyone, we may be able to learn more about whether people in the region need to be educated about these benefits. If southeast Missouri citizens had more complete information regarding the benefits of higher education, they may be more inclined to pursue a PSE (Mueller, 2011). Furthermore, higher education leaders and policy makers in higher education will be able to enhance the effectiveness of the universities mission by making informed decisions regarding the growth of academic programs and develop strategies to enhance the workforce in an underserved southeast Missouri region.

Summary

The percentage of individuals with a PSE in the U.S.A. is declining (Bound, 2010). Numerous studies have indicated a plethora of benefits individuals and the United States realize as a result of PSE attainment (Baum, 2010; Levin, 2007). This reduction in graduates has had a negative impact on the economic development of the southeast Missouri region in particular. This study will provide insight into perceptions representatives of southeast Missouri have towards PSE; specifically the perception of PSE as a public good or a private good. This information will be beneficial to university leaders and policy makers at Southeast Missouri State University as they seek to satisfy the mission of the university which includes providing a competent workforce for the region (*Mission*, 2011).

This quantitative study will be divided into five chapters. Chapter one provides an overview of the study which includes an introduction, purpose statement, and questions the researcher seeks to answer. Chapter two will examine existing literature focusing on private goods versus public goods, higher education attainment in the U.S.A., and current Missouri social and economic demographic information provided by the Missouri Office of Social and Economic Data Analysis and the United States Census Bureau. Chapter three will detail the research design, population, methodology, and data analysis procedures. Chapter four will provide an analysis of quantitative data gathered from the participants and results. The study will be concluded in chapter five in which I will provide conclusions, implications, and recommendations for future research.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Introduction

Socioeconomic inequality in the United States is a subject currently on the forefront of many political debates. According to Baum, Kurose, & Ma (2013); “The United States has more socioeconomic inequality now than 40 years ago” (p. 59). Many strategies have been proposed to bridge the gap between the rich and the poor. “Not only are incomes more unequal than they were, but so, more disturbingly, is the gap in educational achievement between high- and low-income children” (p. 59). Acquiring a Post-Secondary Education (PSE) in the U.S.A. after graduating high school is an essential step for those wishing to increase their chances of attaining a prosperous career. The information age we currently live in is driving technological advances and change at a rapid pace which further necessitates the need for a PSE.

Higher education has become increasingly necessary for occupational and economic success in the United States. While jobs that require on-the-job training are expected to see the greatest decline in numbers, ninety percent of jobs in the new fast-growing information and service economy will require some postsecondary education. (Osamudia, 2011, p. 63-4)

Increasing PSE attainment is a critical step in minimizing socioeconomic inequality in the U.S.A.. “College education increases the chances that adults will move up the socioeconomic ladder” (Baum, Ma, & Payea, 2013, p. 6). Furthermore, increasing PSE attainment is “necessary to prepare students to be good citizens, capable of thoughtful and responsible participation in a strong representative democracy” (p. 62). In lieu of

this, President Obama's goal for the U.S.A. is to become the world leader in higher education attainment by 2020 is admirable (*Top 10 Higher*, 2012). Increasing the number of individuals with a PSE in the U.S.A. is an excellent first step towards prosperity for all citizens; the benefits of attaining a PSE are not limited to the individual attaining the PSE but extend to the rest of society as well. "Societal need has been a driving force in the founding and evolution of higher education institutions. Through the provision of education as well as research, universities and colleges have contributed substantially to the advancement of public well-being" (*Engaging Higher Education*, 2007, p.1).

Post-secondary educational attainment is accompanied by numerous benefits for the individual attaining the PSE (Baum, 2010; Baum, 2013; Becker, 1994; Levin, 2007; Osumadia, 2011, & Tatlah, 2011). However, there are also a plethora of public benefits for the nation as a result of increasing the number of individuals with a PSE in the U.S.A. (Baum, 2013; *Is a Basic College Education*, 2014, & Osumadia, 2011). In lieu of the extensive amount of research in support of PSE attainment, the percentage of individuals with a PSE in the U.S.A. is declining (Bound, 2010). "Where the U.S. once was among the world's leaders in the percentage of its young people with college degrees, we've now dropped to 14th" (*Smart Shoppers*, 2013, p. 9). Many individuals continue to question the value of PSE attainment; whether the benefits are limited exclusively to them (private good), or whether PSE benefits serve the country (public good) as well. "Survey results suggest U.S. citizens are increasingly skeptical that the benefits of a college education justify the escalating costs to students and their families" (*Is a Basic College Education*, 2014,). This skepticism is influenced, in large part, by past and

present demographic and socioeconomic conditions of the individual (Ashtiani , 2012; Baum, 2013; Becker, 1994; De Serf, 2002; *Ethnicity, Gender, and Degree*, 2008; *Smart Shoppers*, 2013; & *What Factors Affect*, 2013). Ascertaining whether or not U.S. citizens view higher education as a private good or a public good will provide insight into the value those citizens place on PSE attainment. Increasing our understanding of the perceptions individuals have towards higher education is necessary in order to formulate strategies for increasing PSE attainment in the U.S.A..

Post-Secondary Education Attainment Trends in the United States of America

The number of careers requiring a PSE has increased in recent years (Osamudia, 2011). “In 1980, half of all U.S. high school graduates went to college, and the other half went directly into the workforce. But today, seven out of ten high school graduates head to college, while only three enter the workforce” (*Smart Shoppers*, 2013, p. 3). Even though there are a steadily increasing number of students who choose to pursue a PSE, there is a decline in terms of the percentage of students graduating college when compared with the number of students currently attending college (Bound, 2010). “Half of the students who start college fail to finish any degree or certificate program within six years” (*Smart Shoppers*, 2013, p. 10). There are a number of factors that influence whether or not a student attends college and, furthermore, whether that student completes his/her intended degree program. Ashtiani and Feliciano (2012) indicate a series of socioeconomic inequalities related to poverty such as “lowered expectations, negative relationships with school personnel, and limited access to resources” (p. 1) that negatively impact student decisions to attend or complete college. Limited access to a college education has been perpetuated by staggering increases in the cost of college

tuition. Total cost to attend college has increased 559 percent since 1985 (Rampell, 2012). Furthermore, the National Center for Education Statistics (2012) indicates that this increase is “between one and two times the inflation rate” (Muchison, p. 69). That is to say, costs associated with attaining a PSE have been increasing at a rate far beyond that of the national inflation rate.

According to Rampell (2012) the primary culprit behind these dramatic increases in college costs is the reduction in funding colleges and universities receive from the state. However, decreases in state funding are not the only reason for tuition increases. Ehrenberg (2012) posits that colleges and universities regularly compete with each other in every aspect of academia and social experience to enhance their perception to the public eye which contributes strongly to increased costs. Another reason for tuition increases are student and parent beliefs that the more expensive the college, the better the education. Ehrenberg (2012) also points out that “Higher education is... driven by published rankings, such as those of *U.S. News and World Report*” (p. 194). Lastly, even though advancements in technology have allowed faculty to deliver curriculum to students with greater efficiency, implantation and utilization of these technologies has come with substantial costs.

Benefits of PSE Attainment

Despite demographic and socioeconomic factors and escalating costs associated with PSE attainment, both of which negatively impact decisions to attend college, the benefits of acquiring a college degree are difficult to deny. “Even in the recent recession, employers have voted with their payrolls and are more likely to hire college-educated workers, offer them full-time employment and benefits, and pay them more money than

non-college-educated workers” (*Smart Shoppers*, 2013, p. 3). According to Baum, Kurose, & Ma (2013), in today’s economic climate, an individual with a college degree can expect to earn approximately 66% more money than a high school graduate. Furthermore, graduate degrees make a considerable difference in employment opportunities and earning potential when compared with undergraduate degrees, regardless of major. “The average earnings for BA’s now stands at \$48,000 compared with \$62,000 for graduate degrees. With the exception the Arts and Education, earnings for graduate workers range between \$60,000 and \$100,000” (*Not All College Degrees*, 2014, p. 6). Aside from employment opportunity and earning potential, there are numerous benefits an individual can expect to receive as a result of attaining PSE.

Benefits of higher education for the individual

The “benefits of college education are higher expected earnings, more pleasant jobs, lower expected unemployment rates and psychic benefits” (Tatlah, Naz, & Iqbal, 2011, p. 629). Regardless of what field of study an individual pursues, or degree he/she decides to major in, furthering ones education pays off as an investment. “For example, college-educated plumbers make on average 39 percent (or \$17,000) more when compared to non-college-educated plumbers and college-educated hairdressers earn 69 percent more than non-college-educated hairdressers. The marketplace values college degrees in every field and at every level” (*Smart Shoppers*, 2013, p. 7). According to Becker (1994), “Education and training are the most important investments in human capital” (p. 17). Human capital refers to a person’s productive capacity and “may be increased by investments in education, training and health care” (Tatlah, Naz, & Iqbal,

2011, p. 629). Higher education boosts human capital in terms of increased individual compensation, reduced unemployment, and mental health.

College graduates can expect a significant increase in individual compensation when compared with high school graduates. Baum, Ma, and Payea (2013) assert, “Median earnings of bachelor’s degree recipients with no advanced degree working full time in 2011 were \$56,500, \$21,100 more than median earnings of high school graduates” (p. 5). The authors go on to state that “the gap between the earnings of full-time workers whose highest degree is a bachelor’s degree and those of high school graduates grows from 54% (\$15,200) for 25- to 29-year-olds to 86% (\$32,000) for 45- to 49-year-olds” (p. 5). This is not a recent phenomenon; “the earnings of more educated people are almost always well above average” (Becker, 1994, p. 17).

An investment in a PSE is also accompanied by a decrease in unemployment. Starting early in 1980, workers with a PSE experienced a sharp increase in their demand (*Smart Shoppers*, 2013). “The 2012 unemployment rate for four-year college graduates ages 25-34 was 7.1 percentage points below that for high school graduates” (Baum, Ma, & Payea, 2013, p. 5). Employer demand for individuals with a PSE is especially prevalent in today’s economic climate. College professors are increasingly reliant on technology as a means for delivering curriculum; hence, it is mandatory for most students to become proficient using technology. Furthermore, many PSE institutions across the nation are taking advantage of technology through the offering of online classes. Online classes have many advantages over traditional face-to-face classes. These advantages include increased flexibility for students, distance education advantages, reduced costs due to a decrease in onsite infrastructure requirements such as classrooms, faculty offices,

printers, etc., and increased faculty to student ratios; more students per faculty credit hour translates into additional profits for PSE institutions or a chance to decrease tuition. An increased number of students are already taking advantage of these benefits. Reeves, Amin, Turqueti, and Day (2012) state, “In 2010, there were 14.4 million students taking onsite classes, and it is expected that this will go down to 4.1 million by 2015 because of rapid growth of online enrollments” (p. 26). The education and technical competencies students are gaining as part of their PSE are of great value to employers; hence, it is understandable why individuals with a PSE can expect an increase in employment opportunity. This does not mean employers expect college graduates to be experts in everything. They realize there may be gaps in the graduate’s education in terms of learning things specific to their organization; however, a PSE does indicate the person is capable of learning.

The main function of postsecondary education is to signal to employers that particular students are ambitious, hardworking, responsive to training, and ‘conformist.’ As a screening game, formal education is a mechanism that employers can use to identify “fast learners” who can be trained quickly at lower cost. (Osumadia, 2011, p. 64)

In lieu of all of this, it makes sense why college graduates are more frequently employed than those without a PSE.

There are many tangible and intangible benefits an individual can expect as a result of PSE attainment; therefore, an investment in human capital is a good investment. Becker (1994) summarized this nicely by saying,

Schooling, a computer training course, expenditures on medical care, and lectures on the virtues of punctuality and honesty are capital too in the sense that they improve health, raise earnings, or add to a person's appreciation of literature over much of his or her lifetime. Consequently, it is fully in keeping with the capital concept as traditionally denned to say that expenditures on education, training, medical care, etc., are investments in capital. However, these produce human, not physical or financial, capital because you cannot separate a person from his or her knowledge, skills, health, or values the way it is possible to move financial and physical assets while the owner stays put. (pp. 15-16)

In this day and age, it is especially beneficial to further one's education, which is not solely limited to acquiring a PSE. Earnings and employment opportunity increase upon graduating high school and continue to increase when a person acquires a PSE education certificate, degree, etc. (Baum, 2013; Becker, 1994; & Osumadia, 2011). Any enhancement in a person's educational credential is likely to result in an increase in pay, reduced unemployment, as well as a host of other paybacks. In addition to the benefits bestowed upon the individual people who acquire a PSE, there are also numerous benefits the U.S.A. realizes as a result of increasing the number of citizens with a PSE. "Society also gains, not just individual degree recipients" (*Is a Basic College Education*, 2014).

Benefits of higher education for the United States of America

The benefits associated with increasing the number of people with a college degree in the U.S.A. are abundant. According to Osumadia (2011), public social benefits of higher education "include civic engagement, increased charitable giving, lower public health costs, the production of a diverse cohort of leaders, and even the preservation of

cultural heritage” (p. 65). Furthermore, Baum, Ma, & Payae (2013, pp. 5-6) provide an extensive list of additional benefits higher education grants the country. They include but are not limited to the following:

1. “Federal, state, and local governments enjoy increased tax revenues from college graduates and spend less on income support programs for them, providing a direct financial return on investments in postsecondary education” (p. 5).
2. “College-educated adults are more likely than others to receive health insurance and pension benefits from their employers” (p. 5).
3. “In 2011, 12% of high school graduates ages 25 and older lived in households that relied on SNAP (Supplemental Nutritional Assistance Program) benefits, compared to just 2% of those with at least a bachelor’s degree. The pattern was similar for the National School Lunch Program” (p. 5).
4. “In 2011, employers provided pension plans to 52% of full-time workers with high school diplomas, 65% of those with bachelor’s degrees, and 73% of those with advanced degrees.” Furthermore, they “provided health insurance to 55% of full-time workers with high school diplomas, 69% of those with bachelor’s degrees, and 73% of those with advanced degrees” (p. 5).
5. “Among adults ages 45 to 64, 59% of high school graduates and 80% of bachelor’s degree recipients voted in the 2012 election” (p. 6).
6. “College education leads to healthier lifestyles, reducing health care costs” (p. 6).

7. “Of adults who grew up in the middle family income quintile, 31% of those with a four-year college degree moved up to the top income quintile between 2000 and 2008, compared with just 12% of those without a four-year college degree.” Furthermore, there is “substantial evidence indicates that the associations described above are the result of increased educational attainment, not just of individual characteristics” (p. 6).

The benefits for the U.S.A. as a result of increasing the country’s number of college graduates are not limited to the previous items; there are numerous other public benefits also included (Labaree, 1997; Marginson, 2007; Marginson, 2011; Murray, 2009; Osumadia, 2011; Sandlin, Burdick, and Norris, 2012; & Tatlah, Naz, and Iqbal, 2011). These public benefits are further expounded upon in the “Private Goods and Public Goods” section of this chapter.

Increasing the number of people with a PSE in the U.S.A. is critical for the countries success and continued welfare of the nation. Higher education “provides graduates and the nation at large with the skills needed to be effective in a global, increasingly competitive economy” (*Engaging Higher Education*, 2007, p.2). Furthermore, higher education serves “to close the achievement gap between those students in this country who are advantaged—educationally, culturally, and economically—and those who are not” (p. 2). Engendered positive rights such as a life, liberty, and the pursuit of happiness that U.S. citizens enjoy are possible due to a strong democracy; higher education “cultivates the educated citizenry necessary to maintain an enduring and vibrant democracy” (Osumadia, 2011, p. 65).

Perceptions of Higher Education

Even though there are numerous benefits people can expect to receive as a result of PSE attainment, many individuals decide not to attend college after graduating high school. There are a number of factors which contribute to this decision which include demographic and socioeconomic influences. Studies have shown that gender, age, ethnicity, level of education, and income level each influence one or more of the following: individual perceptions of higher education, decision to attend college, probability of completing college.

Gender, Age, and Race

According to Baum, Kurose, and Ma (2013), “Postsecondary outcomes differ by gender, by race, and by the age at which students first enroll. Women are somewhat more successful than men” (p. 47). In a 2003-04 study of students who in enrolled in college, 57% of females were still enrolled in or had successfully completed their bachelor’s degree, associate’s degree, or certificate compared to 43% males (Baum, Kurose, and Ma, 2013). While the study did not look at specific causes pertaining to the differences, it did indicate a clear distinction between males and females in terms of successful PSE attainment.

