BEYOND HIGH SCHOOL: HOW VARIOUS LEVELS OF POSTSECONDARY EDUCATION IMPACT QUALITY OF LIFE

by

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(Under the Direction of Karen Webber)

ABSTRACT

The National Student Clearinghouse Research Center (2016) found that approximately half of the entering freshmen in fall of 2010 within the United States earned their baccalaureate degrees within six years; an even smaller percent of students completed their degrees in the two-year sector. The purpose of this study was to examine the extent to which individuals benefitted from pursuing postsecondary education, even without degree attainment. Analyzing nonpecuniary benefits that likely impact quality of life, this study used ELS:2002 survey data to determine the benefits of receiving up to 60 credit hours of postsecondary education, more than 60 credit hours of postsecondary education, an associate's degree or certificate, and a bachelor's degree, compared to pursuing no higher education. Propensity score weighting was used to ensure a more accurate regression analysis and best determine the benefits for varying levels of educational attainment. Analyses revealed that those who earned any college credit were more likely to value relationships and education, while earning a degree helped their careers.

INDEX WORDS: postsecondary, some college, quasi-experimental, quality of life, benefits

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CHAPTER 1

INTRODUCTION

There could be no education that was not at once for use in earning a living and for use in living a life. – W. E. B. DuBois (2001, p.112)

To understand the value of education, it is important to consider not only those who experience it, but also those who go without. This value can be seen on a large scale as the difference between two otherwise similar countries (Psacharopoulos & Patrinos, 2004) — and on a small scale, between individual people. Although education is arguably not valued equally by everyone, it is clear when looking at the history of the United States that the value of increasing the overall level of education was quickly recognized, as more people pursued it over time (Snyder, 1993). Historically, higher education in the United States began in the 1600s as a means to train religious ministers, with the intent of creating not only Godly, but also educated leaders upon whom the surrounding communities could depend (Jeynes, 2007). This training was available only to prestigious young males, excluding most other people on the basis of their sex, religion, race and ethnicity, and social class (Eckel & King, 2004). Due to the limited number of individuals who received such training, they were expected to use their knowledge to benefit those around them, taking the first steps to position higher education as a public necessity. Despite religious beginnings, the need for professional degrees became evident over time, paving the way for medical degrees (Scarborough, Turner, & Gregg, 1998) and law degrees (Sheridan, Glendon, & Alford, 2011) to emerge. As time progressed, educational opportunities

were expanded to non-traditional students, such as African Americans (Duster, 2009) and other minorities.

In more recent times, women, African Americans and other ethnic and racial minorities, and other non-traditional college students in the United States have been welcomed into higher education institutions, with scholarships being offered to minority and low-income students to better diversify and expand access (National Center for Education Statistics [NCES], 2010). As necessity and attainment of higher education have increased, so has research about its benefits to individuals and society. Postsecondary education has many known benefits for its graduates, both pecuniary and nonpecuniary (McMahon, 2009). However, less is known about the benefits of its attendees who do not graduate, calling into question its worth for a large portion of individuals who choose to pursue it.

"The New Forgotten Half"

According to Rosenbaum, Ahearn, Becker, & Rosenbaum (2015), "the new forgotten half" consists of students who begin at a higher education institution but do not finish, resulting in more debt without any increase in salary or employment rates. Therefore, considering length of attendance, variations in degree attainment, and other initial observable characteristics is crucial to the understanding of the outcomes of higher education. Specifically, studying the impact of higher education on quality of life depending on differential length of attendance is necessary for informed student decision-making, as well as policy implementation. College graduates often experience benefits touted by higher education researchers (Carnevale, Smith, & Strohl, 2010; Franzen & Hangartner, 2006; Oreopoulos & Petronijevic, 2013), but those who begin collegiate studies, yet do not finish, may not accrue substantial benefits that increase their quality of life to the same extent as those who graduate with a degree. Today's students must

consider the possibility that if they do not graduate, they may be left with some student loans as well as a deficit of money that could have been earned from employment if they had simply gone into the workforce (Dwyer, Hodson, & McCloud, 2013). It is because of this financial debt associated with earning a postsecondary degree that some students elect not to pursue or continue college (Burdman, 2005; Campbell, 2006; Knaggs, Sondergeld, & Schardt, 2015;).

Despite the challenges that students face, there is a plethora of literature suggesting that higher education is still worth pursuing. Therefore, when making the decision to pursue postsecondary education, students weigh the costs and benefits to make the best decision about their futures (Chapman, 1981; Grodsky & Rieglecrumb, 2010; Paulsen,, 1990). When students consider pursuing a higher education, they are really considering its impact on their future quality of life. If they perceive a lower quality of life due to any number of facets associated with college attendance, such as student loans, the attrition rates of students, or the opportunity cost of obtaining a baccalaureate degree, they may forego the process in its entirety. Although there is less empirical information available about those who attend but do not graduate from a higher education institution, and acknowledging the benefits of the sheepskin effect (Bilkic, Gries, & Pilichowski, 2012), it is suggested by some research that it is beneficial on average for students to obtain some postsecondary education even if they do not complete the degree program (Baum, Ma, & Payea, 2010, 2013; McMahon, 2009, p. 207; Toutkoushian, Shafiq, & Trivette, 2013). Unlike studying the benefits of graduates, there are mixed findings about the benefits of attending a higher education institution (Rosenbaum et al., 2015; Toutkoushian et al., 2013). Despite contradictory results, there are multiple benefits to higher education as a whole.

Studying the Benefits of Higher Education

Entire subsets of research have been dedicated to discovering the benefits associated with

higher education. Some research focuses primarily on the private benefits of tertiary education (Bitzan, 2009; Dale & Krueger, 2002; Stiglitz, 1975), while other research also addresses the positive externalities associated with higher education (Dee, 2004; Lochner & Moretti, 2004; Psacharopoulos & Patrinos, 2004). There is a further divide between the research centered on market benefits (e.g., Bilkic, Gries, & Pilichowski, 2012; Cheeseman, Day & Newburger, 2002; Toutkoushian et al., 2013) versus research that also includes non-market benefits (Baum, Ma, & Payea, 2013; McMahon, 2009; Toutkoushian & Paulsen, 2016). While these subsets of research are independent topics, they are all encompassed under the umbrella of research revolving around the economic benefits of higher education.

There are also studies dedicated to analyzing the effect of higher education on certain groups of individuals, such as racial and ethnic minorities, or women (e.g., Beattie, 2002; Bitzan, 2009; Brand & Xie, 2010). Additionally, there are studies revolving around student choice of major in college (e.g., Chang & Park, 2014; Hiner, 2012; Mullen, 2014). Research also exists that combines these factors, as well as other observable choices and characteristics (Estrada et al., 2016; Rincon & George-Jackson, 2016; Schmidt, 2016). Other researchers choose to study additional elements related to student persistence, retention, and graduation, such as student loan debt (e.g., Burdman, 2005; Campbell, 2006; Sullivan & Towell, 2017). Specific differences between types of institutions, such as bachelor's and associate's institutions (ACT, 2010), as well as the outcomes of various levels of degrees (e.g., Baum, Ma, & Payea, 2013), are also analyzed. These and other facets of higher education are studied as independent research topics, and all of these topics must be considered to fully understand the costs, benefits, and general outcomes of higher education.

Quality of Life

Some researchers have drawn connections explicitly between education and quality of life, but much of the research has a gerontology or health focus due to the adoption of "quality of life" into the medical field (Cho, Martin, & Poon, 2015; McNulty, Wonsun (Sunny), Thurston, Jiwon, & Larkey, 2016; Narushima, Liu, & Diestelkamp, 2013). Prior to being adopted by the medical field, however, education held a large role in the prediction of perceived quality of life (Flanagan, 1975). Therefore, while a gap in the most recent research exists pertaining to specific components of quality of life and their relation to education, past research emphasized education's importance (Flanagan, 1978; Russ-Eft & Flanagan, 1976). Although this research typically focused on higher education as a whole rather than varying degrees of higher education attendance, it provided a starting point from which future research could be conducted.

When analyzed, it is clear that the aspects of quality of life most affected by education in older research are some of the same benefits of higher education that researchers have focused on in more recent times, suggesting a continuation of research into quality of life, but a divergence from the "quality of life" title, in favor of more specific research topics that examine detailed facets of individuals' lives that connect to their educational attainment. McMahon (2009) attempts to bridge the gap between higher education attainment and quality of life, referring, primarily to bachelor's degree recipients in his calculations of monetary benefits. He discusses in his book some of the rewards that individuals may reap after obtaining a postsecondary education, primarily in terms of pecuniary benefits.

Addressing "Some College"

A few investigations that give a fairly comprehensive summary of the outcomes of higher education that exist within the field, such as Baum, Ma, and Payea's (2010, 2013) "Education

Pays" series and McMahon's (2009) *Higher Learning, Greater Good.* Baum, Ma, and Payea (2010, 2013) have produced multiple comprehensive reports revealing the effects of higher education related to unemployment rates, earnings, job satisfaction, parenting habits, civic participation, health, and other outcomes of interest. Unlike many other reports in the field of higher education, these researchers accounted for various levels of education from less than a high school diploma to doctoral and professional degrees, including those who only obtained some college education but attained no degree.

Baum, Ma, and Payea's (2010, 2013) reports about the outcomes of higher education add to the field a consideration of many outcomes of higher education, as well as the relationship between the outcomes and level of education, gender, race and ethnicity, and other pertinent observable characteristics. One of the greatest strengths and weaknesses in these studies are their classifications of levels of higher education, taking into account those who obtained some college yet no degree, while also placing all of those with some college into one category rather than analyzing the number of credits they earned in postsecondary education. Illustrating a stepwise pattern of the benefits of higher education depending on amount of education obtained, Baum, Ma, and Payea (2010, 2013), as well as other researchers in the field, acknowledge the existence of both pecuniary and nonpecuniary benefits of higher education.

Another comprehensive text about higher education is McMahon's (2009) book: *Higher Learning, Greater Good*. With chapters devoted entirely to problems that exist within higher education, challenges facing higher education policy, new and future policies, and new strategies for financing higher education, the brunt of this book is dedicated to the various outcomes of higher education. Focusing on costs and benefits — both public and private, market and non-market — McMahon presents concepts, primarily from the field of economics, that elucidate the

necessity of higher education for individuals and countries as a whole. In creating this book, McMahon not only explained the relevance of theories and theorists from other fields, but he also wove together ideas and research from multiple realms outside of education and economics, including medicine, sociology, politics, and other social sciences. With this, he presents a comprehensive overview of the findings in many fields, pertaining to higher education.

McMahon (2009) touches on those with some college, speaking of the various benefits of higher education, both market and non-market, in terms of economic gain. Referring to both public and private benefits of obtaining a higher education, as well as the associated positive externalities, he put a monetary value on outcomes associated with obtaining a bachelor's degree, making it easier to see the worth of a college education. Additionally, he did not simply compile the work of other researchers, but rather he drew his own connections between distinct fields of study, ultimately pointing out the connection between higher education and quality of life more than a dozen times in his book (McMahon, 2009, p. 13).