There is also a direct relationship between age and successful PSE attainment. The likelihood of completing a college degree decreases the longer an individual waits to enroll in college after graduating high school. In the previous 2003-04 study of students who in enrolled in college, 45% of students 18 years old or younger successfully completed their bachelor’s degree, compared with 28% of students 19 to 24, and 5% of students who were 25 or over (Baum, Kurose, & Ma, 2013). “Among students who

began college in 2006 at the age of 24 or younger and enrolled exclusively full time, 78% had earned a degree or certificate six years later” (Baum, Ma, & Payea, 2013, p. 6). “In 2012, 34% of adults between the ages of 25 and 34 had earned a bachelor’s degree or higher” (Baum, Ma, & Payea, 2013).

Lastly, successful PSE attainment varies greatly between ethnic groups. These differences begin with variances in college enrollment rates. In a study of individuals who immediately enrolled in college upon graduating high school, enrollment number varied significantly based on ethnicity.

The gaps between the college enrollment rates of black and Hispanic high school graduates and white high school graduates narrowed considerably between 2001 and 2011, when 70% of white, 66% of black, and 62% of Hispanic high school graduates enrolled in college within a year of completing high school. (Baum, Ma, & Payea, 2013, p. 6)

There are also differences among ethnic groups when examining successful completion of academic programs in higher education. “Forty-six percent of Asians and 36% of whites who first enrolled in 2003-04 had earned bachelor’s degrees six years later, compared to only 17% of blacks and Hispanics” (Baum, Kurose, & Ma, 2013, p. 51). Furthermore, “In 2012, the percentage of 25- to 29-year-olds with at least a bachelor’s degree ranged from 11% for Hispanic males to 43% for white non-Hispanic women” (Baum, Ma, & Payea, 2013, p. 6).

Level of Education

Perceptions pertaining to the value of a PSE education are strongly influenced by an individual’s upbringing during the time of adolescence. “Parents have a large

influence on the education, marital stability, and many other dimensions of their children's lives” (Becker, 1994, p. 21). According to DeSerf (2002), “Human capital literature closely links educational attainment of children to the backgrounds of their parents. Accordingly, parents' educational attainment is a resource input in their children's human capital” (p.7). It is natural for children to emulate their parents and parents provide guidance to their children based on their own beliefs and values; therefore, it is understandable that a child’s predisposition towards PSE may be similar to that of their parents. A child’s perception of PSE is not limited to the general perceptions parents have towards higher education. “Educated parents have the resources to teach and help their children outside of the classroom. They act as a resource themselves” (p. 8). In short, the prevalence of education in the home is more abundant among households with a higher net education level (DeSerf, 2002).

Income Level

Existing research suggests a positive relationship between the income levels of a child’s family and its effect on the child’s educational attainment. Families with higher incomes are able to provide items around the household which augment an individual’s human capital. The opportunities to purchase educational devices such as books and computers are more abundant for families with higher income levels. The existence or absence of educational resources in the household potentially supports or dampens a child’s interest in learning (De Serf, 2002). Moreover, research has indicated propensity to attend college after graduating high schools increases as family income increases.

The college enrollment rate of high school graduates from the lowest family-income quintile increased from 42% in 1992 to 50% in 2002, and to 52% in

2012. The rate for middle-income students increased from 53% to 55% to 65% over these decades, while 78% of the highest-income high school graduates enrolled in college in 1992 and in 2002, and 82% enrolled in 2012. (Baum, Ma, & Payea, 2013, p. 6)

An individual or families socioeconomic' status (SES) also impacts the decision as to whether or not high school students pursue a PSE. The American Psychological Association describes SES as the ranking or status of an individual or family when compared to other individuals and/or families based on a combination of the following: occupation, level of income, level of education (*American Psychological Association*, 2014). In a survey of senior high school students, 52.6% of individuals with a higher socioeconomic status (SES) definitely planned on attending college upon graduation as opposed to 31.2% of individuals with a lower SES; furthermore, 18.9% of senior high schools students with a low SES saw no point in going to a university as opposed to 7.7% with a higher SES (*What Factors Affect*, 2013).

It is encouraging to note that the overall number of high school students attending college upon graduation has increased over the last three decades from 50% to 70%. While there has been positive overall growth, there are still too few students from low-income families who are enrolling and doing well in college. Recent data shows that approximately 82% of high school students coming from high-income families enroll in college classes upon graduation as opposed to 54% of low-income students (*Smart Shoppers*, 2013). Furthermore, Ashtiani and Feliciano (2012) proclaim that students who postpone enrolling in college after graduating high school are less likely to complete a four-year degree. According to Ashtiani's and Feliciano's study, "a full 70% of 18- to

22-year-olds who grew up in poverty had not yet enrolled in PSE. In contrast, less than half (41%) of higher-income youth in the same age range had not yet enrolled” (p. 3). Income level strongly influences high school seniors’ decision to immediately enroll in college after graduation, or whether or not he/she decides to delay enrollment.

College completion rates are also impacted by income and SES. Research indicates a relationship between personal income level and tendency to complete a college degree once enrolled. According to Baum, Kursoe, and Ma (2013), “Students from the lowest family income quartile are less than half as likely as those from the highest-income quartile to earn bachelor’s degrees”... and “are almost twice as likely (38% vs. 20%) to leave school without a degree” (p. 51).

Post-Secondary Education: Private Good or Public Good

George Washington, the U.S.A.’s first president, advocated the creation of a national university by “citing the need to assimilate youths in the ‘principles, opinions, and manners of our countrymen,’ so that the union could be made more permanent, and the liberties of the country better guarded” (Osamudia, 2011, p. 61). Higher education was originally founded to maintain specific beliefs and values which augment the beliefs and values of the nation. Preserving these beliefs and values by increasing PSE attainment supports the public good. However, PSE institutions are increasingly being dominated by market influences and shying away from activities which are unprofitable. In a 2002 public forum among students, educators, and policy makers, participants were in agreement that higher education was founded on a tradition of public service. In recent years, however, PSE institutions are not responding as well to the U.S.A.’s most challenging social requirements. “As institutions become more closely linked to for-

profit activities and market-forces, America's colleges and universities are in danger of losing their privileged status as guardians of the public interest" (*Higher Education for the*, 2003, p. 19). Furthermore, "The last three decades have witnessed a decreased willingness to make public policy a key lever for engaging higher education institutions in addressing public purposes" (*Engaging Higher Education*, 2007). Even though higher education was founded with the public good in mind, as previously discussed the benefits of PSE attainment are both private and public; meaning individual PSE attainment provides personal and public benefits (Marginson, 2007). The question remains as to what the current goals of PSE institutions are. Labaree (1997) summarized this succinctly when he asked the following questions:

Should schools present themselves as a model of our best hopes for our society and a mechanism for remaking that society in the image of those hopes? Should schools focus on the adapting students to the needs of society as currently constructed? Or should they focus primarily on serving the individual hopes and ambitions of their students? (p. 41)

In the following sections the author further discusses PSE attainment as viewed through two distinct lenses: PSE as a private good and PSE as a public good.

Post-Secondary Education as a Private Good

Marginson (2007) states, "Public goods are goods that (1) have a significant element of nonrivalry and/or non-excludability, and (2) goods that are made broadly available across populations" (p. 315). "Few goods are both fully non-rivalrous and fully non-excludable but many have one or other quality in part or full. Goods with neither quality are classified as fully private goods" (Marginson, 2011, pp. 415-16). In short,

private goods are goods which are finite in that they can be fully consumed. A private good is also a good which is limited to a specific consumer, meaning the benefits are exclusive and do not extend beyond that person.

Sandlin, Burdick, and Norris (2012) explain how consumerism has redefined virtually every aspect of our environment, including our current educational system. The authors argue that the U.S.A.'s democratic system is driven by the competitive nature of the market system. They coin the term "consumerocracy" to explain how corporate and administrative ideologies are perpetuated by competition and profitability. Current commercialism in schools allows companies to profit by marketing products directly to students. Students are being educated in an environment where many precepts have nothing to do with learning. As a result, students' psyches are molded into that which embraces consumerism. "When public education becomes a venue for making a profit, delivering a product, or constructing consuming subjects, education reneges on its responsibility for creating a democracy of citizens by shifting its focus to producing a democracy of consumers" (Sandlin, Burdick, & Norris, 2012, p. 162).

Post-Secondary Education as a Public Good

Marginson (2011) defines a public good as something that is non-rivalrous, that is to say something which is unable to be depleted when consumed, and non-excludable; meaning the benefits are not limited to consumers. He posits universal knowledge and information are two of the most significant public goods created in higher education. Murray (2009) summarizes a number of public benefits of a higher education. He makes a clear distinction between individual benefits and social benefits. Public benefits of higher education include a better functioning society, healthier populations, enhanced

regional development, increased social cohesion, reduced crime, enhanced parental promotion of education, and facilitation of social skills. Murray supports these assertions by citing numerous quantitative studies conducted in the United States, Europe, and Australia. He concludes by stating that even though higher education directly benefits the individual, there are multiple indirect societal benefits which result from a highly educated population. According to Marginson (2007), higher education is going to provide societal benefits regardless of commercialization. “Higher education produces certain public goods whether it is marketised or not. The classic public goods are knowledge, collective literacy and common culture” (p. 318). Murray (2009) states, “that benefits such as better health, better job prospects and higher social status are likely to accrue to individuals but have spin-off societal benefits including less need for national spending on health and welfare and a larger tax base to provide national social benefits” (p. 240). Thus, there are benefits resulting from a PSE which are not limited to the individual consumer who pays for it.

For example, the training of a manager may render not only her or his own work more profitable and productive, but render more profitable and productive the work of others. Likewise, when a consumer becomes literate through education, she or he becomes receptive to the print-based marketing of a range of products provided by companies that did not pay for the costs of the education. (Marginson, 2007, p. 312)

“The preserved writings of the Founding Fathers further reflect an understanding of higher education as a public good” (Osamudia, 2011, p. 61). Universities and public colleges are “an extra-constitutional mechanism to preserve the republic by broadening

the diffusion of learning across social classes and enlarging the population of persons possessing the skills required for democratic governance and useful in diversifying the economy” (p. 62).

Post-Secondary Education Shift to a Private Good

Labaree (1997) explains higher education's shift from a public good to a private good as a result of tension between the market and the polis. He identifies three specific goals that guide educational policy and purpose; these are democratic equality, social efficiency, and social mobility. Democratic equality is the idea that it is the duty of a democratic society to prepare its youth with equivalent care in terms of them becoming responsible citizens. Social efficiency is distinguished from democratic equality in that it prepares youth to make economic contributions to the welfare of society and adapt to the existing social structure of that society. Social mobility suggests education serves to provide students with a competitive advantage over others. Labaree asserts that democratic equality and social efficiency see education as a public good while social mobility views education as a private good. He posits that these three goals are all prevalent among educational institutions and provide positive and negative results, even though the first two are often in direct contradiction with the third. The author concludes that the leading threat is the increasing supremacy of social mobility over the others, which has led to education being conceptualized as more of a private good.

Marginson (2011) follows up on Labaree's conclusion by noting that higher education is commonly viewed through the lens of three, as the author refers to them, imaginaries. These imaginaries are higher education as a market, higher education as field of competition, and higher education as a network of partnerships. Politics

continues to shape higher education and the current emphasis on university rankings prompts administrators to make decisions that are designed to increase the universities status as opposed to promoting the public good. According to Marginson, universities need to focus more on promoting higher education as a global public good. These types of decisions are impacting student perceptions of PSE attainment. “Students tend to see their education in much more instrumental terms. Instead of viewing the college or university experience as an intrinsic good, it’s [sic] seen as something you do in order to get somewhere else” (*Higher Education for the*, 2003, p. 21). In short, students are increasingly viewing PSE attainment as a private good; something they need to attain to better their personal lives. Even though the country still benefits as a result individual PSE attainment, the viewpoint of higher education as a public good has shifted to that of a private good; this shift is causing discord among citizens when debating whether or not to promote and/or fund public higher education in the U.S.A..

This discord is especially prevalent in areas of the country which are economically depressed. States and regions in the U.S.A. experiencing high unemployment, low per capita income, and low PSE attainment rates are in need of the public social benefits provided by a more educated population. Southeast Missouri is a prime example of one of these regions.

Socioeconomic Data for Southeast Missouri

According to the United States Census Bureau, Missouri is a Midwestern state with a population of 5,988,927 (*United States Census Bureau*, 2014). The state is primarily rural with a large percentage of the population residing in and around Jefferson City, Kansas City, Springfield, and St. Louis. The state is comprised of 115 counties of

which approximately 28 make up Southeast Missouri. Cape Girardeau County is midsized town of approximately 75,000 people located in the heart of Southeast Missouri (*Missouri Census Date Center, 2014*). Cape Girardeau is the largest town south of St. Louis and east of Springfield which makes it a hub for goods and entertainment for many surrounding towns and counties.

In a 2014 composite ranking of counties based on economic well-being, health, protection and safety, and education, Cape Girardeau County ranked number 44 out of the 115 counties which make up Missouri. It is interesting to note, however, that out of the 23 most economically depressed counties in the entire state, 12 of these are either neighboring or in close proximity to Cape Girardeau (*Missouri Office of Social, 2014*). This is striking when considering Cape Girardeau County is within three counties of approximately 19 Missouri counties. In short, over 60% of the counties surrounding Cape Girardeau County represent more than 50% of the most economically depressed areas in the entire state. Table 1 below represents the per capita income and percentage of the population 25 years or older who are college graduates for each of these economically depressed counties as well as Missouri counties adjacent to Cape Girardeau county; Cape Girardeau county is also included for comparison purposes.

Table 1

Per Capita Income and Higher Education Attainment Rate for Southeast MO Counties

County	Per Capita Income	% College Grads >= 25yrs	Date
Bollinger*	\$18,709.00	9.7	2013
Butler	\$18,429.00	12.4	2013
Cape Girardeau	\$23,064.00	26.6	2013
Carter	\$15,597.00	12.5	2013
Dunklin	\$17,479.00	11.3	2013
Iron	\$18,153.00	10.7	2013
Mississippi	\$15,532.00	10.7	2013
New Madrid	\$20,373.00	13.1	2013
Pemiscot	\$16,365.00	10.3	2013
Perry*	\$21,693.00	13	2013
Reynolds	\$17,560.00	6.9	2013
Ripley	\$14,966.00	9.9	2013
Scott*	\$20,300.00	14.9	2013
Stoddard*	\$22,742.00	11.2	2013
Washington	\$16,246.00	8.1	2013
Wayne	\$17,925.00	8	2013
<i>*Cape Girardeau County – Adjacent MO Counties</i>			
Missouri	\$24,858.00	25.6	2013
United States	\$28,051.00	28.5	2008-'12

(Missouri Office of Social, 2014 & United States Census, 2014)

It easy to see how Cape Girardeau is somewhat of an anomaly when compared to most neighboring counties. This increased higher education attainment rate can be partially attributed to the fact that Cape Girardeau, MO is home to Southeast Missouri State University which is the only four year college south of St. Louis and east of Springfield. Furthermore, the average per capita income for the entire state of Missouri was \$24,858 and percentage of the population 25 years or older who are college graduates was 25.6% during the same period. Comparing these numbers to average state numbers not only

indicates most of the counties around Cape Girardeau are academically and economically depressed, but also shows Cape Girardeau County to be economically depressed as far as per capita income average when compared with the state average. Additionally, the national average per capita income for males and females across all education levels in 2009 was \$62,445 and \$44,857 respectively (*United States Census Bureau, 2014*). So, even though Cape Girardeau seems to be doing well when compared with neighboring counties, a per capita income of \$24,858 is below national averages.

Examination of students eligible for free and reduced lunches within the target area of this study further accentuates the areas position as an underserved region. Table 2 below represents 2013 free and reduced lunch statistics provided by the Missouri Department of Elementary and Secondary Education for public schools located within Cape Girardeau County and neighboring counties which include Bollinger County, Perry County, Scott County, and Stoddard County.