Like other research, these studies have their own deficiencies; Baum, Ma, and Payea's (2010, 2013) results address individuals with some college but are primarily the interpretations of descriptive statistics, ignoring more advanced techniques that could reveal more about their results and participants. They also address those with some college as one group, overlooking potential differences between individuals who attend for different lengths of time. In McMahon's (2009) *Higher Learning, Greater Good*, he draws connections between higher education and quality of life, acknowledging benefits to those who obtain varying levels of education, including some college, as well as their surrounding communities. Unique to his book, he constructs tables that reveal the economic worth of a higher education, including nonpecuniary variables that are difficult to quantify; however, he leaves a gap in his analyses

when referring to those with some college, as he focuses primarily on reporting monetary figures for bachelor's recipients, ignoring those with some college but no degree. With that, more research is necessary to fully understand and quantify the benefits according to differential length of attendance, as well as the connection between higher education and quality of life.

Significance of This Study

A study about the impact of higher education on quality of life, depending on length of attendance, is crucial to the field for multiple reasons. Although many studies address the costs and benefits of higher education, few address how it impacts students' future quality of life. With that said, pecuniary and societal benefits are not the only important factors that must be considered; other facets of individuals' lives may be affected by their level of higher education, such as their social relationships and personal growth. Studying higher education's impact on quality of life, rather than looking at public and private benefits that are primarily measured in monetary value, presents a more complete analysis of the costs and benefits associated with obtaining a tertiary education. Given the large number of students who enter college but do not finish, it is also important to measure the impacts on quality of life even if students do not obtain any degree. This study aims to analyze specific benefits of higher education related to quality of life by examining aspects of individuals' lives that may be related to level of educational attainment. In understanding not only how degrees impact quality of life, but also the benefits of earning some college, a better understanding of higher education as a whole, its costs and benefits, and issues surrounding access and retention, can be gained.

Another important reason to conduct this study lies in the fact that not all students enter higher education with the same skills and qualifications, but in many studies, students are treated as if they are the same. Understanding this, potential explained variation in the sample, as well

as self-selection bias, are often inaccurately accounted for. To better understand the true impact of a higher education, it would be beneficial to compare similar students to one another, ensuring that the results are not due to differences in their initial observable characteristics. In accounting for these differences, the costs and benefits of higher education, both pecuniary and nonpecuniary, can be better understood for multiple subsets of people, allowing for the dissemination of more accurate information. If there was a greater understanding of the effects of obtaining some college, not only could that information be conveyed to potential students, but also to policy makers, who could use the information to further expand access and increase retention. This study could influence policies surrounding entering college and staying in college for varying levels of higher education degrees.

Statement of Purpose

This study seeks to fill the gap in the literature pertaining to the extent to which students experience nonpecuniary benefits from attending a higher education institution, even if they do not graduate. Another crucial inquiry is the impact of different higher education degrees on quality of life, compared to obtaining no postsecondary education. In order to conduct this study, several subsets of variables will be used to determine the impact of attending a higher education institution on quality of life eight years after high school graduation, based on observable characteristics of individual students. The purpose of this study is to explore this action using *Education Longitudinal Study:2002* (ELS:2002) data to retroactively determine the impact of attending postsecondary education institutions for those with two years or less of college, more than two years of college with no degree, associate's degrees, and bachelor's degrees, in comparison to those who obtained no higher education. With that said, it should be acknowledged that the ELS:2002 data has some limitations in that it looks at participants a

relatively short time after high school and college, and it may take more time for participants to experience the full benefits of postsecondary education. Before delving into analysis, it is important to acknowledge the research questions of this study and consider them in the context of the existing research and theories surrounding them.

Research Questions

Specifically, this study seeks to examine:

1. What are the underlying constructs associated with perceived quality of life, beyond economic prosperity?
    a. In what ways are these differing social and cultural constructs related to one another?
    b. How do these constructs relate to the typically defined benefits or positive externalities associated with higher education?
2. Compared to those who did not attend college, what is the effect of college attendance on various cultural and social aspects of quality of life? Specifically, what are the effects of:
    a. Attending a higher education institution for the equivalent of two years or less, compared to never attending?
    b. Attending a higher education institution for the equivalent of more than two years without attaining a degree, compared to never attending?
    c. Graduating with an associate's degree, compared to never attending?
    d. Graduating with a baccalaureate degree, compared to never attending?

CHAPTER 2

THEORY AND LITERATURE

Theorists and Theories

Examining the benefits of higher education by differential length of attendance allows for not only a better understanding of the outcomes of higher education, but also for policy innovations that target students more specifically and contain a more accurate representation of all potential outcomes of higher education. This could impact both college choice and college attendance as a whole, causing more individuals to pursue tertiary education. To best understand the current atmosphere surrounding college choice and attendance, a theoretical understanding of the various costs, as well as monetary, social, cultural, and other nonpecuniary benefits, is required; similarly, it is important to consider the long-term results that later impact quality of life. This aids researchers not only in understanding the topic, but also in realizing where gaps may exist between theory and application, providing areas in which policies can be improved and more strategically implemented. Before understanding the theories associated with the benefits of higher education, it is helpful to know the theorists. For this study, two specific theorists are referenced: John Clemens Flanagan and Pierre Bourdieu.

The Contribution of John C. Flanagan

John Clemens Flanagan is known for his many accomplishments in psychology and education, but he is perhaps most widely known for his Quality of Life Scale (QOLS), which can be seen in Appendix A. Used in various fields over time, Flanagan's QOLS inquires about participants' quality of life in reference to multiple facets of their existence, rather than just focusing on their SES or their monetary acquisition. In order to create the QOLS, Flanagan

(1978) applied a qualitative means of data collection called the critical incident technique (CIT), for which he is also credited. When he created this scale in the late 1970s, he called on participants from a previous education survey, allowing him to make direct connections between level of education and quality of life. Today, many of the variables acknowledged within his survey are known to be benefits of higher education, such as higher pay and better health (McMahon, 2009). In recent years, the QOLS has been adopted by the medical field. Proven both reliable and valid as recently as 2003 (Burckhardt & Anderson, 2003), the QOLS has been used to analyze trends in quality of life determinants since the 1970s when the QOLS was initially created.

Because Flanagan's QOLS is used in this study as a guide in creating the dependent variables of interest, it is essential to understand how and why the scale was created, including the method that was used to collect the initial data, the CIT. The CIT is considered to be an outgrowth of the Aviation Psychology Program in the United States Army and Air Forces in World War II (Flanagan, 1953). Flanagan and other investigators conducted studies funded by the United States government to improve effectiveness in the war efforts using the CIT. In 1946, Flanagan founded the American Institutes of Research, or AIR, where he focused on perfecting the CIT based on past and current studies conducted for the Aviation Psychology Program (Flanagan, 1953).

The CIT started out as a qualitative measure of recalled incidents, which were obtained via interview by various researchers. Each researcher asked participants about critical incidents or work requirements that affected their jobs in the United States Army and Air Forces. A critical incident could be recognized as one that researchers could systematically identify as crucial in a recollection of events or standards. Although each study conducted was slightly

different due to the qualitative nature of data collection, researchers were able to systematically identify critical incidents in order to recognize and analyze patterns in responses (Flanagan, 1953). In Flanagan's book, *Critical Incident Technique*, he provides a brief history of the studies that contributed to the formal development of the CIT, as well as an explanation of its novelty and applications (Flanagan, 1953). Multiple studies were conducted as part of the Aviation Psychology Program, addressing issues of pilot training (Miller, 1947), airplane controls and instruments (Fitts & Jones, 1947), failed bombing missions (Flanagan, 1948), and other similar research topics relevant to the war. In writing his summary volume, Flanagan alluded to the importance and effectiveness of collecting critical incidents qualitatively; this in combination with his founding of AIR, contributed to the formal creation of the CIT.

Using CIT, each study had a different series of interview questions due to the nature of the differing research topics, but a standardized technique that could ensure generalizability and applications to other subjects for qualitative data was novel at the time of its creation (Flanagan, 1953). Some of the first studies in which CIT was formally used focused on the critical incidents of airline pilots in their every day jobs (Gordon, 1949) and the critical incidents related to conducting research among research personnel (Flanagan, 1949), thus expanding the technique from its original wartime application. In the next few decades, Flanagan would find the technique widely applicable for a variety of people, positions, and research questions. Some groups to which the CIT was applied for various research questions included psychology instructors, factory employees, dentists, book keepers, and sales clerks (Flanagan, 1953). Among other research endeavors, Flanagan also applied CIT to the development of his QOLS (Flanagan, 1975, 1978).

Although applied to the medical field in recent years, Flanagan's QOLS was first administered in the field of education, calling on the CIT that he developed during the war. Approximately one third of the participants who provided critical incidents related to their quality of life came from Flanagan's Project TALENT 11-year follow-up (Flanagan, 1978). Project TALENT was conducted to assess educational abilities and aspirations in high school students during the 1960s. While conducting this research, Flanagan found a deficit in educational skills and reading comprehension among high school students, which encouraged schools to make drastic changes to their curricula (Flanagan, 1971). Researchers continued to follow-up with these students to create longitudinal educational data, much like the surveys administered by the National Center for Education Statistics (NCES) today. For example, Wise, McLaughlin, and Gilmartin (1977) conducted an 11-year follow-up with the initial participants in Flanagan's Project TALENT and had students identify descriptive variables, such as their race, gender, SES, and parental SES. The researchers also had information from the first interview available to them, such as test scores. Finally, they collected data from the, at the time, 30-year-old participants about their quality of life, including questions that specifically asked about "quality of life," as well as variables such as civic participation, job satisfaction, marriage and children, and other relevant variables. Many of these same variables have since been researched as benefits of higher education (McMahon, 2009).

After examining initial results of the QOLS, Flanagan and Russ-Eft (1975) declared that education had a direct effect on quality of life. Specifically, they found that the participants reported incidents in which education helped prepare them for work and life in general. Compared to those with lower levels of education, highly educated individuals were likely to have a job and enjoy that job, marry others with a higher education, provide for children, and

pursue life-long learning. In addition to the direct and indirect effects of education on quality of life, Flanagan and Russ-Eft (1975) found that race, health, marital status, gender, having children, and other variables to be relevant to an individual's perception of quality of life.

That same year, Flanagan (1975) produced another study with his QOLS in which 6,000 critical incidences were collected. This study revealed that health was identified as the most important factor in quality of life for both men and women participants followed by the relationship with their spouse as the second most important criterion for their quality of life. After this, the two genders began to differentiate in their views of important factors, as the third most important factor for women was childcare, while the next most relevant factor for men was their job. This revealed a divide between men and women's priorities, reflecting traditional gender roles within society at the time.

By 1978, Flanagan had expanded his group of participants to 50- and 70-year-olds, as well as the initial group of 30-year-olds from Project TALENT. With this larger sample, he created an accurate QOLS across multiple subsets of individuals. These individuals were diverse by race/ethnicity, gender, age, socioeconomic status, and by predominant language. With these added individuals, Flanagan had over 6,500 incidents and almost 3,000 participants contributing to his scale. This QOLS included 15 components that participants associated with their quality of life, which can be seen in Appendix A. These components are summarized into categories of health and material wellbeing; relations with other people; social, community, and civic activities; personal development and fulfillment; and recreation.

With this scale, Flanagan was able to conceptually identify many important factors that contributed to quality of life for a variety of people, as well as infer the relationship between quality of life and education, thus contributing to the early research about the benefits of higher

education. One deficit in his research was that he cited research primarily from his own publications and from others in his field of work, such as those who contributed to the creation of the CIT. He did not, however, delve into other related fields, such as sociology, anthropology, or other social sciences. Despite this limitation, his QOLS accurately identifies multiple variables of known importance in the field of education pertaining to the benefits students may receive. Even though he did not consider fields beyond psychology in the creation of his scale, other fields have adopted it since its creation and proven it to be both reliable and valid in recent times (Burckhardt & Anderson, 2003). It is because of its reliability and validity, as well as its content, that the QOLS can reasonably be applied to other fields that study similar phenomena.

Bourdieu's Forms of Capital

Like Flanagan, Bourdieu (1973) spent much of his career analyzing the effects of education. Although he did not phrase these connections in terms of quality of life, he did speak of wellbeing through his forms of capital. Both Bourdieu and Flanagan depicted similar ideas, as they both alluded to the importance of education for success in various realms of life. The similar themes in their work contribute to the understanding of the effects of education as a whole, despite their works existing in two distinct time periods, fields, and languages. It seems reasonable, therefore, to draw connections between Flanagan's QOLS and Bourdieu's forms of capital and theories about education for the purposes of this paper. Bourdieu described four main forms of capital: economic, social, cultural, and symbolic capital. Although there are also other sub-forms of capital that he mentions throughout his writings, such as informational, religious, political, and academic capital, which can be categorized into one of the main forms of capital; academic capital, for example, falls primarily under the category of cultural capital, as portrayed in his book, *Distinction: A Social Critique of the Judgement of Taste* (Bourdieu, 1984).

Writings, such as *Bourdieu: Critical Perspectives,* suggest that Bourdieu may have begun his analysis of capital using some of Marx's ideas about labor (Bourdieu, Calhoun, LiPuma, & Postone, 1993, p.67). Although he initially learned of capital from other theorists, Bourdieu expanded upon his own sociological theories in such a way that he added a new theoretical understanding of capital to the field of sociology. Continuously expanding his ideas based on the progression of society, Bourdieu (1986) describes economic capital as a more material capital; it can be directly transformed into monetary compensation and includes other forms of wealth, such as property rights. For economic capital to have any meaning, it must exist within a society in which it is recognized (Bourdieu, 1977). Perhaps the simplest form of capital to understand, economic capital can be obtained more easily by individuals with more marketable skills because employers are more likely to hire these individuals and pay for their services, which is the premise of the human capital theory. Economic capital allows individuals in today's society to pay for places to live, buy groceries, and pay for other necessary goods and services; it also allows people luxuries of material comforts, such as cars and technology. Groups of people that have a large amount of economic capital are likely to congregate with others like themselves, (Bourdieu, 1984), suggesting a direct relationship between economic capital and social capital.

Another focal point, social capital, is defined in Bourdieu's (1990) *Logic of Practice* as kinships or other relationships that an individual may manifest and mobilize in order to increase or promote his own capital. Bourdieu's (1986) "Forms of Capital" suggests that social capital is a collective capital due to the fact that it relies on social networks. As such, individuals theoretically have as much social capital as do their social connections collectively and may use this capital to benefit themselves. An example of this would be the Harvard graduate who acquired his first job after graduation with the company of his college roommate's father.

Although the roommate's father may not be in the student's social network, he is in a broader network that demonstrates the collectivity of social capital. In this way, education is useful in acquiring social capital, as those who attain higher levels of education are likely to gain more economic capital, maintain a higher level of social capital, and attain more cultural capital (Bourdieu, 1973).

Unlike social and economic capital, cultural capital is a bit more complex because it often does not depend on quantifiable measures, such as money or number of people. Cultural capital is dependent on the society in which it exists (Bourdieu, 1986) and holds no meaning outside of societies that do not share a similar or the same views on cultural capital (Bourdieu, 1977). With that said, Bourdieu et al. (1993) suggest that cultural capital is arbitrary. They go on to say that cultural capital is consistently held to three certainties: it must depend on subsets of class within a society; there is an irrelevance to which actions and ideas gain cultural capital as long as something does within the society; and there is historically no reason for one entity to have higher cultural capital. An example of this can be seen with accents, as individuals often adapt their accents to that of more socially preferred ways of speaking (Mugglestone, 2003). In reference to cultural capital within a society, accents vary by geographical location, education level, and class. Bourdieu would argue that it does not matter which accent is preferred, but it does matter that one is associated with a higher level of cultural capital, so as to confer that capital onto those who display the correct linguistic abilities. Finally, there is historically no reason for any accent to be favored over another within society, and any accent could have been the favored accent. With that, it becomes obvious that cultural capital depends on the society, period, and social class in which it exists (Bourdieu, 1986).

Because cultural capital is less quantifiable, it is often overlooked as a form of capital but considered to be legitimate competence for those individuals who possess it (Bourdieu, 1986). Schools and education are particularly important in Bourdieu's analysis of capital because Bourdieu references in multiple writings that there is innate or inherited cultural capital, as well as learned, or educational, cultural capital (Bourdieu, 1973, 1984, 1986). The total amount of cultural capital that individuals possess depends on their inherited cultural capital as well as learned capital (Bourdieu, 1984). With that, schools are created by and for the middle class and thus perpetuate middle class values. When students attend an educational institution and learn to apply these values to their habits and thoughts, they attain a learned cultural capital; they also have opportunities to earn degrees when certain levels of schooling are complete, thus demonstrating a level of cultural capital and competence (Bourdieu, 1973).

As the culmination of all other forms, symbolic capital is the most obscure, but perhaps the most important, form of capital, as other capitals maintain their relevance from within symbolic capitalism (Bourdieu, 1977). As a gateway through which capitals must pass to convey any meaning to others within the society, it suggests an underlying layer of economic, social, and cultural capital. In the educational setting, the cultural capital can be seen when individuals progress through school, obtain degrees, and reap the benefits of those degrees, as the degree is a valued entity within society as well as symbol of success. This is connected to the layer of social capital due to the networks individuals form throughout the schooling process. Further, it opens a gateway for higher economic capital due to the assumption that the recipient of an organized form of education has gained skills and knowledge. It is a way to connect all forms of capital to the symbolic act or product itself, as well as show the connections that may form between the other three types of capital. Symbolic capital is not as simple as considering what significance

an object may carry, though. Symbolic capital also exists within marriage, for example, as marriage means different things to different people within society and may hold differing levels of importance (Bourdieu, 1990). It conveys cultural capital via values and expectations, it provides social capital by enhancing connections and expanding social networks, and it affects economic capital through its application in government taxes and general income enhancement. In reference to this study, symbolic capital would dictate which levels of education are more valuable, just as it does in cultural capital; those with these valued levels of education experience would be rewarded for their acquisition of education via cultural, social, and economic capital.

All of Bourdieu's forms of capital impact many aspects of society and the individuals within it by combining into symbolic capital, intertwining in such a way that they cannot easily be separated from each other or society. Social, economic, and cultural capital dictate morals and values within different subsets of society, as well as what is considered pleasurable; they determine what types of music and books people like, how people dress, whether they value school, how prominent religion is in their lives, what foods they eat, what hobbies they enjoy, the value of a dollar, and many other aspects of life (Bourdieu, 1984).

The Relationship Between Bourdieu and Flanagan: Theories United

Bourdieu's forms of capital directly relate to Flanagan's quality of life scale, as social, economic, and cultural capital broadly outline many of the facets that contribute to an individual's quality of life. Economic capital relates more directly to monetary wealth and compensation while also maintaining an indirect connection to services that can be bought, such as healthcare. Social capital deals directly with social relationships and enhances the importance of maintaining social networks, referencing not only the relationships that exist within a person's life, but also their collective mobilization. Cultural capital provides an understanding of

phenomena like education, delving into the norms and values of a society while also alluding to the importance of learned cultural capital. Finally, symbolic capital is both the most elusive and ubiquitous form of capital, giving meaning to every interaction, transaction, institution, and idea. Because symbolic capital is difficult to quantify and is a combination of economic, social, and cultural capital, for the purposes of this paper Flanagan's (1978) QOLS (Appendix A) is discussed in terms of only the more tangible capitals: economic, social, and cultural. Just as Flanagan and Bourdieu's theories relate to each other, they also directly relate to education. Each of the forms of capital can be considered in the measures of quality of life, providing a connection between the theorists, their ideas, and level of education.

Referencing Flanagan's (1978) QOLS, the first construct is physical and material wellbeing. In order to maintain health and physical safety, a person may need a job that offers health insurance or a high enough wage to afford healthy choices; this includes buying different groceries, buying or renting access to gym equipment, and health insurance itself. Economic capital is also used to address material wellbeing, such as paying rent or a mortgage, living in a nicer area with better schools, purchasing a car, having faster internet, and acquiring supplies for school. Economic capital is directly necessary for the aspects of Flanagan's QOLS related to physical and material wellbeing. Similarly, social capital is important, as economic capital is not always easy to acquire. By expanding and calling upon a social network of a collective level of acquired economic capital, individuals may benefit from their social capital in the form of material wealth. Returning to the previous example about a college graduate obtaining a job in his roommate's father's company, this interaction displays the benefits of acquiring social capital and results in the acquisition of economic capital. Finally, cultural capital can be applied in the

acquisition of material wealth and health, as learned cultural capital, in other words an advanced level of education, is valuable to employers (Becker, 1962; Bourdieu, 1973; Mincer, 1958).

In Flanagan's second construct, relations with other people, it seems reasonable that social capital is a necessity. Relationships with family, close friends, and other people within a social network develop in the home and through school and work places, allowing for the expansion of social capital while in pursuit of cultural capital. Economic capital must also be considered when analyzing social relationships due to the fact that social networks require active participation in order to maintain them, forcing individuals to invest economic capital in activities in which their social network partakes; an example Bourdieu provides is giving a birthday present, as it is expected that people expend monetary compensation to reciprocate in the giving and receiving of gifts in order to maintain civil relations (Bourdieu, 1990). To provide another example, some social relations involve parents and children, in which case the parents support the children by providing food, shelter, and other basic necessities of life; the parents decide on a location to live, placing the children into specific school districts, and paying for all involved costs, which requires them to fund the child's existence while also leaving them in charge of their children's learned cultural capital. Understanding these various connections, the relations with others that coalesce in the QOLS depend on social, cultural, and economic capital identified by Bourdieu.

Flanagan's third construct in the QOLS delves into activities for and within the community, such as civic and community participation. Encompassed within this community participation is community service, volunteering, donating, and taking on civic responsibilities. Directly related to economic capital, these activities often require funds. For example, donating money necessitates that people not only have economic capital, but also that they have a surplus

of it that can go back into the society around them; even taking a day to vote or volunteer at a local institution requires economic capital, such that an individual can miss a day of work without suffering from a loss of pay. There is also a social aspect to these activities, as social capital exists not only between family, friends, and colleagues, but also between those in a given community. By participating in community activities, it is possible to expand the social networks within that community, thus conveying more social capital. Finally, in many subsets of society, community and civic participation is deemed to be not only beneficial, but is also expected to some extent. Similarly, participation in local and national governmental affairs, such as voting, is increasingly taught as a value in schools, thus conveying cultural capital associated with these general practices.