Table 2

Free and Reduced Lunch Statistics for Southeast MO Schools

MISSOURI	Free/Reduced Lunch %	Total Enrollment	F & R Students
<i>STATE AVERAGE</i>	48.79%	887546	433062

Cape County Schools	Free/Reduced Lunch %	Total Enrollment	F & R Students
Cape Girardeau 63	60.37%	4031	2433.7
Delta R-5	52.44%	307	161
Jackson R-2	35.45%	4637	1643.7
Nell Holcomb R-4	43.34%	293	127
Oak Ridge R-6	38.46%	325	125
<i>CAPE COUNTY</i>	46.81%	9593	4490.4

Bollinger County Schools	Free/Reduced Lunch %	Total Enrollment	F & R Students
Leopold R-3	29.35%	184	54
Meadow Heights R-2	56.45%	516	291.3
Woodland R-4	61.13%	923	564.2
Zalma R-5	68.20%	239	163
<i>BOLLINGER COUNTY</i>	57.60%	1862	1072.5

Perry County Schools	Free/Reduced Lunch %	Total Enrollment	F & R Students
Perry County 32	49.33%	2331	1149.8
Altenburg 48	46.60%	103	48
<i>PERRY COUNTY</i>	49.21%	2434	1197.8

Scott County Schools	Free/Reduced Lunch %	Total Enrollment	F & R Students
Scott City R-1	53.36%	833	444.5
Oran R-3	42.23%	349	147.4
Sikeston R-4	63.45%	3481	2208.6
Kelso C-7	30.77%	91	28
Chaffee R-2	54.56%	625	341
Scott County R-4 (Kelly R-4)	56.03%	962	539
Scott County Central R-5	74.92%	319	239
<i>SCOTT COUNTY</i>	59.27%	6660	3947.5

Stoddard County Schools	Free/Reduced Lunch %	Total Enrollment	F & R Students
Advance R-4	54.67%	450	246
Bell City R-2	66.02%	206	136
Bernie R-13	59.27%	545	323
Bloomfield R-14	57.04%	696	397
Dexter R-6	49.63%	2081	1032.8
Puxico R-8	61.65%	691	426
Richland R-1	63.97%	247	158
<i>STODDARD COUNTY</i>	55.31%	4916	2718.8

(Missouri Department of Elementary, 2014)

Out of the 25 public schools residing in this region, 18 of these schools have a higher percentage of students eligible for free or reduced lunches than the state average. It is also interesting to note that, even though the per capita income and education level of Cape Girardeau County is elevated when compared with neighboring counties, the percentage of students eligible for free or reduced lunches in the Cape Girardeau public school district is higher than 17 schools when compared with other schools in the region.

Conclusion

This literature review contains elements designed to support this study. The author first focused on literature pertaining to the United States of America's decline in world rankings in terms of higher education attainment. The author also looked at literature outlining the benefits U.S. citizens received as a result of increased PSE (Post-secondary education) attainment rates. Familiarization with the country's tentative position as well as the benefits a boost in this position has for all U.S. citizens lends credence to this study.

The author also examined literature focusing on various factors that affect individual perceptions of higher education. In particular, studies indicating the influence of specific demographic and socioeconomic factors, as identified in the independent

variable, have on perceptions of higher education and PSE attainment. Along with this, the author examined literature pertaining to public goods and how they differ from private goods. Ascertaining a consistent definition of public good and private good was critical for this study since it relates directly to the primary research question.

Lastly, the author inspected literature centered on southeast Missouri's position as an underserved region in an underserved state. Per capita income rates and higher education attainment statistics were examined and compared with state averages in order to highlight the needs of the southeast Missouri region.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

The percentage of individuals with a postsecondary education (PSE) in the U.S.A. is declining (Bound, 2010). Numerous studies indicate a plethora of benefits individuals and the country realize as a result of PSE attainment (Baum, 2010; Levin, 2007). This reduction in graduates has had a negative impact on the economic development of the southeast Missouri region in particular. This study will provide insight into perceptions representatives of southeast Missouri have towards PSE; specifically the perception of PSE as a private good or a public good. This information will be beneficial to university leaders and policy makers at Southeast Missouri State University as they seek to satisfy the mission of the university which includes providing a competent workforce for the region (*Mission*, 2011).

The methodology utilized to explore the perceptions representatives of southeast Missouri have towards higher education as a private good or public good is discussed in this section. Explanations of the purpose of this study along with research questions I intend to answer are indicated. Also provided are details pertaining to the selection of participants, survey instrument, and how data will be analyzed.

Research Purpose

The purpose of this quantitative study is to ascertain whether or not representatives of southeast Missouri residing in Cape Girardeau County and Missouri counties bordering Cape Girardeau County perceive higher education as a private good or a public good. The notion that higher education is viewed primarily as a private good

will frame this study. Furthermore, I seek to determine whether this perception varies based on demographic and socioeconomic factors.

Research Questions

Within the context of this study, the following research questions will be addressed:

1. Do representatives of southeast Missouri view higher education as a private good or a public good?
2. How do perceptions of higher education as a private good or public good influence the value representatives of southeast Missouri place on higher education attainment?
3. How do perceptions of higher education as a private good or public good vary based on demographic and socioeconomic factors among representatives of southeast Missouri?

Research Design

There are three primary inquiry strategies researchers can utilize when constructing an overall design for conducting their research; these include quantitative, qualitative, and mixed-methods strategies (Creswell, 2009). For this particular study I have determined that a quantitative strategy is most appropriate. Creswell (2009) states, “Quantitative research is a means for testing objective theories by examining the relationship among variables. These variables can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures” (p.233). For this study, demographic factors include gender and age; socioeconomic factors include the research participant’s income bracket, perceived income bracket of the research

participant's parents when an adolescent, participant's level of education, and the research participant's parent or guardian's level of education when the research participant was an adolescent.

Following Creswell's definition for quantitative research indicated above, the design for this study is as follows:

1. Objective Theory: The general perception of higher education as a public good has changed.
2. Dependent Variable: Perception of higher education as a private good or public good.
3. Independent Variables: Gender, age, income bracket, participant level of education, and participant's parent or guardian's level of education.
4. Data Collection Instrument: Survey
5. Data Collection: Numerical (Likert scale)
6. Statistical Analysis: Mean and mode descriptive analysis will be utilized to determine overall perceptions and analysis of variance (ANOVA) tests to determine differences in perceptions based on independent variables.

The nature of this study lends itself to a quantitative design. In contrast to qualitative and mixed-methods research designs, quantitative designs are utilized to make generalizations among samples of large populations (Patton, 1990). These generalizations are void of interpretation and indicative of research designs rooted in post-positivist paradigms (Creswell, 2009). According to Hatch (2002),

Researchers in this paradigm see themselves as data collection instruments, and they use disciplined research techniques such as 'constant comparison' (Glaser &

Strauss, 1967) or ‘analytic induction’ (Robinson, 1951) to ensure that empirical data, and not their impressions, drive their findings (p. 14).

It is my intent to make generalizations pertaining to samples of a population based purely on empirical evidence (Grix, 2004). Furthermore, Ravitch & Riggan (2012) posit the following regarding post-positivism, “The defining characteristics of this view of theory is that it concerns itself with concepts or constructs *as they are thought to exist*, and places less emphasis on questions of how or why they are thought to exist” (p. 17). This study is not designed to deal with why study participants believe what they do regarding higher education as a private good or public good, but to determine what their beliefs are.

Utilizing a quantitative research design will provide the best method for determining existing perceptions of higher education as a private good or a public good. Moreover, statistical analysis of the data gathered will allow me to identify trends and relationships among the dependent and independent variables. A quantitative method will allow me to formulate an overall picture of how southeast Missourian’s in Cape Girardeau County and Missouri counties bordering Cape Girardeau County perceive higher education and the influence specific demographic and socioeconomic factors have on those perceptions.

Research Design Methodology

For this study, I will employ a quantitative survey design method to collect data from participants. According to Creswell (2009), “A survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population” (p. 145). Post-positivists commonly use survey and experimental design methods to collect data. Both are suitable since “examining the

relationships between and among variables is central to answering questions and hypotheses through surveys and experiments” (p. 145). For this study, a survey design as opposed to an experimental design is more appropriate. “The basic intent of an experimental design is to test the impact of a treatment (or an intervention) on an outcome, controlling for all other factors that might influence that outcome” (p. 145-46). Since the individuals participating in this study will not be subjected to a treatment or intervention, it would be incorrect to employ an experimental design.

Population and Sample to be studied

This quantitative study focuses on the perceptions of higher education within Cape Girardeau County and Missouri counties bordering Cape Girardeau County in southeast Missouri which include Bollinger County, Perry County, Scott County, and Stoddard County. The population to be surveyed will include citizens 18 years or older currently residing within the target region. The total population of the target region, which includes citizens under 18, is approximately 76,950 (*U.S. Department of Commerce, 2013*).

Sampling Procedure

For this study, a quasi-experimental design procedure will be utilized in order to identify participants. According to Fink (2009), “Quasi-experimental designs are comparison group designs in which the groups are constituted by volunteers or convenience” (p. 65). Cape Girardeau County and Missouri counties bordering Cape Girardeau County are primarily rural with a large portion of the overall population residing in and around Cape Girardeau and Jackson; the two largest towns in the region. According to Field (2009),

The bigger the sample, the more likely it is to reflect the whole population. If we take several random samples from the population, each of these samples will give us slightly different results. However, on average, large samples should be fairly similar. (p. 35)

In order to be 95% certain the sample size is reflective of Cape Girardeau County and Missouri counties bordering Cape Girardeau County, survey data from a minimum of 385 participants must be collected. This value is obtained from the following formula which is used for very large populations or when the exact number of the population is unknown:

$$\text{Sample Size} = \frac{(Z^2) * (\sigma) * (1 - \sigma)}{C^2}$$

Where: $Z = 1.96$ for a 95% confidence level.

$\sigma = .5$ standard deviation.

$C = .05$ or 5% confidence interval (*Qualtrics*, 2013).

Optimizing survey response rates is critical; large samples lend credibility to research studies by reducing sampling error (Fink, 2009). According to Kanuk and Berenson (1975), there are a number of factors that influence survey response rates. These factors include “timing (i.e., preliminary, concurrent, and follow-up efforts) and... technique (i.e., questionnaire length, size, survey sponsorship, return envelope and stamps, personalization of letter, method of reproduction, format, layout, color, anonymity, premiums or rewards, and deadline date)” (p. 440). The authors go on to state, “Despite the large number of research studies reporting techniques designed to improve response rates, there is no strong empirical evidence favoring any techniques other than the follow-up and the use of monetary incentives” (p. 451). For this study, a

\$1.00 monetary incentive offered to individuals as an incentive to participate in the study. Furthermore, employing a quasi-experimental design procedure to identify participants will also encourage a positive response rate since they are easier to implement (Fink, 2009).

Participant Selection Process

Participants for this study will be identified through convenience sampling. According to Fink (2009); “A convenience sample is one that you get because people who are willing to complete the survey are also available when you need them” (p. 56). Convenience sampling is a popular choice and often utilized by researchers in quantitative studies.

A known drawback of convenience sampling is bias (Creswell, 2009; Fink, 2009). Even though surveys will be administered in high traffic locations in Cape Girardeau and Jackson where the largest portion of the target area population resides, every individual residing in the target area will not have an equal probability of being selected. As a result, there is the possibility that responses will not be representative of the population.

Because groups are not randomly constituted, their initial differences may be responsible for or become confounded with the outcome. The surveyor must do everything possible to prevent these initial differences, say, by matching the groups on factors or variables that may interfere with outcomes. The variables may include education, motivation, income, and so on. Statistical methods are available that help control these differences. (Fink, 2009, p. 65)

The researcher will relieve response bias by increasing research credibility; this will be established by taking a large sample which is more likely to reflect the entire population

and analyzing results based on the independent variables outlined in this study (Fink, 2009).

Data Gathering Tools and Procedures

A paper survey will be utilized to gather information from study participants. Paper surveys have many advantages over other data collection methods such as online surveys, telephone interviews, and in person interviews. Paper surveys are extremely effective in reaching large geographical areas and are not reliant on access to or familiarization with computers or the internet to complete. A primary disadvantage of mailed is encouraging participants to respond (Fink, 2009); this disadvantage will be omitted since surveys will be administered in person through convenience sampling. As previously discussed, response rates can be further improved by providing monetary compensation for completion (Kanuk and Berenson, 1975); which will be utilized in this study. Survey questions are designed to answer the research questions as well as gather specific demographic and socioeconomic information. Data will be collected from sample participants over a course of three months and Statistical Process of Social Science (SPSS) software will be utilized to analyze the data.

Data Collection Procedures

Data will be collected in July 2014. Surveys will be administered in high traffic locations in Cape Girardeau and Jackson where the largest portion of the target area population resides. Administrators will provide willing participants with a brief explanation of the study, a letter of informed consent which participants must agree to and sign prior to participation in the study, directions on proper completion of the survey, and a one dollar monetary compensation for participation in the study.

Instrument

A quantitative survey was developed (see Appendix A for sample) to explore the perceptions representatives of southeast Missouri have towards higher education and PSE attainment. The survey instrument employed in this study is divided into two sections. The first section will ask questions concerning demographic information pertaining to the participant; examples of demographic information include gender, age, and ethnicity. In addition to the demographic questions, questions concerning socioeconomic information pertaining to the participant will also be asked; examples of socioeconomic information include income bracket, education level, and occupation. The second section will ask specific questions pertaining to each of the three research questions. Questions in this section will employ a Likert scale in which participants indicate how much they agree or disagree with the statement. A Likert scale is a type of ordinal scale which is simple to use and understand. Likert scales usually have five points; however, I will employ a 6-point scale in order to avoid neutral responses (Fink, 2009). For each of the questions pertaining to the research questions, the subsequent responses will be available:

1. Definitely agree, 6
2. Agree, 5
3. Agree more than disagree, 4
4. Disagree more than agree, 3
5. Disagree, 2
6. Definitely disagree, 1 (Fink, 2009).

Open ended questions will also be provided in order to give participants an opportunity to respond in greater detail regarding their perceptions of higher education and PSE

attainment. This information will be used to increase overall understanding of the quantitative data as well as provide context. Open ended question responses will not be subjected to any specific qualitative analysis or be included in the data analysis section of this study.

Instrument piloting.

A pilot survey was administered to a sample of the target population in order to ensure reliability. Fink (2009) offers several guidelines for conducting an unbiased pilot of a survey. These include:

1. Anticipating actual circumstances;
2. Piloting sample portions of the survey in an informal fashion;
3. Choosing respondents similar to study participants;
4. Recruiting as many individuals as possible;
5. Ensuring all relevant topics are covered; and
6. Testing the instruments ability to obtain a variety of answers.

Pilot surveys were collected in June 2014. Adhering to Fink's recommendations, the instrument was administered informally amongst willing participants. Individuals completing the pilot surveys were similar to the target population given they were 18 years or older and residing in the target region. Furthermore, the surveys ability to obtain a variety of answers was tested by administering pilot surveys among individuals representing various demographic and socioeconomic characteristics.

Validity

Fink (2009) states, "A survey is valid if the information it provides is an accurate reflection of respondents' knowledge, attitudes, beliefs, and behavior" (p. 43).

Furthermore, “a survey can be validated by proving its items or questions accurately represent the characteristics or attitudes they are intended to measure” (p. 43). This is referred to as content validity. Content validity can be ascertained by “referring to theories about personality, emotions, and behavior and by asking experts whether the items are representative samples of the attitudes and traits you want to survey” (p. 43). I utilized this method to validate my pilot survey prior to administering it to the sample population.

Reliability

Instrument reliability refers to the instruments ability to replicate results under comparable conditions. The test I performed prior to administering the survey to the sample population was Cronbach’s Alpha. According to Field (2009), Cronbach’s Alpha is a statistical measure of reliability which involves “splitting data in two in every possible way and computing the correlation coefficient for each split” (p. 674). If the scores on both halves of the data correlate with each other, the scale is considered reliable (2009). Cronbach’s Alpha reliability tests were performed on the data gathered from pilot surveys to ensure the survey was reliable.

Pilot Survey Reliability Analysis

Twenty-nine pilot surveys were administered to willing participants 18 years of age and older residing in the target region. The survey consisted of 10 questions designed to answer the research questions. Cronbach’s Alpha for the 10 questions was .519 (see Table 3 below). According to Field (2009), a value “of .7 to .8 is an acceptable value for Cronbach’s Alpha; values substantially lower indicate an unreliable scale” (p.

675). The low Alpha resulted in additional examination of each specific item to determine which question(s) need to be revised and/or excluded to obtain reliability.

Table 3

Cronbach's Alpha Reliability Analysis for 10 Item Pilot Survey

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.519	.572	10

Examination of the research questions indicated items seven and 10 of the instrument were questionable. Cronbach's Alpha for the survey items, excluding questions seven and 10, was .763 (see Table 4 below). An Alpha value of .763 is an acceptable value and indicates good reliability (Field, 2009).

Table 4

Cronbach's Alpha Reliability Analysis for Eight Item Pilot Survey

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.763	.771	8

As a result of these reliability analyses, questions seven and 10 were eliminated from the instrument. The researcher determined that elimination of these questions would not inhibit the instruments capacity to answer the research questions.

Human Subjects Protection

Research studies involving human subjects, such as this one, must include procedures to protect the identity of participants. It is the responsibility of the researcher to ensure that sensitive information collected from participants is kept confidential and avoids any conflicts of interests. A letter of informed consent will be provided (see Appendix B for sample) to participants as part of the survey packet so they are made fully

aware of any risks involved prior to participation. According to Fink (2009), “The consent form gives potential respondents sufficient written information to decide whether to complete the survey” (p. 45). As a researcher, I will ensure that human subjects participating in my study are protected by keeping all information confidential and following procedures set by the Campus Institutional Review Board (IRB) at the University of Missouri. “All human subject research must be reviewed, prospectively approved, and subject to continuing oversight by the IRB to assure the safety and welfare of research participants remains in compliance with governing federal regulations and guidance” (*Research at Mizzou*, 2013). My research proposal will be reviewed and approved by campus IRB at University of Missouri prior to collecting data from any human subjects.

Data Analysis Procedures

A database will be utilized to input quantitative data gathered from the surveys. SPSS analysis software will be used to construct this database and perform statistical analysis on quantitative data pertaining to the following dependent and independent variables:

1. Dependent Variable: Perception of higher education as a private good or public good.
2. Independent Variables: Gender, age, income bracket, participant level of education and participant’s parent or guardian’s level of education.

Data will be subjected to mean and mode descriptive analysis to determine overall perceptions participants have towards higher education. Factorial ANOVA tests will be

conducted to determine differences in perceptions based on the independent variables as well as identify potential interactions among the independent variables.

Mean and mode analysis will be conducted on the entire sample population to determine the central tendency of survey respondents; i.e. do representatives of southeast Missouri perceive higher education as a private good or public good? Mode analysis will be conducted for each survey question to determine the overall score for that question. One problem with mode analysis is the prevalence of multiple values which makes it difficult to find the middle of the frequency distribution (Field, 2009). In lieu of this, mean analysis will also be conducted on the data to determine central tendency. Determining the central tendency will help answer the following question: On average, do representatives of southeast Missouri perceive higher education as a private good or public good?

According to Field (2009), “When an experiment has two or more independent variables it is known as a *factorial design* (this is because variables are sometimes referred to as *factors*)” (p. 422). Factorial ANOVA tests will be utilized to explore if there are significant differences in participant perceptions of higher education as a private good or public good based on the independent variables. Conducting a factorial ANOVA also allows the researcher to identify potential interactions among independent variables (Field, 2009).

A factorial ANOVA test at the .05 *p*-level will be conducted to determine if there are statistically significant differences among participant’s perceptions of higher education as a private good or public good and the independent variables as identified in the following null hypotheses:

1. There are no differences in overall perceptions representatives of southeast Missouri have of higher education as a private good or public good.
2. There is no difference in the value representatives of southeast Missouri place on higher education attainment based on their perception of higher education as a private good or public good.
3. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the gender of the southeast Missourian.
4. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the age of the southeast Missourian.
5. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the income bracket of the southeast Missourian.
6. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the perceived income bracket of the southeast Missourian's parents when an adolescent.
7. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the education level of the southeast Missourian.

8. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the education level of the southeast Missourian's parent or guardian.

Determining the central tendency of perceptions of study participants and variations in those perceptions based on the independent variables is most appropriate for accepting or rejecting these six null hypotheses and answering the research questions posed in this study.

Parametric Testing, Normality of Distribution, and Ordinal Data

Traditionally, the use of parametric tests such as ANOVA requires data sets to possess certain characteristics in order to ensure accuracy. These characteristics include normal distribution and interval or ratio data (Field, 2009). Utilizing a parametric test to analyze data sets which lack these characteristics is questionable among conventional statisticians. However, many studies have exemplified the robustness connected with modern parametric statistical procedures and support the use of parametric tests on ordinal data and/or data lacking normal distribution. Modern statisticians argue that the conclusions derived from employment of these methods are closely akin if not nearly identical to 'true' results (Norman, 2010).

Many individuals will dispute the use of ANOVA for data which are not normally distributed. However, it is important to note that "for the standard t tests, ANOVAs, and so on, it is the assumption of normality *of the distribution of means*, not of the data (Norman, 2010, p. 4). Furthermore, the central limit theorem states "that when samples are large (above about 30) the sampling distribution will take the shape of normal distribution regardless of the shape of the population from which the sample was drawn"

(Field, 2009, p.782). Large sample sizes “do not require the assumption of normality, and will yield nearly correct answers even for manifestly nonnormal and asymmetrical distributions” (Norman, 2010, p.4).

Another common concern revolves around the use of parametric tests on ordinal data. Data obtained through the use of a Likert scale, such as the one employed in this study, is inherently ordinal; that is to say, one cannot assume that the distance between the values on the Likert scale are equal. Although this may be true, “Likert scales, consisting of sums across many items, will be interval” (Norman, 2010, p 5). For example, it is a common practice for teachers to aggregate correct responses on multiple choice tests into an overall score which is intended to be interval, even though each individual item is nominal. Furthermore, as long as “numbers are reasonably distributed, we can make inferences about their means, differences or whatever” (p. 5).

According to Norman (2010), parametric tests such as ANOVA “can be used with Likert data, with small sample sizes, with unequal variances, and with non-normal distributions, with no fear of ‘coming to the wrong conclusion’. These findings are consistent with empirical literature dating back nearly 80 years” (p. 7). Lastly, if the use of parametric procedures on ordinal data are strictly prohibited and it is an absolute necessity to prove data is precisely normally distributed, then approximately “75% of our research on educational, health status, and quality of life assessment” (p. 3) is questionable.

Quality Strategies

This proposed quantitative research project has been carefully prepared. The first step in this process was selecting a research design appropriate for this particular study.

According to Creswell (2009), selecting a proper research design is informed by “worldview assumptions the researcher brings to the study; procedures of inquiry; and specific methods of data collection, analysis, and interpretation” (p. 3). Identifying these elements not only helped me select an appropriate research design but guided the development of this proposal. Adhering to this design will help ensure a high quality study.

According to Heppner and Heppner (2004), “Part of writing with clarity is anticipating questions of readers and then revising the writing to answer those questions” (p. 99). Throughout the preparation of this study I have continually questioned myself, critically examined my writing, referred to existing research, and consulted expert advice in an attempt to clarify this project to my readers. “The clearer the writing, the more likely the reader will stay engaged and understand the point of view you are trying to communicate” (p.99). My primary goal is to conduct a study which not only makes contributions to existing knowledge, but is easy to understand.

Anticipated Study Limitations

Even though numerous strategies have been employed to ensure the quality of this study, there are certain limitations which must be mentioned. First of all, it is important to note that this study is limited to Cape Girardeau County and Missouri counties bordering Cape Girardeau County in southeast Missouri which represents an underserved region in an underserved state (Kate McEnroe, 2010). Consequently, it cannot be assumed that findings resulting from this study are characteristic of all counties; only those with similar demographic and socioeconomic conditions. Second, for this study higher education is being defined as attainment of a Bachelor’s, Master’s, or Doctoral

degree. Individual perceptions pertaining only to attainment of those specific degrees will be examined. Third, this study will be limited to individuals 18 years or older. Lastly, data will be collected over a course of one month. Even though at least 385 responses are necessary to ensure a sample size which is representative of the entire population, the number of surveys received will be limited by this time frame.

Assumptions

This study is based, in part, on particular beliefs or assumptions I have regarding PSE attainment. Following are a list of those assumptions:

1. The view of a PSE as a private good is negatively impacting PSE attainment in southeast Missouri.
2. Individuals holding a PSE are more inclined to view PSE as a public good.
3. Socioeconomic factors influence perceptions of PSE as a private good or public good.

Remaining independent from my research participants, collecting data which is purely quantitative in nature, and analyzing that data void of inference will help avoid bias associated with these assumptions; thus, lending validity to this study.

Summary

A quantitative design will be utilized to explore the perceptions southeast Missourian's have towards higher education as a private good or public good. Surveys will be administered to a sample of the population over the course of three months. Data collected from the surveys will be subjected to statistical analysis to determine the central tendency of overall perceptions and comparative analysis to determine variations in perceptions based on five independent variables. The dependent variable in this study is

the perception of higher education as a private good or public good among representatives of southeast Missouri.

CHAPTER 4

ANALYSIS AND PRESENTATION OF DATA

This chapter provides an analysis of data collected for this study. The chapter is divided into two sections which includes the following: an overview of the study design which includes a breakdown of survey participants based on the independent variables (demographic and socioeconomic factors); and quantitative analyses of data in response to the three research questions.

Study Design and Overview

In the summer of 2014, data pertaining to perceptions of higher education were collected via survey through a convenience sampling process from 463 individuals from various high traffic locations in southeast Missouri. The researcher seeks to determine whether representatives of southeast Missouri perceive higher education attainment as a private good or a public good and whether these perceptions are influenced by specific demographic and/or socioeconomic factors.

The survey instrument used in this research was divided into two sections (Appendix A). The first section asked questions concerning demographic and socioeconomic information about the participant. Examples of demographic and socioeconomic questions included gender, age, income bracket, level of education, parent or guardian's level of education, and perceived socioeconomic status when the participant was an adolescent.

The second section asked eight specific questions pertaining to each of the three research questions. Questions in this section utilized a 6-point Likert scale to determine

the degree in which participants agreed or disagreed with the statement; for each of these questions the following responses was available:

1. Definitely agree, 6
2. Agree, 5
3. Agree more than disagree, 4
4. Disagree more than agree, 3
5. Disagree, 2
6. Definitely disagree, 1

An additional open-ended question was also asked in section two which gave participants an opportunity to respond in more detail concerning their perceptions of higher education attainment. Responses to this question were collected in an attempt to provide context for the quantitative data. Information collected from these responses was not subjected to any specific analysis nor discussed in this research study.

Statistical Process of Social Science (SPSS) software was utilized to examine the three research questions and eight null hypotheses. This examination included the following analyses:

1. Descriptive statistics for participants in the target region;
2. Cronbach's Alpha reliability analysis;
3. Mean and mode descriptive analyses;
4. One sample *t*-tests;
5. Comparing of means through one-way and factorial Analysis of Variance (ANOVA).

Demographic and Socioeconomic Breakdown

This quantitative study focused on the perceptions of higher education within Cape Girardeau County and Missouri counties bordering Cape Girardeau County in southeast Missouri which include Bollinger County, Perry County, Scott County, and Stoddard County. The population surveyed included citizens 18 years or older currently residing within the target region. In order to be 95% certain the sample size is reflective of the target region, survey data from a minimum of 385 participants needed to be collected. A total of 463 individuals participated in the study which includes 33 from Bollinger County, 269 from Cape Girardeau County, 33 from Perry County, 39 from Scott County, 26 from Stoddard County, and 63 outside of the target region. The 63 participants who completed the survey but resided outside of the target region at the time they completed the survey were removed from the data set prior to statistical analyses since their opinions are not reflective of a representative of the southeast Missouri region as defined by this study. Therefore, the following frequency distributions include only those 400 participants residing in the target region at the time the survey was completed. Please note that, as a result of incomplete surveys, values may not add up to 400; however, the sum of values for each frequency distribution below exceeds 385 which is statistically representative of the target population.

Frequency Distribution by County. Representatives of southeast Missouri participating in this study included 33 participants from Bollinger County, 269 participants from Cape Girardeau County, 33 participants from Perry County, 39 participants from Scott County, and 26 participants from Stoddard County.

Frequency Distribution by Gender. Representatives of southeast Missouri participating in this study included 246 males, 151 females, and three participants of an unspecified gender.

Frequency Distribution by Age Bracket. Representatives of southeast Missouri participating in this study included 133 individuals 18-24 years of age, 125 individuals 25-35 years of age, 66 individuals 36-45 years of age, 41 individuals 46-55 years of age, 23 individuals 56-65 years of age, 10 individuals 66 years of age or older, and two participants of an unspecified age.

Frequency Distribution by Race. Representatives of southeast Missouri participating in this study included 333 Caucasians, 3 Hispanics, 14 Asians, 34 African Americans, 2 Native Americans, 10 other, and four participants of an unspecified race.

Frequency Distribution by Participant's Level of Education. Representatives of southeast Missouri participating in this study included 28 individuals with less than a high school education, 136 high school graduates, 99 individuals with some college, 56 individuals with an Associate's degree, 53 individuals with a Bachelor's degree, 22 individuals with a Master's degree, four individuals with a professional degree, and two participants of an unspecified level of education.

Frequency Distribution by Mother's Level of Education. Representatives of southeast Missouri participating in this study included 70 individuals whose mothers have less than a high school education, 178 individuals whose mothers have graduated from high school, 55 individuals whose mothers have some college, 29 individuals whose mothers have Associate's degrees, 46 individuals whose mothers have Bachelor's degrees, 13 individuals whose mothers have Master's degrees, five individuals whose mothers have

professional degrees, and four participants whose mother's education level was unspecified.

Frequency Distribution by Father's Level of Education. Representatives of southeast Missouri participating in this study included 79 individuals whose fathers have less than a high school education, 177 individuals whose fathers have graduated from high school, 48 individuals whose fathers have some college, 20 individuals whose fathers have Associate's degrees, 41 individuals whose fathers have Bachelor's degrees, 23 individuals whose fathers have Master's degrees, seven individuals whose fathers have professional degrees, and five participants whose father's education level was unspecified.

Frequency Distribution by Participant's Annual Income. Representatives of southeast Missouri participating in this study included 164 individuals who earn less than \$25,000 per year, 149 individuals who earn \$25,000 to \$50,000 per year, 58 individuals who earn \$50,000 to \$75,000 per year, 15 individuals who earn \$75,000 to \$100,000 per year, 10 individuals who earn over \$100,000 per year, and four participants with an unspecified annual income.

Frequency Distribution by Participant's Perceived Socioeconomic Status. Representatives of southeast Missouri participating in this study included 88 individuals who perceived themselves as poor when they were an adolescent, 295 individuals who perceived themselves as middle income when they were an adolescent, 15 individuals who perceived themselves as wealthy when they were an adolescent, and two participants with an unspecified perceived socioeconomic status.

Research Questions and Associated Hypotheses

The purpose of this quantitative study was to ascertain whether or not representatives of southeast Missouri residing in the target region perceived higher education as a private good or a public good. Furthermore, this study sought to determine whether this perception varied based on demographic and socioeconomic factors. Within the context of this study, the following research questions were addressed:

1. Do representatives of southeast Missouri view higher education as a private good or a public good?
2. How do perceptions of higher education as a private good or public good influence the value representatives of southeast Missouri place on higher education attainment?
3. How do perceptions of higher education as a private good or public good vary based on demographic and socioeconomic factors among representatives of southeast Missouri?

From these three research questions, a series of eight hypotheses were tested. By comparing respondents' perceptions of higher education to demographic and socioeconomic variables which included gender, age, income bracket, level of education, parent or guardian's level of education, and perceived socioeconomic status when the participant was an adolescent, the following eight null hypotheses were tested:

1. There are no differences in overall perceptions representatives of southeast Missouri have of higher education as a private good or public good.

2. There is no difference in the value representatives of southeast Missouri place on higher education attainment based on their perception of higher education as a private good or public good.
3. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the gender of the southeast Missourian.
4. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the age of the southeast Missourian.
5. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the income bracket of the southeast Missourian.
6. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the perceived income bracket of the southeast Missourian's parents when an adolescent.
7. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the education level of the southeast Missourian.
8. There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the education level of the southeast Missourian's parent or guardian.

The survey instrument included eight questions designed to ascertain participants' overall perceptions of higher education, the value they place on higher education, and whether or not participants perceived higher education as a private good or a public good. A 6-point Likert scale was utilized to determine the degree to which participants agree or disagree with each question; agreeing with a question was indicative of a positive perception towards higher education and higher education attainment. Survey questions were grouped into the following categories based on the questions purpose in indicating participants overall perception of higher education, value participants' place on higher education, and participants' perceptions of higher education as a private good or a public good.

Table 5

Categorical Breakdown of Survey Questions

Overall Perceptions of Higher Education
1. The benefits of attaining a college Bachelor's degree or higher are not restricted to the individual attaining the degree but extend to everyone else as well.
2. Attainment of a college Bachelor's degree or higher increases career earning potential.
3. An increase in an individual's annual salary benefits everyone, not just family and/or friends.
4. Individuals who attain a college Bachelor's degree or higher are happier in their careers.
5. Individuals who attain a college Bachelor's degree or higher are happier with their lives.
6. An increase in an individual's higher education attainment level benefits everyone, not just family and/or friends.
7. Colleges provide benefits for everyone, not just those who attain a college degree.
8. The state should increase the amount of funding allocated to support public higher education.

The Value of Higher Education

2. Attainment of a college Bachelor's degree or higher increases career earning potential.

4. Individuals who attain a college Bachelor's degree or higher are happier in their careers.

5. Individuals who attain a college Bachelor's degree or higher are happier with their lives.

8. The state should increase the amount of funding allocated to support public higher education.

Perception of Higher Education as a Private Good or Public Good

1. The benefits of attaining a college Bachelor's degree or higher are not restricted to the individual attaining the degree but extend to everyone else as well.