In Flanagan's (1978) construct for personal development and fulfillment, continued learning exists as a mode of growth, which is easily translatable into the cultural capital perpetuated by middle class society. In a similar vein, Bourdieu (1984) suggests that education affects individuals' cultural values, likes and interests, social networks, economic growth, and other facets of life, thus contributing to personal development while also impacting social, cultural, and economic capital. In addition to continued learning, general levels of introspection and understanding, morals, religious beliefs, and other opinions are dictated by economic, social, and cultural capital. These understandings are based on innate cultural capital, or the cultural capital people are born into, economic capital that dictates living a spending circumstance, social groups and networks people have available to them, and the society in which they exist. Other aspects of people's lives related to personal development and fulfillment, such as participation in the workforce and self-expression, also depend on and determine the economic, social, and cultural capital they experience both directly and indirectly.

In Flanagan's final construct of the QOLS, recreation activities are addressed. These activities range from socializing with others, watching or participating in extracurricular activities, and general leisure activities. All of these activities depend on Bourdieu's forms of capital. Economic capital dictates what leisure activities an individual can participate in; for example, certain extracurricular activities require entrance fees or take up time that could be spent otherwise earning more economic capital. For an individual to participate in these activities, they would need a stable level of economic income. Although participation in all leisure activities does not require economic capital to be sacrificed, economic stability adds to the amount of free time people are likely to have to dedicate to recreation. In addition to economic capital, social capital is also expanded by participation in recreational activities. By participating in the socialization implied by many leisure activities, social networks are expanded upon, thus adding to a person's social capital. Cultural capital is impacted by the leisure activities in which an individual participates while also dictating in which leisure activities a person will show interest. Bourdieu (1984) references this pattern and allows for a comparison of preferred leisure activities according to levels of education, another facet of cultural capital. In participating in specific leisure activities, as dictated by a person's cultural capital, further expansion of their social capital, and therefore their economic capital, can occur.

In these and other ways, Bourdieu's forms of capital help to explain the results that Flanagan found using his QOLS. Although they never cited each other and did not work in the same field, they both looked at similar issues, acknowledging the importance of economic stability, social relationships, civic and community participation, personal growth and fulfillment, and recreational activities in various writings they published (Bourdieu, 1984, 1986; Flanagan, 1978; Flanagan & Russ-Eft, 1975). Related to their findings, they also both wrote

about the importance of education, the effects of varying levels of education, and the impact education can have on an individual's life, referencing higher education with frequency (Bourdieu, 1973, 1984; Flanagan, 1971, 1978). Understanding these two theorists, their relationship to each other's work, and their contributions to this study, two specific theories are used to better inform this research: cultural reproduction and social reproduction, and human capital theory.

Cultural and Social Reproduction

Researchers have long been interested in why students choose to go to college, given the benefits of attaining a higher education. For many students, college attendance is a foregone conclusion. These students tend to come from backgrounds in which education is emphasized from an early age by their families, social groups, and schools; one or both parents are likely to have received a college education, and these students were likely born into a higher socioeconomic status, or SES (Beattie, 2002; Mullen, 2010; Perna & Titus, 2004). Acknowledging that many students do not make the choice of whether to go to college, but rather which college to attend (Mullen, 2010), it is reasonable to assume that their social and cultural capitals have an impact on their choices about higher education; with that, many middle class children understand at a young age that college is not only an option, but an expectation. Bourdieu (1973) would argue that this occurs because of social and cultural reproduction. This theory delves into cultural and social capital specifically, arguing that each person is not born a blank slate, but rather they inherit their social and cultural capital from their family. Family and peers play a large role in a person's educational choice, but more than that, they also contribute to the individual's perception of their overall quality of life. Maintaining these relationships, and therefore the expectations associated with these relationships, leads to the perception of a higher

quality of life (Flanagan, 1975, 1978) while also influencing whether they are likely to pursue a postsecondary education, depending on their social networks. Given that social capital deals directly with the social networks and connections in a person's life (Bourdieu, 1986), and cultural capital can be split into inherited and learned cultural capital, one of which calls upon existing capital in the family setting (Bourdieu, 1984), it makes sense that these two capitals would be passed on generationally; even learned cultural capital depends heavily on an individual's family, as family's with more economic, social, cultural, and symbolic capital can place their children in schools that better exemplify the ideals to which they adhere, i.e., learned cultural capital (Bourdieu, 1984). Educational settings are meant to impress upon students the value of higher education. Bourdieu (1973) dictates:

> Institutions of higher education that ensure or legitimate access to the ruling classes […] are therefore to all intents and purposes the monopoly of the ruling classes. The objective mechanisms which enable the ruling classes to keep the monopoly of the most prestigious educational establishments […] takes into account only merit and talent. (p. 61)

In other words, with the possession and acquisition of more social and cultural capital comes a greater likelihood of pursuing a higher level of education due to a general recognition of its values and domination in the way of maintaining levels of capital by others with similar levels of social and cultural capital.

Understanding the value of education in terms of cultural and social capital, many of the schools in the United States strive to perpetuate values of the dominant class, mainly the middle class, one of which being education (Bourdieu, 1974), as do many families, peer groups, and other individuals and organizational entities with whom students may interact over the course of

their lives (Nash, 1990). Students are, therefore, a product of everyone and each entity around them, both in and out of the school setting. Their families and friends influence social reproduction simply by being present and allowing students a social network in which they may function. This fits well into Bourdieu's social capital, which is defined as a group of kinships or other relationships to which an individual has access that can be manifested and mobilized when needed (Bourdieu, 1990). These groups of individuals and organizations surrounding the students not only influences their thoughts and opinions, but also what they consider to be the "norm" pertaining to education. In addition to the social reproduction that occurs outside of the schools, schools instill cultural reproduction (Bourdieu, 1973).

Bourdieu writes that it is the job of the public education system to instill cultural capital into its students, thereby increasing their educational credentials and passing on cultural norms for the society in which they exist (Bourdieu, 1984). Cultural capital depends on the society, time period, and subset of class in which it exists (Bourdieu, 1986), and in a society in which the middle class pays for and dictates the teachings in schools, students are likely to assume the norms of their educational institutions and apply this knowledge to the world and society around them. This produces a society in which education is viewed as extremely important and almost necessary for success, thereby encouraging students to pursue a higher education without directly telling them to do so. As they receive encouragement from their social networks and from schools, many students understand at a young age that college exists, it is correlated with their idea of success, and school is there to prepare them for college (Mullen, 2010). Of course, this does not hold true for each student, as some students may have a conflict between the values and cultural norms presented in the schools and their home lives.

Bourdieu (1990) addresses the fact that youth are a product of their environment, which can greatly impact their educational preparation and aspirations. When children are born into a lower SES home, they are likely to have different values, mannerisms, and interests than their counterparts who were born into higher SES environments. As such, they are also likely to have fewer educational resources available to them to help them prosper in school due to lower funds in the public school system. These lower SES students are less likely to prosper in an educational environment, and more likely to devalue their education (Ogbu, 1982), thus pushing them away from educational endeavors that are typically part of learned cultural capital. This creates a discord between different subsets of society within the United States and may be one explanation for the lower numbers of minority and lower SES students in higher education. Although Bourdieu's theory of cultural and social reproduction may not explain the value placed on education for all students, nor does it fully explain students' choices in obtaining additional education after high school, other related theories take into account social and cultural reproduction to understand why individuals choose to pursue a higher education.

Theories Related to Cultural and Social Reproduction

Rational choice theory states that students make the decision that rationally benefits them the most socially, culturally, and economically; they pursue rewards while avoiding punishment (Scott, 2000). With that, pursuing a higher education may be the best and most rational choice with which students are presented for multiple reasons. Socially and culturally, they may be expected to pursue a higher education by schools, peers, and family, as is suggested by Bourdieu's theory of cultural and social reproduction. Depending on students' observable characteristics, such as race and ethnicity, gender, and SES, students may be expected to take certain paths in life pertaining to education. For example, while some higher SES students may

be expected to attend a prestigious university immediately after high school (Mullen, 2010), other students of a lower SES may be expected not to pursue a higher education at all, so as not to create an additional cost for their families (De la Rosa, 2006). This reproduction of cultural values, while different from the values presented by many educational institutions, may be more prominently displayed in students' decisions to forego a higher education due to the fact that a large portion of their social networks may be made up of nuclear and extended family members (Stanton-Salazar & Dornbusch, 1995). Living up to the expectations of their social networks, students make the choices pertaining to education that they perceive most likely to positively impact their quality of life in terms of their relations with those who are closest to them (Scott, 2000). Rational choice theory takes into account cultural and social reproduction, acknowledging that decisions are based heavily on the social and cultural capital within the students' lives.

This theory also takes into account that economically, students may take into account the higher pay that comes with obtaining a degree, as well as the necessity of a degree for the career of their choice. This delves into economic capital and the human capital theory. Rational choice theory takes all of these things into account, as well as the costs that accompany a higher education. Students must weigh the costs and benefits of pursuing a higher education and make the choice that is most rational for them. A problem with rational choice theory is that often times students do not have an understanding of the exact costs and benefits of pursuing a higher education due to a lack of information, so they must make the choice that seems most rational at the time, even if it is not the choice that may be statistically more rational (Desjardins & Toutkoushian, 2005).

Due to debt aversion, some students may choose to forego higher education when it would benefit them and their society if they pursued it (Burdman, 2005). It is at this point that society must step in and provide more and better information, as well as additional resources, as what individuals may perceive to be best for them may conflict with what is best for their society (Hechter & Kanazawa, 1997). With that, students are presented with new information, such as scholarship opportunities, tuition waivers, and other benefits that may allow them to reconsider the costs and benefits of a higher education. This allows for a consideration of not only social and cultural expectations, but also of economic benefits to higher education, lending itself to relations with both the theory of cultural and social reproduction and human capital theory.

Human Capital Theory

While Bourdieu's theory of cultural and social reproduction accounts for many of the experiences of individuals in an educational setting, human capital theory more firmly accounts for the desire for and necessity of economic capital. Economic capital is related to each construct in Flanagan's (1978) QOLS, either directly or indirectly, and therefore must be considered in addition to cultural and social reproduction when analyzing a person's perceived quality of life. Economic capital is necessary for the attainment of material comforts; necessities, such as healthcare, housing and groceries; and the maintenance of various social, community, and recreational activities. This connection to quality of life makes economic capital both desirable and necessary for survival. Human capital can be thought of as the skills and knowledge that an individual possesses that may be applied to the workforce to gain economic capital; it is essentially their worth, as perceived by others who are able to provide them with economic capital in exchange for labor (Becker, 1962). Mincer (1958) describes human capital as training or education that a person receives in order to better function as a

worker; with this, employers pay more for workers who have received more training and education in order to compensate them for the time and money they invested in honing these skills. As society progresses, people with more human capital are required to keep it functioning, thereby producing a reason for students to continue in their educational pursuits and earn more credentials before entering the workforce. Understanding the applications of human capital theory and economic capital to the workforce, the point at which a student decides to depart from education and training determines their human capital and formal qualifications, thus affecting the perceptions of employers about their abilities, as well as their future potential income (Becker, 1962). As more students attain higher levels of education, they and their societies grow in wealth and knowledge.

Kiker (1966) declares that the wealth possessed by a society depends on the wealth and dispersion of wealth within that society, which is heavily dictated by the amount of human capital that individuals possess. Largely connected to individuals' perceptions of their quality of life (Flanagan, 1978), societal perceptions of prosperity also depend on economic and human capital. Therefore, when individuals possess more human capital, they not only increase their own personal wealth, but also the wealth of their society as a whole, making it stronger and better equipped to function. This idea is indirectly perpetuated by employers and directly stated by many people and entities, such as public schools, that students may encounter in their lives. Therefore, when it is time to decide which educational route to pursue, students may unknowingly take into account the human capital theory to dictate this decision. Connections have been drawn between human capital theory and the sheepskin effect that make education worth pursuing at certain levels more so than other levels (Bilkic et al., 2012), which students may also consider in their decisions to pursue postsecondary educational training.

Related Theories to Human Capital Theory

Related to human capital theory, the signaling theory and sheepskin effect dictate that obtaining certain credentials, e.g., a high school diploma, associate's degree, or a bachelor's degree, signals to employers that individuals have the skills and knowledge necessary to perform a job for which they may be hired (Stiglitz, 1975). A degree signals that an individual meets the required level of knowledge and skill, or the appropriate amount of human capital, to complete a job, making themselves stand out to future employers. In a society where people compete for positions in the field of their choice, it is important to let potential employers know that they are equipped to handle the jobs they are assigned, something that a degree often conveys. Workforce participation and satisfaction impact perceptions of quality of life (Flanagan, 1978), with importance of the job being one of the most highly rated contributing factors to job satisfaction (Wise, McLaughlin, & Gilmartin, 1977). The College Board (2008) not only reaffirms the significance of job importance and accomplishment in recent times, but also confirms that those individuals with higher degrees report higher levels of job satisfaction. Understanding this, according to the signaling theory, people with the same number of years of education and experience but no degree may be overlooked because they did not have the credential to signal to employers that they had an adequate amount of human capital to complete a given job. This potentially leads to these individuals settling for jobs they did not desire or accepting lower pay. Drawing upon the sheepskin effect, those who have degrees, certificates, or other credentials are likely to receive higher pay than if they had similar levels of education but no credential because they have demonstrated or signaled to employers a higher level of competence (Bitzan, 2009). Although a degree is merely a sheet of paper, it indicates to

employers that individuals possess adequate amounts of human capital to be prepared for the workforce, in comparison to others without a degree.

Bitzan (2009) also introduces race into the picture, as he declares that minority races are more likely to experience the sheepskin effect for higher degrees, while Caucasians may experience this effect for lower levels of degrees. Consequently, in order to attain higher economic wealth, some individuals may need to pursue further education than others and acquire higher amounts of human capital to experience the same sheepskin effects. Understanding that multiple subsets of students enter college for a variety of reasons, some of them may enter due to the outcomes dictated by the signaling theory and sheepskin effect. Regardless of the reasons, the students that enter college must weigh the costs and benefits of their attendance, taking into account the direct and opportunity costs, and various benefits that they may accrue from obtaining a tertiary education.

Literature Review

Acknowledging the previous theories and theorists as well as the theoretical connections between higher education and quality of life, it is essential to analyze both the costs and benefits of obtaining a higher education in order to fully understand the implications of pursuing postsecondary education. Although the theories support the notion that higher education produces many benefits long term, in the short term, opportunity costs and other barriers to higher education must be acknowledged, as multiple theories suggest that socially, economically, and culturally, there may be deterrents to college attendance, depending on a student's observable characteristics and levels of capital. For those for whom it is possible to pursue tertiary education, however, the benefits are, on average, plentiful both individually and for society.

Costs

In addition to cultural capital and demographic characteristics, such as gender, race/ethnicity, and SES, high school achievement in classes and on standardized tests are some of the determinants of whether students choose to pursue a higher education (Chapman, 1981; Grodsky & Rieglecrumb, 2010; Hossler & Gallagher, 1987). One further determinant is whether the student can endure the financial and opportunity costs of college up front to eventually receive the benefits later of a higher education in life.

Financial barriers have been preventing students from pursuing postsecondary education for decades (Campbell, 2006; Chapman, 1981; Knaggs, Sondergeld, & Schardt, 2015). This deterrent from a higher education has not simply persisted over time, but rather it has worsened in recent years. Although new financial and merit aid scholarships have emerged to lessen the burden on students, tuition has increased by over 300% in most sectors of higher education in the last four decades (College Board, 2015). In addition to the tuition increases, financial aid programs have not been able to continue paying for as much of higher education as they once did, forcing students to take out more student loans and accrue more debt (Burdman, 2005). Although it is likely that college would later contribute to a better quality of life for the students who pursue it (Flanagan, 1978), if they cannot incur the cost of a higher education, some students are likely to forego it. For example, students from lower income and lower SES environments are less able to afford the cost of college and are, therefore, less likely to enroll (Beattie, 2002). Because these students are more likely to have experienced financial hardship in their lives, they are more averse to taking out student loans to fund their education (Burdman, 2005; Goldrick-Rab, Harris, & Trostel, 2009).

Additionally, while a lot of social norms concerning college attendance come from the school and peers, another source of information is the parents (Bourdieu, 1973; DesJardins & Toutkoushian, 2005; White, 2005). Research indicates that students whose parents did not attend college are less likely to attend themselves (Beattie, 2002; Choy, 2001; Grodsky & Rieglecrumb, 2010); parents who did not attend college are also more likely to be in a lower SES and need their children to help support the family upon exiting high school, thus making college less acceptable to pursue (Corrigan, 2003). Bourdieu's theory of cultural and social reproduction holds true in these circumstances, but it is to the detriment of the student, likely lowering their quality of life in the future (Flanagan, 1975). Despite evidence of potential economic gain, as dictated by the human capital theory, these students are more likely to forego pursuing a higher education due to these direct costs of college and the influences in their social networks.

In addition to direct costs, Oreopoulos and Petronijevic (2013) reference the opportunity cost of attending college as foregone earnings for the years it takes to earn a degree. They also address that during this time, students are not only foregoing wages, but many of them are also accruing debt in order to finance their education. Increased debt, as well as lower wages, allude to a lower quality of life from an economic standpoint, which creates the argument for some students to forego a postsecondary education. For this and other reasons, some young adults may decide that the costs of education outweigh the benefits. Especially because just over half of students will earn a baccalaureate degree (National Student Clearinghouse Research Center, 2016), those who do not graduate may be subjecting themselves to a lower quality of life to accrue fewer pecuniary benefits of higher education. With this said, even if there is an opportunity cost for pursuing higher education, those who do graduate are likely to receive a large pecuniary benefit (Oreopoulous & Petronijevic, 2013). Additionally, some aspects of

quality of life may be increased through college attendance, regardless of graduation, thus producing some benefit even without a degree (Flanagan, 1975, 1978).

Economic Gain

Many researchers suggest that there is an economic benefit associated with pursuing a higher education (Baum, Ma, & Payea, 2013; McMahon, 2009; Toutkoushian & Paulsen, 2016). Carnevale, Smith, and Strohl (2010) speak of the technological growth within the United States and declare that more skilled labor will be required for jobs in the technological sector it in the future. In fact, since the 1980s, the United States and most other OECD countries have required higher skill workers and fewer lower skill workers. In many countries, the demand for skilled labor has surpassed the supply of skilled labor, leading to an increase in pay of those with a higher education (McMahon, 2009). As of 2013, the median earnings of associate's degree recipients were 27% higher than the median earnings of high school graduates, while those whose highest degree was a bachelor's degree were likely to have 65% higher median earnings over the course of their lifetime than those with a high school diploma (Baum, Ma, & Payea, 2013). Psacharopoulos and Patrinos (2004) also reveal a higher private return for higher education than secondary education. This additional monetary gain that people receive from obtaining a higher education often contributes to their overall happiness. McMahon (2009) declares that individuals are happier when they possess more money, as they have less financial stress and can afford to fund their hobbies and other things that may increase their happiness. In accordance with Flanagan's (1978) QOLS, aspects of life that revolve around economic capital, such as certain recreational activities, and health and material comforts, are better satisfied by those who have obtained a higher education (Flanagan, 1975) due to a higher income. Although

it is often said that money cannot buy happiness, McMahon (2009) argues that it can, with a cap of approximately $20,000 per capita.

Taking into account some of the factors that are associated with lower college attendance, Cheeseman Day and Newburger (2002) acknowledge that race and ethnicity create some discrepancies in their data; they find that Asian, Hispanic, and African Americans who pursue a higher education may not make as much as their Caucasian counterparts; despite this, they still make more than they would have had they not obtained a degree (Cheeseman Day & Newburger, 2002). Perna (2005) also finds differences in earnings, as well as other patterns, due to higher education, even accounting for race and gender. Brand and Xie (2010) argue for negative selection and declare that those who typically do not select into higher education, such as lower SES individuals, would benefit the most from it. This makes sense because the individuals likely not to pursue higher education, e.g., those with lower social, cultural, and economic capital, have the most to gain from additional education.

In general, McMahon (2009) declares that obtaining a higher education can increase a person's quality of life; this statement was found to be true in various aspects of quality of life, both economic and non-economic (Baum, Ma, & Payea, 2013; Flanagan & Russ-Eft, 1975; McMahon, 2009). With the attainment of a degree, there is also the "option value" that it presents; in other words, once individuals earn a degree, they have the opportunity to pursue more advanced degrees, which could increase their monetary gain even further (Oreopoulos & Petronijevic, 2013; Toutkoushian & Paulsen, 2016). This "option value" can be seen with those who earn a baccalaureate degree and then have the opportunity to pursue master's, doctoral, and professional levels of education, as well as other post-baccalaureate credentials. Because of the

attainment of their initial degree, many more educational opportunities become available to them.

Non-Monetary Benefits

Pursuing higher degrees not only presents individuals with monetary benefits, but also with benefits such as greater job autonomy and flexibility. These workplace benefits are touted by those who obtain college degrees, compared to those who only possess a high school diploma (McMahon, 2009). Unemployment rates also follow a stepwise trend, with those receiving some college being more highly employable than those with no college, those with associate's degrees having a higher employment rate than those with only some college, and so on (Baum, Ma, & Payea, 2013). One other workplace benefit that can be easily measured is health insurance. Individuals with bachelor's and associate's degrees are more likely to have health insurance than those with high school diplomas, thus contributing to the higher overall health of higher education recipients (Baum, Ma, & Payea, 2013; McMahon, 2009). Particularly women and African Americans reap this benefit, as they were less likely to have health insurance prior to obtaining a postsecondary degree (Perna, 2005). Individuals who obtained a higher education are suggested to have healthier and smarter children as well (McMahon, 2009). In addition to these easily quantifiable factors, nonpecuniary benefits also exist for those with postsecondary degrees.