6. An increase in an individual's higher education attainment level benefits everyone, not just family and/or friends.

7. Colleges provide benefits for everyone, not just those who attain a college degree.

Aggregate mean scores were computed for all questions residing in each category in order to ascertain participants' collective value for the category. For example, participants' overall perceptions of higher education as a private good or public good were identified by computing and aggregating the mean scores for all eight survey questions. Furthermore, the value participants' place on higher education attainment was identified by computing and aggregating the mean scores for questions two, four, five, and eight. Lastly, participant responses to specific questions directly concerning higher education as a private good or a public good were identified by computing and aggregating the mean scores for questions one, six, and seven. Statistical analysis was based on these aggregate values.

Data Set Reliability Analysis

As stated in chapter three, instrument reliability refers to the instruments ability to replicate results under comparable conditions. Cronbach's Alpha statistical measure of reliability was performed on the entire data set (including those cases which were outside of the target region) to determine how reliable the instrument was; i.e., were the questions clear in what they were asking and did participants understand the questions?

Cronbach's Alpha splits data in every way and calculates the correlation coefficient for each individual split; if the scores on both halves of the data correlate with each other, the instrument is considered reliable (Field, 2009). Surveys containing the eight questions listed above were administered to 463 willing participants 18 years of age and older residing inside and outside of the target region; four cases were excluded from the analysis due to missing information (Table 6 below).

Table 6

Cronbach's Alpha Reliability Analysis for Eight Item Survey

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.860	.860	8

Cronbach's Alpha for the eight questions across 459 cases is .860 which "reflects a good degree of reliability" (Field, 2009, p. 679). A high Cronbach's Alpha supports the computation of aggregate mean scores across various questions since it suggests responses across all eight items are highly correlated; making the aggregate values ascertained for each category of questions conducive to this study.

Research Question One

Research Question One – Do representatives of southeast Missouri view higher education as a private good or a public good?

The eight questions on the survey were designed to ascertain participants' opinion regarding higher education attainment. In general, each question was tasked with determining the value to which an individual benefits from higher education attainment and whether or not this value extended beyond the individual attaining a bachelor's degree. In summary, all of the questions collectively were designed to ascertain an overall perception of higher education and higher education attainment, specifically whether or not higher education attainment is a private good or a public good. In lieu of this, the aggregate of mean scores for all eight questions were computed into a single category: *Perceptions of Higher Ed*. Descriptive statistics in response to research question one are in Table 3 below.

Table 7

Private Good or Public Good? Descriptive Statistics

<u>Perceptions_of_Higher_Ed</u>		
N	Valid	398
	Missing	0
Mean		4.5114
Median		4.6250
Mode		4.75
Std. Deviation		.87090

The average of all 398 participants' responses was ~4.5 which indicates representatives of southeast Missouri view higher education attainment as more of a public good than a private good. Furthermore, descriptive statistics for each survey question are in Table 8 below.

Table 8

Survey Questions: Descriptive Statistics

		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
N	Valid	398	398	398	397	397	398	398	396
	Missing	0	0	0	1	1	0	0	2
Mean		4.3819	4.8920	4.7035	4.1637	4.0453	4.5226	4.4950	4.8914
Median		5.0000	5.0000	5.0000	4.0000	4.0000	5.0000	5.0000	5.0000
Mode		5.00	6.00	5.00	4.00	4.00	5.00	5.00	6.00
Std. Deviation		1.22726	1.23993	1.16737	1.25967	1.30962	1.18905	1.25119	1.19528

A breakdown of individual question means indicates participants responded most favorably to questions two and eight; these questions were designed to ascertain the value representatives of southeast Missouri place on higher education attainment. Participants responded least favorably to questions four and five; these questions were also designed to ascertain value, however, questions two and five are specifically related to the amount of satisfaction individuals with Bachelor's degrees have in their careers and lives. In summary, representatives of southeast Missouri responded favorably to attainment of a Bachelor's degree or higher in terms of increasing earning potential and increasing the amount of state funding allocated to support public higher education; however, this is not coupled with the same degree of happiness college graduates have in their careers and lives.

Hypothesis One - There are no differences in overall perceptions representatives of southeast Missouri have of higher education as a private good or public good.

A one-sample *t*-test was conducted on the *Perception of Higher Education as a Private Good or Public Good* aggregate to evaluate whether participants' mean score was significantly different from 3.5; 3.5 was used because it is the theoretical midpoint of a scale that runs from one to six. By comparing the sample mean of the *Perception of*

Higher Education as a Private Good or Public Good aggregate with 3.5, the *t*-test indicates whether or not participants primarily viewed higher education as a private good or public good. In this case, a sample mean score significantly lower than 3.5 indicates participants viewed higher education as a private good, whereas a sample mean score significantly higher than 3.5 indicates participants viewed higher education as a public good; see Table 9 below.

Table 9

One-sample t-Test: Perception of Higher Education as a Private Good or Public Good

	N	Mean	Std. Deviation	Std. Error Mean
Private_Good_Public_Good_Perception	398	4.4665	1.01009	.05063

Test Value = 3.5						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Private_Good_Public_Good_Perception	19.089	397	.000	.96650	.8670	1.0660

The sample mean of 4.47 (*SD* = 1.01) was significantly different from 3.5, $t(397) = 19.09, p < .001$. The 95% confidence interval for *Perception of Higher Education as a Private Good or Public Good* ranged from 4.37 to 4.57. The results support the conclusion that representatives of southeast Missouri perceive higher education as more of a public good than a private good, thus rejecting hypothesis one.

Research Question Two

Research Question Two – How do perceptions of higher education as a private good or public good influence the value representatives of southeast Missouri place on higher education attainment?

Responding to research question two involved determining to what extent participants' perceptions of higher education as a private good or public good influence the value they place on higher education; for example, did participants who view higher education attainment as a public good place greater value on higher education or vice versa? The aggregate of mean scores for all questions related directly to whether or not participants perceive higher education as a private good or public good was computed into a single category: *Private Good Public Good Perception*. In addition, the aggregate of mean scores for all questions related directly to the value participants place on higher education was computed into a separate category: *Value of Higher Education*.

Hypothesis Two - There is no difference in the value representatives of southeast Missouri place on higher education attainment based on their perception of higher education as a private good or public good.

The relationship between the categories was explored statistically by obtaining a bivariate correlation between the two variables; see Table 10 below.

Table 10

Correlation Between Private Good Public Good Perception and Value of Higher Education

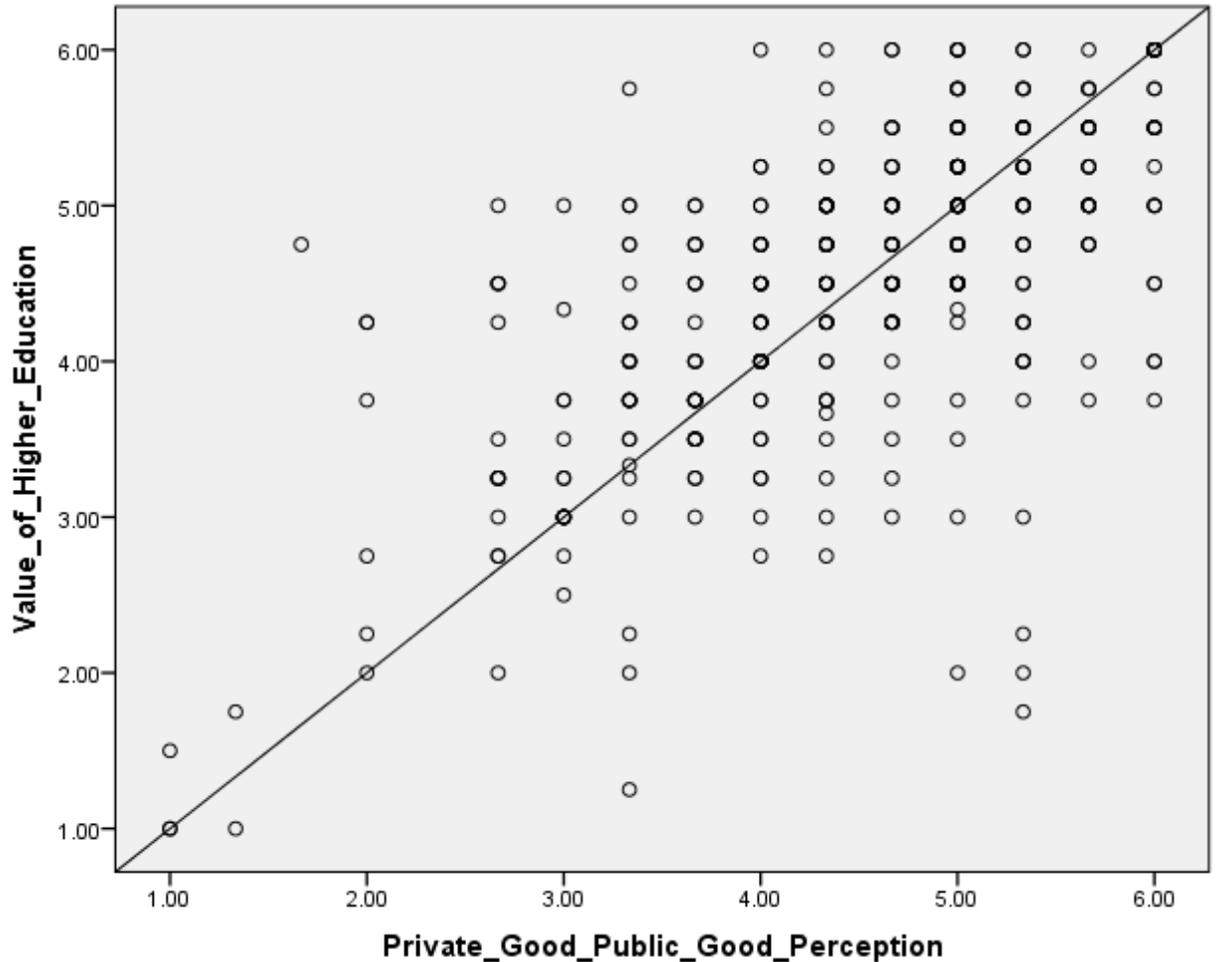
		Value_of_Higher _Education	Private_Good_Public_ Good_Perception
Value_of_Higher_Educ ation	Pearson Correlation	1	.658**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	380.732	258.539
	Covariance	.959	.651
	N	398	398
Private_Good_Public_ Good_Perception	Pearson Correlation	.658**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	258.539	405.053
	Covariance	.651	1.020
	N	398	398

** . Correlation is significant at the 0.01 level (2-tailed).

The results of the bivariate correlational analysis presented in Table 5 show the correlation between *Private Good Public Good Perception* and *Value of Higher Education* to be significant, $r(396) = .658, p < .001$. In general, the results suggests that representatives of southeast Missouri who perceive higher education as more of a public good place greater value on attaining a Bachelor's degree or higher, thus rejecting hypothesis two; see Figure 1 below.

Figure 1

Scatterplot Matrix: Relationship Between Private Good Public Good Perception and Value of Higher Education



Research Question Three

Research Question Three – How do perceptions of higher education as a private good or public good vary based on demographic and socioeconomic factors among representatives of southeast Missouri?

One-way analysis of variance tests were conducted to determine whether or not gender, age, income bracket, perceived socioeconomic status when the participant was an adolescent, level of education, and participants' parent or guardians' level of education

has a significant impact on participants' overall perception of higher education as a private good or public good. The *Overall Perceptions of Higher Education* aggregate was used to accept or reject the following null hypotheses.

Hypothesis Three – There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the gender of the southeast Missourian.

Table 11

ANOVA Results for Hypothesis Three

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.002 ^a	1	3.002	3.979	.047
Intercept	7688.308	1	7688.308	10188.530	.000
gender	3.002	1	3.002	3.979	.047
Error	298.069	395	.755		
Total	8379.422	397			
Corrected Total	301.071	396			

a. R Squared = .010 (Adjusted R Squared = .007)

A one-way analysis of variance was conducted to evaluate the relationship between participants overall perception of higher education as a private good or public good and the gender of the participants. The independent variable, gender, included two levels: male (M=4.44, SD=.89) and female (M=4.62, SD=.83). The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was significant at the $p < .05$ level, $F(1, 395) = 3.98, p = .047$ which rejects hypothesis three.

Hypothesis Four – There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the age of the southeast Missourian.

Table 12

ANOVA Results for Hypothesis Four

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.514 ^a	5	.703	.926	.464
Intercept	3703.466	1	3703.466	4878.247	.000
age	3.514	5	.703	.926	.464
Error	297.598	392	.759		
Total	8401.646	398			
Corrected Total	301.112	397			

a. R Squared = .012 (Adjusted R Squared = -.001)

A one-way analysis of variance was conducted to evaluate the relationship between participants overall perception of higher education as a private good or public good and the age of the participants. The independent variable, age, included six levels: 18-24 years of age, 25-35 years of age, 36-45 years of age, 46-55 years of age, 56-65 years of age, and 66 years of age or older. The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was not significant at the $p < .05$ level, $F(5, 392) = 0.93$, $p = .46$ which confirms hypothesis four.

Hypothesis Five – There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the income bracket of the southeast Missourian.

Table 13

ANOVA Results for Hypothesis Five

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	9.625 ^a	4	2.406	3.258	.012
Intercept	2577.474	1	2577.474	3489.558	.000
income	9.625	4	2.406	3.258	.012
Error	288.802	391	.739		
Total	8373.131	396			
Corrected Total	298.427	395			

a. R Squared = .032 (Adjusted R Squared = .022)

A one-way analysis of variance was conducted to evaluate the relationship between participants overall perception of higher education as a private good or public good and the income bracket of the participants. The independent variable, income, included five levels: less than \$25,000 per year, \$25,000 to \$50,000 per year, \$50,000 to \$75,000 per year, \$75,000 to \$100,000 per year, and over \$100,000 per year. The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was significant at the $p < .05$ level, $F(4, 391) = 3.26$, $p = .012$ which rejects hypothesis five.

Post-hoc tests were conducted to evaluate pairwise differences among the means. Because the largest standard deviation for a specific group ($SD = 1.55$) was less than twice that of the smallest standard deviation for a specific group ($SD = .80$), I chose to assume that the variances were homogeneous and conducted post hoc comparisons with the use of the Tukey HSD test; see Table 14 below.

Table 14

ANOVA Results for Hypothesis Five - Post Hoc Test

Dependent Variable: Perceptions_of_Higher_Ed

Personal Annual Income	Mean	Std. Deviation	Std. Error	90% Confidence Interval	
				Lower Bound	Upper Bound
Less than \$25,000 per year	4.400	.84191	.067	4.290	4.511
\$25,000 to \$50,000 per year	4.549	.80474	.070	4.433	4.665
\$50,000 to \$75,000 per year	4.775	.85065	.113	4.589	4.961
\$75,000 to \$100,000 per year	4.768	1.01962	.222	4.402	5.134
Over \$100,000 per year	4.025	1.54987	.272	3.577	4.473

There were significant differences in means between the following groups: Less than \$25,000 per year and \$50,000 to \$75,000 per year ($p = .036$); and \$50,000 to \$75,000 per year and Over \$100,000 per year ($p = .052$). Representatives of southeast Missouri earning less than \$25,000 per year and representatives earning over \$100,000 per year perceive higher education as a public good; however, their perception was significantly shifted towards the lower end of the scale when compared with those earning \$50,000 to \$75,000 per year.

Hypothesis Six – There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the perceived income bracket of the southeast Missourian’s parents when an adolescent.

Table 15

ANOVA Results for Hypothesis Six

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.924 ^a	2	2.462	3.283	.039
Intercept	2229.144	1	2229.144	2972.815	.000
socio_econ_status	4.924	2	2.462	3.283	.039
Error	296.188	395	.750		
Total	8401.646	398			
Corrected Total	301.112	397			

a. R Squared = .016 (Adjusted R Squared = .011)

A one-way analysis of variance was conducted to evaluate the relationship between participants' overall perception of higher education as a private good or public good and participants' perceived socioeconomic status when the participant was an adolescent. The independent variable, socioeconomic status, included three levels: poor, middle income, and wealthy. The dependent variable was the degree in which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was significant at the $p < .05$ level, $F(2, 395) = 3.28$, $p = .039$ which rejects hypothesis six.

Post-hoc tests were conducted to evaluate pairwise differences among the means. Because the largest standard deviation for a specific group ($SD = 1.25$) was less than twice that of the smallest standard deviation for a specific group ($SD = .83$), I chose to assume that the variances were homogeneous and conducted post hoc comparisons with the use of the Tukey HSD test; see Table 16 below.