Individuals who obtain a higher education are likely to have more educated spouses (McMahon, 2009) and more elaborate social networks that allow for greater social mobility (Baum, Ma, & Payea, 2013; Oreopoulos & Petronijevic, 2013). This is likely to increase their quality of life as they gain more social relations (Flanagan, 1978), while also adding to their social capital (Bourdieu, 1986). They are also more likely to have a smaller family size, and

therefore less likely to experience poverty (McMahon, 2009). McMahon (2009) also states that those with a higher education are likely to enjoy more longevity, live near better schools, exhibit better parenting, volunteer more, pursue life-long learning, and enjoy their jobs more. Flanagan and Russ-Eft (1975) find that a feeling of safety is a large determinant in perceived quality of life and declare that higher education increases people's perceptions of personal safety, likely because of locations in which they can afford to live.

Specific Benefits at Four-Year Institutions

Depending on the sector of the institution, students may obtain a multitude of benefits on route to earning a degree. For bachelor's recipients, for example, these benefits equate to an additional $1,000,000 throughout their lives compared to those with no higher education, not including those who only attend and do not graduate; even those who receive no scholarship funding receive a substantial rate of return on their investment in higher education (Toutkoushian, Shafiq, & Trivette, 2013). Other nonpecuniary benefits may not have a clear cost, though, as they are often bundled together into the full college "package" that students think of when they imagine their college experience (Martin, 2013). Aside from specific degrees offered at certain levels of institutions, understanding this college bundle helps to further differentiate between those who solely attend four-year colleges, those students who only attend two-year colleges, and those who transfer from one sector to another.

In the four-year sector, it is increasingly common to bundle together the educational and non-educational facets of college. Toutkoushian and Paulsen (2016) discuss the prevalence of various extracurricular activities and amenities that must be accounted for when considering the literal dollar value of a higher education, as well as the nonmarket benefits, stating that it all plays into the cost-benefit analysis students and parents conduct when choosing an

institution. Martin (2013) goes into more detail, addressing the fact that many institutions bundle their services to attract more students, reach out to certain types of students, and provide the "college experience." (p. 33). Therefore, colleges may offer additional amenities, at an additional cost, to reach out specifically to those students who both want and can afford the "added value" (Jacob, McCall, & Stange, 2013). By reaching out to the traditionally higher SES students who can afford the extra amenities, institutions are likely to attract the higher-achieving students associated with a higher SES, increasing their prestige and allowing them to further expend funds on recruiting the best students, thus continuing a cycle that perpetuates certain institutions upward while keeping many institutions lower in terms of prestige (Brewer, Gates, & Goldman, 2002). Regardless of intentions of institutions, those students who can afford the best often strive for it, narrowing their college decisions based on which colleges can offer them the most non-educational benefits (Jacob, McCall, & Stange, 2013). According to Martin (2013), many institutions, therefore, provide not only education, but also housing, food, entertainment, technology, health care, travel, insurance, recreational activities and clubs, and transportation services.

Due to the various amenities, organizations, and other extra services provided by many four-year institutions, students not only gain access to these additional tangible aspects of the college experience, but they are also more likely to experience more social integration that improves their individual and collective college experiences (Tinto, 1975). Just as Tinto (1975) theorized that social aspects greatly impact college success, so can Bourdieu (1990) be referenced in his description of the social networks formed in school as education increases. Maxwell (2000) suggests that much of the social integration experienced by students

in four-year institutions is not observed as frequently in two-year institutions due to the nature of the schools, the purpose of community colleges, and the students themselves.

In creating this "extra value," four-year institutions reduce the students' ability to control their own educational experiences and keep some students from attending at all due to the fact that they cannot afford the lump sum it costs to obtain the education, which often cannot be separated from the "college experience." Those students who cannot afford the bundled cost of the college experience must, therefore, look to other institutions where the cost is lower, or even look in other sectors beyond four-year institutions.

Benefits of the Two-Year Sector

When discussing the college "bundle," some researchers (Martin, 2013; Schwartz & Scafidi, 2004) focus solely on four-year colleges, neglecting to mention that two-year institutions also provide bundles of their own. Typically geared toward less traditional college students, two-year institutions offer college level courses and multiple degrees, certificates, and other training without the non-educational distractions and financial obligations of many four-year colleges. This makes two-year institutions a more feasible option for those who may be older, as well as individuals with other obligations, such as jobs and families. It is a financially less stressful option that still provides the opportunity to obtain some level of higher education; community colleges traditionally cater to students who commute from their places of residency, alleviating the need for an additional payment to the schools for room and board. It is also beneficial to those students whose grades, test scores, and other entry requirements fall short for admission to four-year institutions, as they may focus on coursework without as many social obligations. With that, not all social aspects are taken out of community colleges. Several two-year colleges have created dormitories for their students, just as some colleges in the two-year

sector provide organizations, clubs, and other activities in which their students may participate. Although these exist within a small portion of these schools (ACT, 2010), students have the option to select institutions with these features while still paying the lower cost of a two-year institution.

Two-year institutions cater to those students who cannot attend four-year institutions, allowing them entry into fields to which they would otherwise have no access. González Canché (2017) suggests that community colleges may provide entry into the field of science, researching students that continue in their academic endeavors beyond the associate's level. Along those lines, an associate's degree allows students to take many of their necessary prerequisite courses at a cheaper rate while also learning about the fields in which they are interested, so when they graduate they have a better idea of their future educational aspirations while also having a credential from a higher education institution. Bailey (2009) suggests that many of the students who enter the two-year sector do so because their grades and test scores would not allow them to enter into the four-year sector. As such, two-year institutions work well for those with educational deficiencies. Although the effectiveness of these efforts has been debated throughout time, new efforts are being made to quantify and eliminate these issues (Bailey, 2009).

When considering the two-year sector, it is important to understand that students are there for a variety of reasons; whether they choose to enter the two-year sector due to cost, lacking grades or test scores, family and work obligations, or other reasons, they may not be the traditional students who typically attend four-year institutions. However, regardless of this distinction, Baum, Ma, and Payea (2013) report higher salaries, higher levels of job satisfaction, lower levels of unemployment, higher likelihood of having health insurance, lower levels of

poverty, and other measurable benefits to obtaining an associate's degree, compared to those with only high school diplomas. This makes the two-year sector a viable option for those wanting to pursue a higher education, yet not wanting to enter the four-year sector.

The Effects of Some College

Although mentioned briefly above, not everyone graduates from college, thus creating some issues with calculating the costs and benefits of attendance. The National Student Clearinghouse Research Center (2016) declared that just over half of the entering freshmen in fall of 2010 within the United States earned their baccalaureate degree within six years; an even smaller percent of students completed their degrees in the two year sector. Some research argues that there is no monetary benefit or decrease in unemployment for those who attend some college, compared to those who only obtained a high school diploma (Rosenbaum, Ahearn, Becker, & Rosenbaum, 2015). Others argue, though, that even taking into account the risk of not graduating, college attendees make an average of approximately $800,000 more over the course of their lifetime, including those who graduated and those who did not (Toutkoushian, Shafiq, & Trivette, 2013). Baum, Ma, and Payea (2010, 2013) suggest that those with some college are also more likely to experience lower unemployment rates and better health insurance than their counterparts who received no postsecondary training; additionally, those who obtain some college or more are more likely to exercise and less likely to smoke, in a similar stepwise pattern that can be seen in unemployment rates (Baum, Ma, & Payea, 2013). There is negative relationship between individuals women who have obtained any level of higher education and smoking, with women exhibiting a stronger trend than their male counterparts with similar education (Perna, 2005). There are also nonpecuniary benefits associated with merely attending a higher education institution, such as larger social networks (Oreopoulos & Petronijevic, 2013),

better health (Baum, Ma, & Payea, 2013; Perna, 2005), and a greater understanding of politics, freedoms, and rights (Baum, Ma, & Payea, 2013; McMahon, 2009).

Other Beneficiaries

Higher education is considered by some to be a public good because of the many positive effects it has not only for the individuals who pursue it, but also for others around them. However, public goods are non-rivalrous and non-excludable, neither of which describe higher education. Instead, higher education produces positive externalities from which others may benefit. These externalities, in addition to the benefits that individuals reap, create the total social benefits of higher education (McMahon, 2009). While private benefits only help the people who actually obtain the degree, there are some public benefits of higher education that benefit the community in which they exist and society as a whole.

Tax dollars are perhaps the most easily quantifiable benefit of higher education; if people make more money due to their degree, they also pay more taxes, recycling that money back into the government for improvements to be made to their communities (McMahon, 2009). This is one of the main reasons that it is important for people to obtain a higher education, as even if it would not benefit them privately, it may still benefit those around them. Even attending some college without graduating is argued to have a positive effect on salary (Baum, Ma, & Payea, 2013; Toutkoushian, Shafiq, & Trivette, 2013), which would create an increased amount of taxes for the government to use. The government may use taxes for helping the impoverished, improving the community, and funding other crucial entities, such as the prison system and higher education. Higher education itself is known to benefit society in that for each $1,000,000 of a college's budget, it produces the equivalent of 59 and 67 jobs for community and four-year colleges, respectively. Psacharopoulos and Patrinos (2004) point out that although higher

education has diminishing social returns in most countries compared to elementary and secondary education, there is still a sufficient amount of private and public returns of higher education. Particularly in less developed countries, higher education has a large impact on society (Psacharopoulos & Patrinos, 2004). Even in more developed countries, higher levels of education benefit society in ways that many people do not consider.

One of the most important, but least thought about, benefits of higher education is democracy. According to McMahon (2009), in order for democracy to thrive, the society must have three things: a large and growing middle class that wants a say in its government, people who are willing and able to participate in public service, and informed voters; similarly, he declares that less unquestioning of authority is necessary, as this prevents authoritarian regimes from rising. Our government also depends on highly educated individuals to make decisions through the voting process (McMahon, 2009), and Dee (2004) found that those who obtained a higher education were not only more likely to vote, but also more likely to support free speech. Baum, Ma, and Payea (2013) found a stepwise pattern in voting habits, with those who obtain a high school education voting less than those who obtain some college and a continuing pattern that results in more highly education individuals voting more frequently than their counterparts. Perna (2005) reports that women and African Americans who receive any level of higher education are more likely to vote than their counterparts who receive only a high school education, as are Hispanics who receive some higher education. As well as informed voters, political science and law graduates are necessary in order to improve the criminal justice system (McMahon, 2009).

With that said, with higher levels of education, there tend to be lower levels of incarceration. Lochner and Moretti (2004) found that some of the same variables that affect high

school attendance also affect whether an individual goes to prison, thus drawing the connection between education and incarceration. They also found that when mandatory school attendance is higher, the chances of going to prison are lower. Although this is referring specifically to high school, they also acknowledge that for each additional year of schooling, white men are .1% less likely to be incarcerated, and Black/African American men are .37% less likely to be incarcerated. If there are lower levels of incarceration, fewer tax dollars need to be spent on prisons, thus opening the availability of tax money up for better use (McMahon, 2009).

McMahon (2009) posits that a more educated society has, on average, a smaller family size, less poverty, less welfare, and less sickness, all of which translate into fewer tax dollars needed for those social issues. This means that more money can be put into research of important issues, much of which is conducted in universities. Additionally, because of smaller family size and less poverty, McMahon suggests that pollution and deforestation are not as prevalent in the United States as in some less educated countries; this in combination with the education provided to students about preserving the environment and the research conducted at universities that delves into clean water and energy is crucial to the protection of the environment.

Finally, another benefit of higher education is that those with a higher level of education tend to volunteer more (McMahon, 2009; Perna, 2005). Baum, Ma, and Payea (2013) find a similar stepwise pattern as in their other findings concerning volunteer efforts. Along these lines, donating is also positively correlated with higher education (McMahon, 2009). With more people volunteering and donating within their own community, governmental funding can be reallocated toward other important causes. As well, volunteering and donating also provide

individuals with a level of personal satisfaction (Flanagan & Russ-Eft, 1975), making this a public externality and a private benefit.

Higher education clearly has many benefits, both private and public. For many, the benefits outweigh the costs when considering whether to pursue a higher education. There are both pecuniary and nonpecuniary benefits for those who graduate and for those who do not. For this reason, researchers continue to look into potential reasons why students do (and do not) attend higher education institutions, as many believe that a more educated society is a stronger society. Understanding the benefits of higher education, its relationship to quality of life, and the various levels of educational attainment, not much research has been done to analyze those individuals with some college education, based on differential length of attendance. Logically, a student who attends a higher education institution for two years would experience different benefits than a student who attends an institution for four years, regardless of degree attainment.

Research Questions

To better understand how higher education affects quality of life according to differential length of attendance, it is important to first have an understanding of how to categorize the benefits of higher education into aspects of quality of life. Second, it is essential to analyze the various benefits individuals receive according to both degree attainment and length of attendance. As it stands, we do not know the effect of higher education on individuals based on differential length of attendance, nor is there much research connecting the nonpecuniary aspects of quality of life to education in a way that can quantitatively compare results for various individuals. Therefore, my research questions are as follows:

1. What are the underlying constructs associated with perceived quality of life, beyond economic prosperity?

   a. In what ways are these differing social and cultural constructs related to one another?
   b. How do these constructs relate to the typically defined benefits or positive externalities associated with higher education?

2. Compared to those who did not attend college, what is the effect of college attendance on various cultural and social aspects of quality of life? Specifically, what are the effects of:
   a. Attending a higher education institution for the equivalent of two years or less, compared to never attending?
   b. Attending a higher education institution for the equivalent of more than two years without attaining a degree, compared to never attending?
   c. Graduating with an associate's degree, compared to never attending?
   d. Graduating with a baccalaureate degree, compared to never attending?

CHAPTER 3

METHOD

This study sought to establish the benefits of higher education, as they pertain to quality of life, based on differential length of attendance and degree attainment. Specifically, I examined the social and cultural benefits associated with postsecondary education attendance and attainment of a degree. Additionally, I explored the association between well-known benefits of higher education and their connection to an individual's perceived quality of life. To address the previously stated research questions, this study proposed a quantitative investigation using post-hoc analysis of the National Center for Education Statistics Education Longitudinal Study of 2002, or NCES ELS:2002, dataset, primarily calling upon responses from the third follow-up survey that adequately identified and pertained to quality of life. Examining data from almost 14,000 respondents in ELS:2002, various aspects of quality of life were outlined and analyzed via factor reduction, calling upon Flanagan's (1978) QOLS (see Appendix A) as a guide. Furthermore, additional analyses were conducted to identify the differences in quality of life based on level of education and length of attendance at a higher education institution. Using propensity score weighting and regression techniques, I was able to ascertain the relationship between various aspects of quality of life and discern how varying levels of educational attainment impacted certain facets of quality of life.

Participants

Data for this study comes from NCES ELS:2002. It is a nationally representative, longitudinal sample of those who were in 10^{th} grade in 2002 and 12^{th} grade in 2004 that followed students through their educational endeavors and life experiences. These surveys were

administered to capture not only the students' educational goals, endeavors, and accomplishments, but also their observable individual and family characteristics. Additional information about the schools and colleges participants attended, as well as information about their administrators and certain teachers, also exists along with their transcripts. With a focus on students' trajectories from high school into postsecondary education and the workforce, as well as the different patterns of college access and persistence that occurred in the years following high school completion, the base year survey was administered in 2002, followed by three follow-up surveys in 2004, 2006, and 2012. These surveys inquired about educational achievements and objectives, and other facets of life, such as employment history and plans, family life, cultural values, and community involvement (National Center for Education Statistics [NCES], 2002).

Data was collected in a two-stage process by first selecting 750 schools to survey in the base year, and then administering over 15,000 student and parent questionnaires to participants within those schools. In the first follow-up, students in the selected schools who were not sophomores in 2002 but were seniors in 2004 (e.g., those students who skipped or failed grades) were offered the chance to participate in the survey as well. Surveys were administered in a second and third follow-up period (2006 and 2012, respectively) to base year (2002) and first follow-up (2004) participants. The 14,000 respondents who completed the third follow-up survey made up the "participants" in this study, as I focused primarily on third follow-up data. These individuals answered some or all questions pertaining to their education, quality of life, and current life circumstances.

Due to the nature of my study, I dropped participants whose educational attainment was missing, who did not obtain a high school diploma or equivalent, or who obtained any degree

higher than the bachelor's level. Those with a degree higher than a baccalaureate degree were dropped because graduate students are likely to be older, and therefore those who may pursue a graduate degree in the future were not accurately represented; those who earn graduate degrees at a younger age may be substantially different from both those who earn graduate degrees overall, as well as those who earn bachelor's degrees, leading to their exclusion (Bell, 2009). This left me with over 11,700 respondents. I also dropped participants for whom more than 25% of data was missing, leaving over 9,400. I limited my sample to those who have never attended postsecondary education and those who have attended at least one full semester; those who attended less than one semester or earned no postsecondary credit were dropped from the analysis. Additionally, participants who were missing data in the survey items later used for the exploratory factor analysis were dropped, leaving approximately 8,900 participants in the sample. A table containing descriptions of my variables of interest from the third follow-up of ELS can be found in Appendix B.

Analytic Plan

I conducted an exploratory factor analysis (EFA) to group my variables of interest from the third follow-up into categories that align with Flanagan's (1978) Quality of Life Scale (QOLS), shown in Appendix A. The factors created served as the dependent variables for my study. Additional dependent variables including voting behaviors and volunteering behaviors were also included in this study. A propensity score weighting (PSW) analysis was conducted to compare individuals based on their observable covariates, using levels of postsecondary educational attainment as the treatment(s); the comparison group was those with no postsecondary education. PSW was used to produce appropriate weights, which were then applied to regression models for each dependent variable; additionally, PSW may help to

mitigate the effects of self-selection in some samples (Heckman, Ichimura, & Todd, 1998) and serves to add additional robustness to regression analyses. Regression results reflect the impact of attendance and degree attainment in postsecondary education on various aspects of quality of life, as well as the positive externalities of voting and volunteering.

Flanagan's QOLS

Flanagan's (1978) QOLS (see Appendix A) provides a detailed representation of fifteen components associated with both quality of life and education, which are divided into five constructs. These constructs include physical and material well-being; relationships with others; social, community, and civic activities; personal development and fulfillment; and recreation. Flanagan's scale, proven both reliable and valid as recently as 2003 (Burckhardt & Anderson, 2003), represents qualitative data that was collected as part of a follow-up to a high school aptitude survey (Flanagan, 1978); as such, the QOLS was used as a guide for selecting variables. Questions from the ELS:2002 survey that measured the fifteen components listed in the QOLS were selected and used as variables of interest in this study that would later make up the EFA.

Exploratory Factor Analysis

Rather than using each of the ELS:2002 variables selected as a separate dependent variable, they were reduced into factors for the purposes of this study, using an exploratory factor analysis (EFA) to identify the latent variables associated with quality of life. Given that an EFA allows for the exploration of data to find the latent variables that emerge based on statistical associations in response patterns, Flanagan's (1978) QOLS did not need to perfectly estimate the latent constructs in which variables would exist in the EFA, but rather it acted as a guide for selecting variables. EFA is used in datasets to identify unobserved, or latent, variables that help explain and reduce data (Henson & Roberts, 2006). Emerging factors account for a

certain amount of variance in the sample while also lowering the number of variables in a quantitative analysis, thus creating a more accurate analysis and using fewer degrees of freedom. In this study, survey items used in the creation of the EFA factors consisted of items that aligned well with Flanagan's QOLS; as such, items reflected social and cultural aspects of a participant's life, including questions about their jobs, work-life balance, extracurricular activities, values, and relationships. It is worth noting that survey items related to relationship with parents were not included in this EFA. Instead, questions about the formation of a new nuclear family were included. This was a strategic decision based on research about family and relationships in early adulthood, in which romantic relationships and the potential for children played a large role as individuals progressed through adulthood, with less importance designated to parental figures (Axinn & Barber, 1997; Shulman & Connolly, 2013). Given that participants were in their mid-twenties when the third follow-up of this survey was administered, values associated with marriage and children were included, while values related to parent or sibling relationships were not. These survey items can be seen in Table 4.1, loaded into their appropriate factors. Factors included items with one dominant loading value and with loadings above .30. Considering a scree plot and eigenvalues, shown in Appendix C, I determined the ideal number of factors for this analysis to be four factors. More detail is provided in Chapter 4 in the results section of this dissertation.

As per the suggestion of Castello and Osborne (2005), multiple iterations of principal axis factoring (PAF), otherwise known as the least squares method, were used to extract the factors, and an oblique rotation was used to allow factors to correlate with one another and ascertain the relationship between latent factors of quality of life in this study; Castello and Osborne (2005) suggested this for outcomes in the social sciences, as they may impact each

other. Promax rotation was used for simplicity. Correlations can be seen in Table 4.2 and are further discussed in Chapter 4. Cronbach's alpha was also calculated within the each of the factors to confirm internal consistency, with the lowest alpha value equaling .60. The latent variables identified by the EFA were then used as my main dependent variables, as they identified latent quality of life constructs.

Propensity Score Weighting Procedure

In this quasi-experimental study, PSW was used to improve upon typical regression techniques by adding appropriate weights to give a robustness check to ordinary least squares (OLS) regressions with regard to the functional form assumptions in OLS; it was used in a similar manner concerning multinomial logistic regressions for the final two dependent variables in this study. In addition to adding additional robustness to the regression analyses, PSW may also help to mitigate a major problem in much of the research that already exists: self-selection (Heckman et al. 1998). Those who selected to attended college were likely systematically different from those who selected not to attend, as well as from those who graduated with a degree. This self-selection may be due to multiple observable covariates associated with the participants themselves, such as race, socioeconomic status (SES), and gender[1]; these and other observable and unobservable characteristics likely impact whether an individual selects into higher education (Baum, Ma, & Payea, 2013). However, by analyzing participants' propensity toward pursuing various levels of higher education and creating balancing scores, specifically propensity scores, observable covariates were better accounted for in the analysis (Morgan & Harding, 2006; Rosenbaum & Rubin, 1983), thus potentially reducing some of the issues with

[1] It should be noted that sex is used in this study, not gender. The variable in ELS:2002 (F1SEX) denotes biological sex of participants but does not denote gender orientation. However, according to the ELS user manuals (Ingels, Pratt, Rogers, Siegel, & Stutts, 2005) if biological sex was unavailable, imputations were made based on a student's name and perceptions of binary gender.

self-selection. By using this balancing score to weight a regression model, better fit models, as shown by the R^2 in each set of regressions (Tables 4.12- 4.15), were created; this technique was chosen not only to improve upon models in this study, but also to fill a gap in existing research that typically does not weight by propensity toward a treatment, i.e., educational attainment.