Table 16

ANOVA Results for Hypothesis Six - Post Hoc Test

Dependent Variable: Perceptions_of_Higher_Ed

Perceived Socio-Economic Status	Mean	Std. Deviation	Std. Error	90% Confidence Interval	
				Lower Bound	Upper Bound
Poor	4.303	.89532	.092	4.151	4.455
Middle Income	4.569	.83390	.050	4.486	4.652
Wealthy	4.600	1.25374	.224	4.231	4.969

There were significant differences in means between Poor and Middle Income ($p = .032$). Representatives of southeast Missouri who felt as though they were poor when they were an adolescent perceived higher education as a public good; however, their perception was significantly shifted towards the lower end of the scale when compared with those who perceived themselves as middle income when they were an adolescent.

Hypothesis Seven – There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the education level of the southeast Missourian.

Table 17

ANOVA Results for Hypothesis Seven

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.408 ^a	6	1.901	2.566	.019
Intercept	2666.890	1	2666.890	3599.379	.000
part_ed_level	11.408	6	1.901	2.566	.019
Error	289.704	391	.741		
Total	8401.646	398			
Corrected Total	301.112	397			

a. R Squared = .038 (Adjusted R Squared = .023)

A one-way analysis of variance was conducted to evaluate the relationship between participants overall perception of higher education as a private good or public good and participants education level. The independent variable, participant’s education level, included seven levels: less than a high school education, high school graduates, some college, Associate’s degree, Bachelor’s degree, Master’s degree, and professional degree (doctoral/law/medical degree). The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was significant at the $p < .05$ level, $F(6, 391) = 2.57, p = .019$ which rejects hypothesis seven.

Post-hoc tests were conducted to evaluate pairwise differences among the means. Because the largest standard deviation for a specific group ($SD = 1.06$) was less than twice that of the smallest standard deviation for a specific group ($SD = .76$), I chose to assume that the variances were homogeneous and conducted post hoc comparisons with the use of the Tukey HSD test; see Table 18 below.

Table 18

ANOVA Results for Hypothesis Seven - Post Hoc Test

Dependent Variable: Perceptions_of_Higher_Ed

Participant's Level of Education	Mean	Std. Deviation	Std. Error	90% Confidence Interval	
				Lower Bound	Upper Bound
Less than high school	4.089	.94272	.163	3.821	4.357
High school graduate	4.488	.84377	.074	4.366	4.610
Some college	4.430	.82197	.087	4.287	4.572
Associate's degree	4.629	.92471	.115	4.440	4.819
Bachelor's degree	4.626	.76341	.118	4.431	4.821
Master's degree	4.920	1.06244	.184	4.618	5.223
Professional degree	4.875	.88388	.430	4.165	5.585

There were significant differences in means between the following groups: Less than high school and Associate’s Degree ($p = .098$); and Less than high school and Master’s Degree ($p = .014$). Representatives of southeast Missouri with less than a high school education perceive higher education as a public good; however, their perception is significantly shifted towards the lower end of the scale when compared with those who have an Associate’s degree or Master’s degree.

Hypothesis Eight – There are no differences in the perceptions representatives of southeast Missouri have of higher education as a private good or public good as related to the education level of the southeast Missourian’s parent or guardian.

Table 19

ANOVA Results for Hypothesis Eight – Mother’s Education Level

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.627 ^a	6	.771	1.024	.409
Intercept	2708.298	1	2708.298	3595.595	.000
mother_ed_level	4.627	6	.771	1.024	.409
Error	293.005	389	.753		
Total	8380.240	396			
Corrected Total	297.632	395			

a. R Squared = .016 (Adjusted R Squared = .000)

A one-way analysis of variance was conducted to evaluate the relationship between participants overall perception of higher education as a private good or public good and the participant’s mother’s education level. The independent variable, mother’s education level, included seven levels: less than a high school education, high school graduates, some college, Associate’s degree, Bachelor’s degree, Master’s degree, and professional degree (doctoral/law/medical degree). The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a

6-point Likert scale. The ANOVA was not significant at the $p < .05$ level, $F(6, 389) = 1.02$, $p = .409$ which confirms hypothesis eight.

Table 20

ANOVA Results for Hypothesis Eight – Father’s Education Level

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.801 ^a	6	.800	1.064	.384
Intercept	3353.439	1	3353.439	4458.008	.000
father_ed_level	4.801	6	.800	1.064	.384
Error	291.864	388	.752		
Total	8349.990	395			
Corrected Total	296.665	394			

a. R Squared = .016 (Adjusted R Squared = .001)

A one-way analysis of variance was conducted to evaluate the relationship between participants overall perception of higher education as a private good or public good and the participant’s father’s education level. The independent variable, father’s education level, included seven levels: less than a high school education, high school graduate, some college, Associate’s degree, Bachelor’s degree, Master’s degree, and professional degree (doctoral/law/medical degree). The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was not significant at the $p < .05$ level, $F(6, 388) = 1.06$, $p = .384$ which confirms hypothesis eight.

Interactions among independent variables. One-way ANOVAs indicated gender, participant’s level of income, participant’s perceived socioeconomic status when an adolescent, and participants’ level of education had a significant impact on overall perceptions of higher education. In order to determine whether specific combinations of

age, participants' level of education, and participants' income level have a significant impact on the dependent variables, a series of three Factorial ANOVAs are conducted on the data to identify interactions.

Factorial ANOVA Test One. Factorial ANOVA test one identified the impact age and/or participant level of education and/or participant income has on the *Overall Perceptions of Higher Education* aggregate.

Table 21

*Factorial ANOVA Test One Results*Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	102.209 ^a	100	1.022	1.537	.003
Intercept	1419.470	1	1419.470	2134.070	.000
age	1.738	5	.348	.523	.759
part_ed_level	4.085	6	.681	1.024	.410
income	5.740	4	1.435	2.157	.074
age * part_ed_level	10.475	23	.455	.685	.860
age * income	11.884	15	.792	1.191	.277
part_ed_level * income	27.843	19	1.465	2.203	.003
age * part_ed_level * income	15.065	26	.579	.871	.650
Error	196.218	295	.665		
Total	8373.131	396			
Corrected Total	298.427	395			

a. R Squared = .342 (Adjusted R Squared = .120)

A factorial analysis of variance was conducted to evaluate the relationship between participants' overall perception of higher education as a private good or public good and participants' age and/or participant level of education, and/or participant income. The independent variable, age, included six levels: 18-24 years of age, 25-35 years of age, 36-45 years of age, 46-55 years of age, 56-65 years of age, and 66 years of age or older. The independent variable, participant level of education, included seven levels: less than a high school education, high school graduates, some college, Associate's degree, Bachelor's degree, Master's degree, and professional degree (doctoral/law/medical degree). The independent variable, income, included five levels: less than \$25,000 per year, \$25,000 to \$50,000 per year, \$50,000 to \$75,000 per year, \$75,000 to \$100,000 per year, and over \$100,000 per year. The dependent variable was the degree to which

participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was marginally significant for income at the $p < .05$ level, $F(4, 295) = 2.16, p = .074$. The ANOVA was also significant for the interaction between income and participant education level at the $p < .05$ level, $F(19, 295) = 2.20, p = .003$.

Post-hoc tests were conducted to evaluate pairwise differences among group means. I chose to assume that the variances were homogeneous and conducted post hoc comparisons with the use of the Tukey HSD. Post-hoc analysis indicated the same significant differences in group means for income and participant education level as indicated in one-way ANOVA post-hoc analyses for hypotheses five and seven. As a result of the continued significance income and education level have on participants' perceptions of higher education identified in all factorial ANOVA analyses, a breakdown of the effects participant income has on participant education is provided in a forthcoming section.

Factorial ANOVA Test Two. Factorial ANOVA test two identified the impacts age and/or participant level of education, and/or participant income has on *The Value of Higher Education* aggregate.

Table 22

Factorial ANOVA Test Two Results

Dependent Variable: Value_of_Higher_Education

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	125.563 ^a	100	1.256	1.475	.007
Intercept	1369.034	1	1369.034	1608.328	.000
age	3.473	5	.695	.816	.539
part_ed_level	4.010	6	.668	.785	.582
income	6.189	4	1.547	1.818	.125
age * part_ed_level	14.015	23	.609	.716	.829
age * income	11.266	15	.751	.882	.585
part_ed_level * income	28.347	19	1.492	1.753	.028
age * part_ed_level * income	27.249	26	1.048	1.231	.206
Error	251.109	295	.851		
Total	8403.924	396			
Corrected Total	376.671	395			

a. R Squared = .333 (Adjusted R Squared = .107)

A factorial analysis of variance was conducted to evaluate the relationship between the value participants place on higher education and participants' age and/or participant level of education, and/or participant income. The independent variable, age, included six levels: 18-24 years of age, 25-35 years of age, 36-45 years of age, 46-55 years of age, 56-65 years of age, and 66 years of age or older. The independent variable, participant education level, included seven levels: less than a high school education, high school graduates, some college, Associate's degree, Bachelor's degree, Master's degree, and professional degree (doctoral/law/medical degree). The independent variable, income, included five levels: less than \$25,000 per year, \$25,000 to \$50,000 per year, \$50,000 to \$75,000 per year, \$75,000 to \$100,000 per year, and over \$100,000 per year. The dependent variable was the degree to which participants value higher education as

indicated on a 6-point Likert scale. The ANOVA was significant for the interaction between income and participant education level at the $p < .05$ level, $F(19, 295) = 1.75, p = .028$.

Post-hoc tests were conducted to evaluate pairwise differences among group means. I chose to assume that the variances were homogeneous and conducted post hoc comparisons with the use of the Tukey HSD. Post-hoc analysis indicated the same significant differences in group means for income and participant education level as indicated in one-way ANOVA post-hoc analyses for hypothesis five and seven.

Factorial ANOVA Test Three. Factorial ANOVA test three identified the impact age and/or participant level of education, and/or participant income has on the *Perception of Higher Education as a Private Good or Public Good* aggregate.

Table 23

Factorial ANOVA Test Three Results

Dependent Variable: Private_Good_Public_Good_Perception

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	130.191 ^a	100	1.302	1.409	.015
Intercept	1424.638	1	1424.638	1541.321	.000
age	2.099	5	.420	.454	.810
part_ed_level	6.919	6	1.153	1.248	.282
income	6.500	4	1.625	1.758	.137
age * part_ed_level	16.958	23	.737	.798	.734
age * income	15.202	15	1.013	1.096	.359
part_ed_level * income	33.423	19	1.759	1.903	.014
age * part_ed_level * income	12.569	26	.483	.523	.975
Error	272.668	295	.924		
Total	8314.222	396			
Corrected Total	402.859	395			

a. R Squared = .323 (Adjusted R Squared = .094)

A factorial analysis of variance was conducted to evaluate the relationship between participants' specific perceptions of higher education as a private good or public good and participants' age and/or participant level of education, and/or participant income. The independent variable, age, included six levels: 18-24 years of age, 25-35 years of age, 36-45 years of age, 46-55 years of age, 56-65 years of age, and 66 years of age or older. The independent variable, participant education level, included seven levels: less than a high school education, high school graduates, some college, Associate's degree, Bachelor's degree, Master's degree, and professional degree (doctoral/law/medical degree). The independent variable, income, included five levels: less than \$25,000 per year, \$25,000 to \$50,000 per year, \$50,000 to \$75,000 per year, \$75,000 to \$100,000 per year, and over \$100,000 per year. The dependent variable was the specific degree to which participants' perceived higher education as a private good or public as indicated on a 6-point Likert scale. The ANOVA was significant for the interaction between income and participant education level at the $p < .05$ level, $F(19, 295) = 1.90, p = .014$.

Post-hoc tests were conducted to evaluate pairwise differences among group means. I chose to assume that the variances were homogeneous and conducted post hoc comparisons with the use of the Tukey HSD. Post-hoc analysis indicated the same significant differences in group means for income and participant education level as indicated in one-way ANOVA post-hoc analyses for hypothesis five and seven.

Effects of income on education: breakdown of interaction. Regardless of what combination of questions' aggregate means were computed and utilized as the dependent variable; the interaction between income and participant education level had a significant impact. This can be attributed to the high value of Cronbach's alpha reliability

coefficient which suggests responses across all eight survey items were highly correlated, so participants' scores for a specific combination of questions were similar to participants' scores for a different combination of questions. Therefore, it would be somewhat redundant to examine the breakdown of interactions for all three factorial ANOVAs. In order to better understand how the interaction between income and participants' education level influenced the dependent variable(s), the effects participants' specific income bracket had on their education level was examined. The *Overall Perceptions of Higher Education* aggregate represents the dependent variable for the following breakdowns.

Table 24

Effects of Income on Education – Participants with less than a high school education

Dependent Variable: Perceptions_of_Higher_Ed			
Personal Annual Income	Mean	Std. Deviation	N
Less than \$25,000 per year	3.7679	.87412	14
\$25,000 to \$50,000 per year	4.5208	.88522	12
Over \$100,000 per year	4.6250	.	1
Total	4.1343	.92957	27

a. Participant's Level of Education = Less than high school

Table 24 indicates representatives of southeast Missouri with less than a high school education across all income levels perceive higher education as a public good when compared to 3.5, which is the theoretical midpoint of a scale that runs from one to six.

Table 25

Effects of Income on Education – Participants with less than a high school education

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.914 ^b	2	1.957	2.531	.101
Intercept	144.414	1	144.414	186.814	.000
income	3.914	2	1.957	2.531	.101
Error	18.553	24	.773		
Total	483.953	27			
Corrected Total	22.466	26			

a. Participant's Level of Education = Less than high school

b. R Squared = .174 (Adjusted R Squared = .105)

An analysis of variance was conducted to evaluate the effects of income on participants with less than a high school education and their overall perception of higher education as a private good or public good and participants education level. The independent variable, income, included five levels: less than \$25,000 per year, \$25,000 to \$50,000 per year, \$50,000 to \$75,000 per year, \$75,000 to \$100,000 per year, and over \$100,000 per year. The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was not significant at the $p < .05$ level, $F(2, 24) = 2.53, p = .101$.

Table 26

Effects of Income on Education – Participants with a high school education

Dependent Variable: Perceptions_of_Higher_Ed

Personal Annual Income	Mean	Std. Deviation	N
Less than \$25,000 per year	4.4654	.87765	65
\$25,000 to \$50,000 per year	4.4783	.75888	46
\$50,000 to \$75,000 per year	4.8750	.86709	18
\$75,000 to \$100,000 per year	3.7887	.58406	6
Over \$100,000 per year	3.6250	.	1
Total	4.4879	.84377	136

a. Participant's Level of Education = High school graduate

Table 26 indicates representatives of southeast Missouri with a high school education earning more than \$75,000 per year perceive higher education as a public good; however, their perception is marginally shifted towards the lower end of the scale when compared with those who have similar educations but are in a lower income bracket.

Table 27

Effects of Income on Education – Participants with a high school education

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6.412 ^b	4	1.603	2.341	.058
Intercept	357.973	1	357.973	522.794	.000
income	6.412	4	1.603	2.341	.058
Error	89.700	131	.685		
Total	2835.346	136			
Corrected Total	96.112	135			

a. Participant's Level of Education = High school graduate

b. R Squared = .067 (Adjusted R Squared = .038)

An analysis of variance was conducted to evaluate the effects of income on participants with a high school education and their overall perception of higher education as a private good or public good and participants education level. The independent variable, income,

included five levels: less than \$25,000 per year, \$25,000 to \$50,000 per year, \$50,000 to \$75,000 per year, \$75,000 to \$100,000 per year, and over \$100,000 per year. The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was marginally significant at the $p < .05$ level, $F(4, 131) = 2.34, p = .058$.

Post-hoc tests were conducted to evaluate pairwise differences among the means. I chose to assume that the variances were homogeneous and conducted post hoc comparisons with the use of the Tukey HSD. Post-hoc analysis did not indicate any significant differences in means among groups.

Table 28

Effects of Income on Education – Participants with some college

Dependent Variable: Perceptions_of_Higher_Ed			
Personal Annual Income	Mean	Std. Deviation	N
Less than \$25,000 per year	4.3866	.76643	54
\$25,000 to \$50,000 per year	4.4816	.92684	34
\$50,000 to \$75,000 per year	4.3438	.82036	8
\$75,000 to \$100,000 per year	4.2857	.	1
Over \$100,000 per year	5.7500	.	1
Total	4.4289	.82617	98

a. Participant's Level of Education = Some college

Table 28 indicates representatives of southeast Missouri with some college across all income levels perceive higher education as a public good when compared to 3.5, which is the theoretical midpoint of a scale that runs from one to six.

Table 29

Effects of Income on Education – Participants with some college

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.015 ^b	4	.504	.730	.574
Intercept	248.721	1	248.721	360.341	.000
income	2.015	4	.504	.730	.574
Error	64.192	93	.690		
Total	1988.524	98			
Corrected Total	66.207	97			

a. Participant's Level of Education = Some college

b. R Squared = .030 (Adjusted R Squared = -.011)

An analysis of variance was conducted to evaluate the effects of income on participants with some college and their overall perception of higher education as a private good or public good and participants education level. The independent variable, income, included five levels: less than \$25,000 per year, \$25,000 to \$50,000 per year, \$50,000 to \$75,000 per year, \$75,000 to \$100,000 per year, and over \$100,000 per year. The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was not significant at the $p < .05$ level, $F(4, 93) = .730, p = .574$.

Table 30

Effects of Income on Education – Participants with an Associate’s degree

Dependent Variable: Perceptions_of_Higher_Ed

Personal Annual Income	Mean	Std. Deviation	N
Less than \$25,000 per year	4.5347	.83116	18
\$25,000 to \$50,000 per year	4.7969	.70500	24
\$50,000 to \$75,000 per year	4.5000	1.22126	12
\$75,000 to \$100,000 per year	6.0000	.	1
Over \$100,000 per year	2.5000	.	1
Total	4.6295	.92471	56

a. Participant's Level of Education = Associate's degree

Table 30 indicates representatives of southeast Missouri with an Associate’s degree earning \$75,000 - \$100,000 per year perceive higher education as a public good, however, their perception is shifted towards the higher end of the scale when compared with those who have similar educations but are in a lower income bracket. Individuals with an Associate’s degree earning over \$100,000 per year perceive higher education as a private good. It is important to note that these analyses are based on only one individual with an Associate’s degree earning \$75,000 - \$100,000 and one individual with an Associate’s degree earning over \$100,000 per year.

Table 31

Effects of Income on Education – Participants with an Associate’s degree

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7.448 ^b	4	1.862	2.399	.062
Intercept	228.703	1	228.703	294.677	.000
income	7.448	4	1.862	2.399	.062
Error	39.582	51	.776		
Total	1247.219	56			
Corrected Total	47.030	55			

a. Participant's Level of Education = Associate's degree

b. R Squared = .158 (Adjusted R Squared = .092)

An analysis of variance was conducted to evaluate the effects of income on participants with an Associate’s degree and their overall perception of higher education as a private good or public good and participants education level. The independent variable, income, included five levels: less than \$25,000 per year, \$25,000 to \$50,000 per year, \$50,000 to \$75,000 per year, \$75,000 to \$100,000 per year, and over \$100,000 per year. The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was marginally significant at the $p < .05$ level, $F(4, 51) = 2.39, p = .062$.

Post-hoc tests were conducted to evaluate pairwise differences among the means. I chose to assume that the variances were homogeneous and conducted post hoc comparisons with the use of the Tukey HSD. Post-hoc analysis did not indicate any significant differences in means among groups.

Table 32

Effects of Income on Education – Participants with a Bachelor’s degree

Dependent Variable: Perceptions_of_Higher_Ed

Personal Annual Income	Mean	Std. Deviation	N
Less than \$25,000 per year	4.5125	.75565	10
\$25,000 to \$50,000 per year	4.4679	.83015	25
\$50,000 to \$75,000 per year	4.9107	.33384	13
\$75,000 to \$100,000 per year	5.4375	.79550	2
Over \$100,000 per year	4.5417	1.32484	3
Total	4.6257	.76341	53

a. Participant's Level of Education = Bachelor's degree

Table 32 indicates representatives of southeast Missouri with a Bachelor’s degree earning \$50,000 to \$100,000 per year perceive higher education as a public good; however, their perception is marginally shifted towards the higher end of the scale when compared with those who have similar educations but are in other income brackets.

Table 33

Effects of Income on Education – Participants with a Bachelor’s degree

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.146 ^b	4	.787	1.390	.251
Intercept	542.523	1	542.523	958.832	.000
income	3.146	4	.787	1.390	.251
Error	27.159	48	.566		
Total	1164.339	53			
Corrected Total	30.305	52			

a. Participant's Level of Education = Bachelor's degree

b. R Squared = .104 (Adjusted R Squared = .029)

An analysis of variance was conducted to evaluate the effects of income on participants with a Bachelor’s degree and their overall perception of higher education as a private good or public good and participants education level. The independent variable, income,

included five levels: less than \$25,000 per year, \$25,000 to \$50,000 per year, \$50,000 to \$75,000 per year, \$75,000 to \$100,000 per year, and over \$100,000 per year. The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was not significant at the $p < .05$ level, $F(4, 48) = 1.39, p = .251$.

Table 34

Effects of Income on Education – Participants with a Master’s degree

Dependent Variable: Perceptions_of_Higher_Ed			
Personal Annual Income	Mean	Std. Deviation	N
Less than \$25,000 per year	5.0000	.66144	3
\$25,000 to \$50,000 per year	4.7857	.64029	7
\$50,000 to \$75,000 per year	5.1875	.57418	6
\$75,000 to \$100,000 per year	5.5250	.48734	5
Over \$100,000 per year	1.0000	.	1
Total	4.9205	1.06244	22

a. Participant's Level of Education = Master's degree

Table 34 indicates representatives of southeast Missouri with a Master’s degree earning \$50,000 - \$100,000 per year perceive higher education as a public good; however, their perception is shifted towards the higher end of the scale when compared with those who have similar educations who earn \$25,000 to \$50,000 per year or over \$100,000 per year. Perceptions of participants with a Master’s degree earning less than \$25,000 per year are similar to those earning \$50,000 - \$100,000 per year.

Table 35

Effects of Income on Education – Participants with a Master's degree

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	17.771 ^b	4	4.443	12.730	.000
Intercept	250.792	1	250.792	718.569	.000
income	17.771	4	4.443	12.730	.000
Error	5.933	17	.349		
Total	556.344	22			
Corrected Total	23.705	21			

a. Participant's Level of Education = Master's degree

b. R Squared = .750 (Adjusted R Squared = .691)

An analysis of variance was conducted to evaluate the effects of income on participants with a Master's degree and their overall perception of higher education as a private good or public good and participants education level. The independent variable, income, included five levels: less than \$25,000 per year, \$25,000 to \$50,000 per year, \$50,000 to \$75,000 per year, \$75,000 to \$100,000 per year, and over \$100,000 per year. The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was significant at the $p < .05$ level, $F(4, 17) = 12.73$, $p < .001$.

As a result of the significant effect income had on perceptions of higher education for those participants' with a Master's degree, post-hoc tests were conducted for this group to evaluate pairwise differences among the means. Because the largest standard deviation for a specific group ($SD = 0.66$) was less than twice that of the smallest standard deviation for a specific group ($SD = 0.48$), I chose to assume that the variances were homogeneous and conducted post hoc comparisons with the use of the Tukey HSD test. The HSD was 2.54 for the Master's degree group. There were no statistically

significant differences in means among the first four income groups (those earning less than \$100,000 per year); however, there were significant differences in means between the first four income groups and the Over \$100,000 per year group.

Table 36

Effects of Income on Education – Participants with a Professional degree

Dependent Variable: Perceptions_of_Higher_Ed

Personal Annual Income	Mean	Std. Deviation	N
\$25,000 to \$50,000 per year	4.8750	.	1
\$50,000 to \$75,000 per year	5.5000	.	1
Over \$100,000 per year	4.5625	1.32583	2
Total	4.8750	.88388	4

a. Participant's Level of Education = Professional degree

Table 36 indicates representatives of southeast Missouri with a professional earning \$50,000 to \$75,000 per year across all income levels perceive higher education as a public good when compared to 3.5, which is the theoretical midpoint of a scale that runs from one to six.

Table 37

Effects of Income on Education – Participants with a Professional degree

Dependent Variable: Perceptions_of_Higher_Ed

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.586 ^b	2	.293	.167	.866
Intercept	89.252	1	89.252	50.774	.089
income	.586	2	.293	.167	.866
Error	1.758	1	1.758		
Total	97.406	4			
Corrected Total	2.344	3			

a. Participant's Level of Education = Professional degree

b. R Squared = .250 (Adjusted R Squared = -1.250)

An analysis of variance was conducted to evaluate the effects of income on participants with a professional degree and their overall perception of higher education as a private good or public good and participants education level. The independent variable, income, included five levels: less than \$25,000 per year, \$25,000 to \$50,000 per year, \$50,000 to \$75,000 per year, \$75,000 to \$100,000 per year, and over \$100,000 per year. The dependent variable was the degree to which participants perceived higher education as a private good or public good as indicated on a 6-point Likert scale. The ANOVA was not significant at the $p < .05$ level, $F(2, 1) = .167, p = .866$.

Summary

The purpose of this study was to explore the perceptions representatives of southeast Missouri have towards public higher education and public higher education attainment. Increasing our knowledge in this area will assist universities in formulating specific strategies designed to educate citizens on the benefits of a higher education in the hopes of boosting higher education attainment in the U.S.A.. This study focused on three research questions which were examined through seven demographic and socioeconomic variables. Through the use of various ANOVAs at the .05 p -level, a series of tests were conducted to ascertain if there were statistically significant differences between the seven demographic and socioeconomic variables and perceptions representatives of southeast Missouri have towards higher education and higher education attainment; these were identified in the eight null hypotheses. Statistical analyses resulted in six out of the eight null hypotheses being rejected. Conclusions and recommendations can be drawn based on the data ascertained through the statistical analyses and descriptive statistics

represented in this chapter. A detail of these conclusions and recommendations are covered in chapter five.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FUTURE RESEARCH

This chapter is presented in three sections. This first section provides an overview of the research study, which includes a review of the methodology utilized in the research. The second section provides an examination of the results for each research question, including conclusions the researcher had drawn from the results. The third section provides recommendations for future research related to perceptions of higher education.

Summary of the Research Study

This study was designed to ascertain whether representatives of southeast Missouri perceive higher education attainment as a private good or a public good and whether these perceptions are influenced by specific demographic and/or socioeconomic factors. With the current increase in socioeconomic inequality in the U.S.A. (Baum, Kurose, & Ma, 2013), more and more U.S. citizens are finding themselves supporting themselves and their families with low income jobs. In today's economy, the ability to secure a job which pays well is heavily dependent on an individual's level of education (Baum, Ma, Payea, 2013; Osamudia, 2011; & Tatlah, Naz, and Iqbal, 2011). Despite this, the percentage of individual's with a post-secondary education (PSE) in the U.S.A. is declining (Bound, 2010). Furthermore, research has shown that the benefits of an individual securing a PSE extend beyond the individual; i.e. there are numerous benefits the country recognizes as a result of increased PSE attainment (Labaree, 1997; Marginson, 2007; Marginson, 2011; Murray, 2009; Osumadia, 2011; Sandlin, Burdick,

and Norris, 2012; & Tatlah, Naz, and Iqbal, 2011). These benefits to the U.S.A. support the assertion that PSE attainment is not exclusively a private good, but a public good; meaning the benefits of a PSE are not limited to one individual consumer (Marginson, 2011). If individuals were more aware of the individual and societal benefits of PSE attainment, then they may be more inclined to pursue a PSE upon graduating high school. Increasing our understanding of the perceptions individuals have towards higher education is necessary in order to formulate strategies for increasing PSE attainment in the U.S.A., thus decreasing socioeconomic inequality in the country. This is especially important for economically depressed regions of the country, such as southeast Missouri, where socioeconomic inequality is prevalent (*Missouri Office of Social*, 2014). Even though there is a great deal of research relating to how demographic and socioeconomic conditions affect individual PSE attainment, research pertaining to perceptions individuals have of higher education as a private good or public good are thin at best.

Methodology

With the purpose of determining whether representatives of southeast Missouri perceive higher education attainment as a private good or a public good and whether those perceptions were influenced by specific demographic and/or socioeconomic factors, a quantitative survey instrument was developed and administered via convenience sampling to willing participants 18 years of age or older residing in Cape Girardeau County and Missouri counties bordering Cape Girardeau County in southeast Missouri. A total of 400 usable surveys were collected. A summary of the demographic and socioeconomic characteristics include:

1. Of the 400 respondents, 8.3% were from Bollinger County, 67.1% were from Cape Girardeau County, 8.3% were from Perry County, 9.8% were from Scott County, and 6.5% were from Stoddard County.
2. Of the 400 respondents, 61.8% were male and 37.9% were female.
3. Of the 400 respondents, 33.4% reported their age as between 18 and 24 years of age, 31.4% reported their age as between 25 and 35 years of age, 16.6% reported their age as between 36 and 45 years of age, 10.3% reported their age as between 46 and 55 years of age, 5.8% reported their age as between 56 and 65 years of age, and 2.5% reported their age as over 66 years of age.
4. Of the 400 respondents, the majority identified themselves as white, 83.7%; .80% reported their race as Hispanic, 3.5% Asian, 8.5% African American, .50% Native American, and 2.5% other.
5. Of the 400 respondents, the highest level of education represented was high school graduate, 34.2%; 7% reported their highest level education as less than high school, 24.9% indicated they had attended college but did not graduate, 14.1% had an Associate's degree, 13.3% had a Bachelor's degree, 5.5% had a Master's degree, and 1% had a professional degree.
6. Of the 400 respondents, participants' parents level of education included 17.6% of mothers and 19.8% of fathers had not graduated high school, 44.7% of mothers and 44.5% of fathers had graduated high school, 13.8% of mothers and 12.1% of fathers had attended college but not graduated, 7.3% of mothers and 5% of fathers had obtained an Associate's degree, 11.6% of mothers and 10.3% of fathers had obtained a Bachelor's degree, 3.3% of mothers and 5.8%

of fathers had obtained a Master's degree, and 1.3% of mothers and 1.8% of fathers had obtained a professional degree.

7. Of the 400 respondents, the majority reported their personal annual income as less than \$25,000 per year, 41.2%; 37.4% reported \$25,000 to \$50,000 per year, 14.6% reported \$50,000 to \$75,000 per year, 3.8% reported \$75,000 to \$100,000 per year, and 2.5% reported over \$100,000 per year.
8. Of the 400 respondents, the majority identified themselves as being raised in a middle income family, 74.1%; 22.1% identified themselves as poor, and 3.8% as wealthy.

Based on the demographic and socioeconomic characteristics of the sample population, the typical respondent is a white male 18 to 24 years old. He lives in Cape Girardeau County, has a high school diploma, and earns less than \$25,000 per year. He grew up in a middle income household and was raised by a mother and father who both graduated high school but did not attend college. Data collected from the surveys were subjected to statistical analyses which included descriptive statistics, reliability analysis, bivariate correlational analysis, one sample *t*-tests, one-way analysis of variance, and factorial analysis of variance.

This research study sought to determine whether or not individuals residing in the target area perceive higher education as a private good or public good and whether these perceptions vary based on gender, age, individual level of education, parental level of education, income level of the individual, and perceived socioeconomic status when the participant was an adolescent. From this information a series of three research questions

were developed. These three research questions were examined through eight null hypotheses.

Conclusions

Research Question One

The first research question examined perceptions representatives of southeast Missouri have towards higher education attainment; specifically, whether representatives of southeast Missouri conclusively perceive higher education attainment as a private good or a public good. Participants responded to eight questions designed to ascertain their overall perceptions of higher education, the value they place on higher education, and whether or not participants perceive higher education as a private good or a public good. Responses were recorded on a 6-point Likert scale to determine the degree in which participants agree or disagree with the questions; with a one representing definitely disagree, two representing agree, three representing disagree more than agree, four representing agree more than disagree, five representing agree, and six representing definitely agree; agreeing with a question indicates a positive viewpoint towards the prompt. Participant responses for all eight questions were aggregated into a single mean value which represented their overall perception of higher education. A full summary of the findings include:

1. The mean value for overall perceptions of higher education as a private good or public good among representatives of southeast Missouri was 4.47.
2. The mean value for question one (The benefits of attaining a college Bachelor's degree or higher are not restricted to the individual attaining the degree but extend to everyone else as well.) was 4.38.

3. The mean value for question two (Attainment of a college Bachelor's degree or higher increases career earning potential.) was 4.89.
4. The mean value for question three (An increase in an individual's annual salary benefits everyone, not just family and/or friends.) was 4.70.
5. The mean value for question four (Individuals who attain a college Bachelor's degree or higher are happier in their careers.) was 4.16.
6. The mean value for question five (Individuals who attain a college Bachelor's degree or higher are happier with their lives.) was 4.05.
7. The mean value for question six (An increase in an individual's higher education attainment level benefits everyone, not just family and/or friends.) was 4.52.
8. The mean value for question seven (Colleges provide benefits for everyone, not just those who attain a college degree.) was 4.50.
9. The mean value for question eight (The state should increase the amount of funding allocated to support public higher education.) was 4.89.

The theoretical midpoint of a scale that runs from one to six is 3.5. These results show that representatives of southeast Missouri have an overall positive perception of higher education and tend to view higher education as more of a public good than a private good.

Hypothesis one. When examining whether or not there were differences in perceptions representatives of southeast Missouri have of higher education as a private good or a public good, three questions pertaining directly to private good and public good

were aggregated into a single mean value which represented their perception of higher education as a private good or public good; these questions include:

1. The benefits of attaining a college Bachelor's degree or higher are not restricted to the individual attaining the degree but extend to everyone else as well;
2. An increase in an individual's higher education attainment level benefits everyone, not just family and/or friends; and
3. Colleges provide benefits for everyone, not just those who attain a college degree.

The results indicated representatives of southeast Missouri perceive higher education as more of a public good than a private good when compared with 3.5, the theoretical midpoint of the scale utilized in the survey.

Research Question Two

The second research question examined how perceptions of higher education as a private good or public good among representatives of southeast Missouri influence the value they place on higher education.

Hypothesis two. When examining whether or not there were differences in perceptions representatives of southeast Missouri have of higher education as a private good or a public good, four questions pertaining directly to the value participants place on higher education attainment were aggregated into a single mean value which represented the overall value participants place on higher education attainment; these questions include:

1. Attainment of a college Bachelor's degree or higher increases career earning potential;
2. Individuals who attain a college Bachelor's degree or higher are happier in their careers;
3. Individuals who attain a college Bachelor's degree or higher are happier with their lives; and
4. The state should increase the amount of funding allocated to support public higher education.

The results showed a significant positive correlation between the degree in which participants perceive higher education as a private good or public good and the value they place on higher education attainment. In summary, the more representatives of southeast Missouri perceived higher education as a public good, the more value they placed on higher education attainment.

Research Question Three

The third research question examined how perceptions of higher education as a private good or a public good varied based on specific demographic and socioeconomic factors.

Hypothesis three. When examining whether or not there were differences in perceptions representatives of southeast Missouri have of higher education as a private good or a public good based on the gender of the participant, all eight survey questions were aggregated into a single mean value which represented participants' overall perception of higher education. This value was used to determine if there was a relationship between participants' overall perception of higher education and the gender

of the participants. Although both genders had a positive view towards higher education, women were more supportive of higher education than men. This result was somewhat expected based on existing research which indicates differences in postsecondary outcomes based on gender; with women experiencing an increased success rate over men in terms of PSE attainment (Baum, Kurose, and Ma, 2013).

Hypothesis four. When examining whether or not there were differences in perceptions representatives of southeast Missouri have of higher education as a private good or a public good based on the age of the participant, all eight survey questions were aggregated into a single mean value which represented their overall perception of higher education. This value was used to determine if there was a relationship between participants' overall perception of higher education and the age of the participants. Despite research showing successful PSE attainment tends to decrease the longer a person waits to enroll in college after graduating high school (Baum, Kurose, and Ma, 2013), this research study did not show any significant relationship between participants' age and their overall perception of higher education.

Hypothesis five. When examining whether or not there were differences in perceptions representatives of southeast Missouri have of higher education as a private good or a public good based on the income bracket of the participant, all eight survey questions were aggregated into a single mean value which represented their overall perception of higher education. This value was used to determine if there was a relationship between participants' overall perception of higher education and the income bracket of the participants. Although participants representing every income brackets had an overall positive view towards higher education, there were significant differences

between groups. As participant income bracket increased, there was a general increase in favorability towards higher education. This is in line with existing research which shows that individuals coming from families with low household incomes are less likely to earn a PSE (Baum, Kurose, and Ma, 2013). Despite this, this study showed favorability towards higher education dropped significantly once participants' income was over \$100,000 per year. This may be partly attributed to the fact that families with higher incomes are able to provide financial stability to participants, negating the necessity for participants from wealthy households to obtain a PSE in order to recognize an elevated position in the U.S.A.'s socioeconomic hierarchy.

Hypothesis six. When examining whether or not there were differences in perceptions representatives of southeast Missouri have of higher education as a private good or a public good based on the participants' perceived socioeconomic status when the participant was an adolescent, all eight survey questions were aggregated into a single mean value which represented their overall perception of higher education. This value was used to determine if there was a relationship between participants' overall perception of higher education and the participants' perceived socioeconomic status when an adolescent. Participants were asked to identify what social class they would identify themselves most closely with when growing up; poor, middle income, or wealthy. As with participant income bracket, significant differences among the three groups were identified. Participants identifying themselves as growing up in middle income households had a more positive view of higher education than participants who identified themselves as poor; and those who identified themselves as growing up in wealthy households had a more positive view of higher education than participants who identified

themselves as middle income. This is understandable; existing research shows that an individual or families' socioeconomic status has a direct relationship with an individual's plans to attend to college (*What Factors Affect*, 2013). It is difficult for individuals coming from poorer families to identify the positive benefits associated with obtaining a PSE, even those with parents who have a PSE. In other words, if an adolescent grows up in poverty despite having parents who may or may not have had a PSE, it is understandable why they would question whether or not a PSE is really worth pursuing.

Hypothesis seven. When examining whether or not there were differences in perceptions representatives of southeast Missouri have of higher education as a private good or a public good based on the education level of the participant, all eight survey questions were aggregated into a single mean value which represented their overall perception of higher education. This value was used to determine if there was a relationship between participants' overall perception of higher education and participants' level of education. Participants across all education levels had positive views of PSE and perceived a college degree as something which has benefits for everyone, not just the individual attaining the degree; that is to say, all participants viewed it as a public good. However, significant differences in terms of the degree of value were apparent based on participants' education level. Participants with less than a high school education placed the least amount of value on higher education attainment. High school graduates along with those who had attended college but neglected to receive degrees valued PSE attainment more than those with less than a higher school education. Participants' with an Associate's degree and/or Bachelor's degree valued PSE attainment more than high school graduates and those with some college. Participants'

with a Master's degree placed the greatest amount of value on PSE attainment; perceptions of higher education for those with professional degrees were slightly lower to that of participants' with Master's degrees.

Hypothesis eight. When examining whether or not there were differences in perceptions representatives of southeast Missouri have of higher education as a private good or a public good based on the education level of the participant's parent or guardian, all eight survey questions were aggregated into a single mean value which represented their overall perception of higher education. This value was used to determine if there was a relationship between participants' overall perception of higher education and the level of education of the participant's parent or guardian. Participants were asked to identify the highest level of education attained by their mother along with the highest level of education attained by their father. Although existing research indicates that a child's outlook on education is influenced by his or her parents (DeSerf, 2002), this study did not show any significant differences in perceptions participants had towards PSE attainment based on participants' mother's and/or father's level of education.

The effect of annual income on participant education level. Participants' personal annual income in conjunction with participants' level of education yielded significant results regardless of which combinations of questions were aggregated into a single mean and utilized; that is to say, the effect income has on individual perceptions is dependent upon the individual's level of education. Therefore, this interaction was broken down to determine the effect participants' income level has on education in terms of participant viewpoint towards PSE attainment. The results are as follows:

1. Participant income level had no impact on perceptions towards PSE attainment for those individuals with less than a high school education.
2. Participant income level had a marginal impact on perceptions towards PSE attainment for those individuals with a high school education. While representatives of southeast Missouri with a high school education for all income brackets indicated favorability towards PSE attainment, participants earning between \$50,000 and \$75,000 showed the greatest disposition towards PSE as a public good. There was a noticeable decrease in favorability towards PSE attainment among those earning more than \$75,000 per year when compared with participants earning less than \$75,000 per year. One could speculate that those with a high school education earning more than \$75,000 were able to do so despite formal higher education; i.e. their disposition towards PSE attainment is not as favorable due to the possibility that these participants were able to secure high earning jobs without a college degree.
3. Participant income level had no impact on perceptions towards PSE attainment for those individuals who attended college but did not graduate with a college degree.
4. Participant income level had a marginal impact on perceptions towards PSE attainment for those individuals with an Associate's degree. Participants in income brackets earning less than \$75,000 per year indicated comparable disposition towards PSE attainment, however those earning between \$75,000 and \$100,000 per year showed a high degree of favorability, while those earning more than \$100,000 per year indicated low favorability. It is

important to note that there was only one participant with an Associate's degree earning between \$75,000 and \$100,000 per year and one participant with an Associate's degree earning between over \$100,000 per year, which may explain the ambiguity of the results for the higher income brackets.

5. Participant income level had no impact on perceptions towards PSE attainment for those individuals with a Bachelor's degree.
6. Participant income level had a significant impact on perceptions towards PSE attainment for those individuals with a Master's degree. Participants with a Master's degree earning between \$25,000 and \$50,000 per year showed the least favorability towards PSE attainment, while those earning between \$75,000 and \$100,000 per year indicated a notable increase in favorability. One could speculate that those individuals with a Master's degree earning less than \$50,000 per year do not place much value in their degree due to them representing a lower income bracket; i.e. the attainment of Master's degree did not yield the monetary results they expected. However, participants with a Master's degree earning between \$75,000 and \$100,000 tend to place more value on PSE attainment; unlike the lower income participants, it is possible that these individuals were able to secure higher paying jobs with their degrees. One individual participating in this study had a Master's degree and earned over \$100,000 per year, however, this person responded *definitely disagree* for all questions; that is to say, he/she placed little to no value on PSE attainment. Again, it is difficult to speculate on the unanticipated outcome of these specific results for a single person.

7. Participant income level had no impact on perceptions towards PSE attainment for those individuals with a professional degree.

Implications

The results of this research study suggest representatives of southeast Missouri value higher education and perceive PSE attainment as a public good. However, this general consensus is not accompanied by an increase in higher education attainment in the U.S.A.; the overall percentage of people living in the country who have a college degree has decreased (*Top 10 Higher, 2012*). Furthermore, many of those who do decide to attend college will not graduate (Avery, 2012). In short, people understand that PSE attainment has private and public value, however, a smaller percentage of people are graduating with a college degree. This implies that, despite the benefits of PSE attainment, people are making the choice to forego a PSE. As revealed in this study, there are a number of factors which impact a person's decision to pursue a PSE. Among others, these factors include gender, income bracket, socioeconomic status, and rising costs associated with attaining a PSE. The question remains, what is the deciding factor or factors which encourage an individual to attend college and motivates them to succeed in securing a degree?

Recommendations for Future Research

This study was conducted within the limitations delineated in chapter one. A post-positivist approach was utilized to determine how representatives of southeast Missouri perceive PSE attainment, specifically whether these individuals perceive higher education as a private good or a public good. Post-positivists researchers remain purely objective and make generalizations pertaining to samples of a population; they do not

attempt to determine why a phenomenon is occurring. This research study was not designed to determine the reasons behind these results. That being said, the results of this research bring up additional questions related to individual perceptions of public higher education. The following is a list of recommendations for future research related to this topic.

1. Despite the researcher's assumptions, the outcomes of this research indicated individuals who participated in this study viewed PSE attainment as more of a public good than a private good. These results suggests individuals understand that there are benefits for the country in terms of increasing PSE attainment in the U.S.A.; however, existing research has shown a decrease in the percentage of individuals in the U.S.A. attaining a PSE (Bound, 2010). Additional research is required to examine the specific reasons why participants feel the way they do about PSE attainment; individuals may be aware of some public benefits of PSE attainment, misinformed of others, improperly educated in terms of the impact of these benefits, etc. This research would be beneficial for leaders in higher education as they develop strategies for recruiting new students as well as retaining existing ones.
2. The results also showed that the more representatives of southeast Missouri perceived higher education as a public good, the more value they placed on higher education attainment. However, specific cases indicated a decrease in the value participants placed on PSE attainment, despite these participants representing higher income brackets. I believe a study focusing on the specific perceptions individuals earning over \$100,000 per year have towards

higher education attainment may be informative. It would be interesting to determine whether or not the value individuals place on their degree increases or decreases as their income escalates above \$100,000 per year.

3. Representatives of southeast Missouri indicated the state should increase the amount of funding allocated to support public higher education. This indication was made across all education levels and all income brackets; even those earning less than \$25,000 per year were in favor of increasing the amount of money they are paying to support public higher education. Additional research is needed to determine what specific benefits individuals expect to receive as a result of increasing PSE funding. If we are able to determine what specific benefits associated with a boost in PSE attainment are important enough for people to be willing to pay for, higher education leaders could utilize this information to formulate strategies for increasing state funding allocated to support PSE as well as boosting PSE education in the U.S.A. by enhancing recruitment and retention efforts.

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Appendix A

Directions: Please provide answers to the questions on this page and all subsequent pages. All information in this study is confidential and no information about any specific response will be shared outside of this research. Your time and effort are appreciated. This survey is organized into two categories:

- Category 1:** Basic demographic and socioeconomic information about yourself.
Category 2: Your perceptions towards higher education attainment.
-

Category 1: This information is collected to provide basic demographic and socioeconomic information pertaining to the survey participants and to allow for categorizing of responses to the variables.

1. My home zip code is: _____

 2. I am: Male Female

 3. My age is: 18 – 24 years of age 25 – 35 years of age 36 – 45 years of age
 46 – 55 years of age 56 – 65 years of age 66 years of age or older

 4. My race is: White Hispanic Asian African American Native American
 Other (please identify _____)

 5. My highest level of education is: less than a high school graduate high school graduate
 some college two year degree/associate's
 four year degree/bachelor's master's degree
 professional degree (doctoral/law/medical degree)

 6. My mother's highest level of education is: less than a high school graduate high school graduate
 some college two year degree/associate's
 four year degree/bachelor's master's degree
 professional degree (doctoral/law/medical degree)

 7. My father's highest level of education is: less than a high school graduate high school graduate
 some college two year degree/associate's
 four year degree/bachelor's master's degree
 professional degree (doctoral/law/medical degree)

 8. My personal annual income is: less than \$25,000 per year \$25,000 to \$50,000 per year
 \$50,000 to \$75,000 per year \$75,000 to \$100,000 per year
 Over \$100,000 per year

 9. How would you describe your family's socio-economic status when you were an adolescent?
 Poor (lower class) Middle income (middle class) Wealthy (upper class)
-

Category 2: Please select the response which best reflects your personal opinion. There are no *correct* answers, please provide your first reaction to each question. Please select only one response for each question.

Definitely disagree 1	Disagree 2	Disagree more than agree 3	Agree more than disagree 4	Agree 5	Definitely agree 6
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Question	Definitely Disagree > Definitely Agree					
1. The benefits of attaining a college Bachelor's degree or higher are not restricted to the individual attaining the degree but extend to everyone else as well.	1	2	3	4	5	6
2. Attainment of a college Bachelor's degree or higher increases career earning potential.	1	2	3	4	5	6
3. An increase in an individual's annual salary benefits everyone, not just family and/or friends.	1	2	3	4	5	6
4. Individuals who attain a college Bachelor's degree or higher are happier in their careers.	1	2	3	4	5	6
5. Individuals who attain a college Bachelor's degree or higher are happier with their lives.	1	2	3	4	5	6
6. An increase in an individual's higher education attainment level benefits everyone, not just family and/or friends.	1	2	3	4	5	6
7. Colleges provide benefits for everyone, not just those who attain a college degree.	1	2	3	4	5	6
8. The state should increase the amount of funding allocated to support public higher education.	1	2	3	4	5	6

Are there any other details or thoughts on higher education attainment that you would like to share?

Thank you for your participation in this study.

VITA

John D. Dudley was born August 8, 1978, in St. Charles Missouri. After attending public school in Jackson Missouri, he enrolled at Southeast Missouri State University where he earned a Bachelor in Science in Industrial Technology (2001). John graduated from Southeast Missouri State University with a BS in industrial technology in 2001 and an MS in Industrial Management in 2007. Upon graduation in 2001, John worked at Delta-Y Electric, a distribution transformer manufacturer and was the primary developer in the layout of a new sheet metal facility as well as the principal individual involved in the modeling of single phase and three phase distribution transformer housings. John left Delta-Y the following year when offered a graduate assistant position in the department of Industrial and Engineering Technology at Southeast Missouri State University. His primary function at Southeast was to educate students with the use of advanced computer aided design and drafting software, hardware, and systems to produce three dimensional drawings, renderings and actual physical prototypes of parts and assemblies. In 2003 John accepted a position with Schaefer's Electrical Enclosures as a design engineer; his responsibilities included utilizing solid modeling and advanced CAM software to generate parametric models for the electrical enclosure industry, managing a department of six design engineers to ensure proficiency in work and facilitate on-time deliveries; design, implement, and maintain quality control programs and databases; and supplemental programming for CNC controlled equipment. Since May 2007 he has been employed full time as an instructor at Southeast Missouri State University teaching classes in the mechanical design, manufacturing, construction, and supervision.