Design effects[2] designated within the ELS:2002 survey were used to account for clustering of the data. Regressions were run both with and without design effects, and the design effects lowered the significance (raised the p-value) of some variables in adjusting the standard errors within the regressions. As such, design effects were addressed in each regression model, PSW and naïve, to potentially play a small part in reducing Type I error.

In terms of analysis of dependent variables, categorized quality of life variables from the previously conducted EFA were analyzed based on participants' levels of education and other variables of interest presented in the ELS:2002. Using levels of education as the treatment groups, the dependent variables formed from the EFA were analyzed accordingly. To best address the differential length of attendance, a multinomial PSW technique was implemented. This technique is a variant of propensity score matching, which is meant to produce more accurate results than other regression techniques because it is specifically designed to deal with data in which the groups of individuals are systematically different from one another (Rosenbaum & Rubin, 1983).

For the purposes of this study, participants were divided into five treatment groups based on their highest level of educational attainment: high school diploma or the equivalent; two years or less of higher education with no certificate, diploma, or other formal acknowledgement; two years of more of higher education with no certificate, diploma, or other formal

[2] Elise Christopher from NCES provided guidance with this process to ensure that the correct values were used for the design effects.

acknowledgement; associate's degree or undergraduate certificate; and baccalaureate degree. Participants who did not fit into these categories, such as those who did not obtain a high school diploma and those who earned higher than a bachelor's degree were dropped from the analysis. Those who earned an associate's degree or undergraduate certificate were combined into one group due to small sample sizes for each group. Additionally, those with sub-baccalaureate credentials, such as associate's degrees and undergraduate certificates, reap similar benefits in terms of wages and economic gain (Schneider, 2015), so combining them for the purposes of this study, which sought to focus more on those with no credential, was logical. In order to analyze the effects of education on quality of life, and in alignment with multinomial PSW, a single level of "treatment" was selected as the comparison group: those with no postsecondary education.

With the numerous levels of educational attainment in this sample, running a regression for each one may have produced significant results where none existed simply because of the sheer number of times the independent and treatment variables were analyzed. As such, analyzing all levels of educational attainment together, and comparing each one to the comparison group at the same time in a PSW technique, allowed for educational attainment to exist as a categorical variable. This approach also produced balancing scores in a manner that captured propensity toward any treatment (rather than analyzing each one separately compared to those who pursued no postsecondary education), and exist within regressions as an ordinal variable with several categories being considered at once. Other preliminary analyses were conducted using binary variables, in which a level of postsecondary education was compared only to no postsecondary education, without additional levels of postsecondary education. These analyses showed similar results, but they showed more drastic differences since propensity

toward treatment is impacted by the number of treatments present. Comparing all treatments at once allowed for a more accurate analysis in creating propensity score weights.

Appendix D shows the significance of level of education in propensity score analyses based on the covariates included in the model. Table D.1 reveals that for multiple outcome variables (benefits of job/career, work-life balance, and social and educational values), the largest impact on the significance of the treatment effects occurred with the addition of educational expectation variables; prior to the addition of these covariates, the significance remained relatively stagnant. With the remaining outcome variables, changes were more gradual as more groups of variables were added. The final treatment effects can be seen in column 5 of Table D.1.

To delve deeper into the intricacies of PSW, it is first crucial to understand the premise behind it. Using the terminology of Rosenbaum and Rubin (1983), where r_{ti} represents the response or outcome of unit i, given treatment t, a stable unit-treatment value assumption is in place, creating noninterference between those who do and do not receive a treatment; explained more simply, the effect of treatment t on unit i is unaffected by how many or which other units receive treatment. The participants in this study likely satisfy this assumption, as while students may be influenced by their peer groups, no one is forced to or not to pursue postsecondary education based on the actions or inactions of others; Bourdieu would suggest that learned and inherited cultural capital (1973) from schools and families, as well as economic capital (1986), would also play a role in students' choices to pursue postsecondary education, making their decisions less dependent on the actions of their peers. Understanding that participants vary in their actions and motivations, the best way to observe the effects of a treatment, z=1, would be to have unit i receive both treatments z=1 and z=0 (no treatment), and compare the different

outcomes that occur because of the treatment. However, unit *i* could never receive both treatments in any study, as the covariates, *x*, would have changed. In reference to this study, for example, a participant could not both obtain a higher education and not obtain a higher education at the same time because the two options are mutually exclusive. In addition, according to Rosenbaum and Rubin (1983), those who receive treatment z=1 are likely to be systematically different from those who receive treatment z=0. However, by implementing a balancing score to make covariates, *x*, for those who receive treatment z=0 approximately equal to the covariates, *x*, of those who receive treatment z=1, it is possible to see the potential effects of a treatment.

A propensity score is a type of balancing score: $e(x)=\text{pr}(z=1)|x$, in which $e(x)$ represents the propensity score and $\text{pr}(z=1)|x$ represents the probability of receiving treatment z=1 given *x* covariates; in other words, this score assesses propensity toward a given treatment, depending on each person's individual characteristics. With that, in PSW the propensity score functions as a balancing score, such that $x \perp z, b(x)$. Although the same participant could not have received both treatments z=0 and z=1, another individual could be selected who has similar or the same covariates, thus creating a counterfactual against which a researcher could compare the effects of the treatment. In multinomial PSW, there are multiple treatments, and individuals have a different propensity toward each one. All scores are calculated together, with reference to the comparison group. The appeal of PSW is that with a weighing procedure that selects individuals with similar or the same observable characteristics, less biased results are expected.

In alignment with Rosenbaum and Rubin's (1983) technique, the treatment conditions in this study represent a respondent's level of education, with various treatments existing for a multinomial PSW procedure. Using the average treatment effect (ATE) technique, the average effect of a treatment across all observations in a sample can be ascertained; in other words, we

can assess the average effect of administering a treatment to all in a sample (Austin, 2011). In this study, the difference in mean outcomes between participants in the treatment group(s) and those in the control group was measured, with balancing scores ensuring that covariates were similar among those compared. All treatments (z=1, z=2, … z=n) were compared to the comparison group (z=0), which in this case represents those who never pursued postsecondary education. The formula used in ascertaining the ATE for this study was, according to Rosenbaum and Rubin (1983),

$$E_{bx}[E(r_1|b(x), z=1) - E(r_0|b(x), z=0)] = E_{bx}[E(r_1|b(x)) - E(r_0|b(x))] = E(r_1 - r_0),$$

where E_{bx} is the expected outcome of the population, given $b(x)$; r_1 and r_0 are outcomes; $b(x)$ is the applied balancing score, or in this method the propensity score; z=1 is the treatment of interest; and z=0 is the control. In this case, where a multinomial PSW technique was used, there were several treatments of interest, so the above formula was applied to each treatment group, in comparison to the control group.

Inverse probability weighting (IPW) was applied in this study to create the weights from the observed balancing scores. The logic behind inverse probability weighting is that some observations in the dataset are likely to have a higher propensity toward certain treatments than others based on their covariates, x. This technique takes into account propensity toward treatment(s), and weights the participants in the treated and control groups so the propensities are more equal for all groups (Handouyahia, Haddad, & Eaton, 2013). In this case, due to the multinomial nature of the study, weights were created using the following formula: $\frac{1}{p_t}$, where p_t represented propensity toward a treatment, t, or a given level of educational attainment.

Regression Analyses

After obtaining the appropriate weights dictated by the PSW technique, the weights were

applied to a series of regression analyses that accounted for participants with varying levels of degree attainment and credits earned in higher education. Naïve models were also conducted without propensity score weights for comparison purposes. Applying these weights to the general regression formula below, I was able to ascertain the effect of higher education on aspects of quality of life, as well as the effects of other participant characteristics. The regressions generally followed the format below, using the EFA factors analyzed by this study as the first four dependent variables and voting and volunteering behaviors as the last two dependent variables of interest:

$$Y_{Benefits\ of\ Job/Career} = \beta_0 + \beta_1 X_{attainment} + \beta_2 X_{demog} + \beta_3 X_{achievement} + \beta_4 X_{parent} + \beta_5 X_{expectations} + \epsilon ,$$

$$Y_{Work-Life\ Balance} = \beta_0 + \beta_1 X_{attainment} + \beta_2 X_{demog} + \beta_3 X_{achievemen} + \beta_4 X_{parent} + \beta_5 X_{expectations} + \epsilon ,$$

$$Y_{Social\ and\ Educational\ Values} = \beta_0 + \beta_1 X_{attainment} + \beta_2 X_{demog} + \beta_3 X_{achievemen} + \beta_4 X_{parent} + \beta_5 X_{expectations} + \epsilon ,$$

$$Y_{Marriage\ and\ Children\ Values} = \beta_0 + \beta_1 X_{attainment} + \beta_2 X_{demog} + \beta_3 X_{achievement} + \beta_4 X_{parent} + \beta_5 X_{expectations} + \epsilon ,$$

$$Y_{Voting} = \beta_0 + \beta_1 X_{attainment} + \beta_2 X_{demog} + \beta_3 X_{achievement} + \beta_4 X_{parent} + \beta_5 X_{expectations} + \epsilon ,$$

and

$$Y_{Volunteering} = \beta_0 + \beta_1 X_{attainment} + \beta_2 X_{demog} + \beta_3 X_{achievement} + \beta_4 X_{parent} + \beta_5 X_{expectations} + \epsilon ,$$

β_0 represents the constant, β_1 the level of educational attainment, β_2 demographic characteristics, β_3 academic achievement, β_4 parent characteristics, and β_5 educational expectations. Variables concerning level of educational attainment included the four treatment groups (up to 60 credit hours of postsecondary education; more than 60 credit hours of postsecondary education; associate's degree/undergraduate certificate; and bachelor's degree), as well as the control group (high school education or equivalent). Demographic characteristics included sex, race, and age. GPA for all high school courses was used as a measure of academic achievement. Parental characteristics included highest parent education for either parent, and a composite measure of SES provided by ELS:2002, which accounted for education of both parents, income, and job prestige. Finally, expectations included measures of student and parent educational expectations. To ensure that multicollinearity did not exist among the variables within my models, a variance inflation factor (VIF) was calculated. As no variables showed scores larger than 10, multicollinearity was determined not to be a problem for this study (Hair, Anderson, Tatham, & Black, 1995). The first four regressions, which used EFA factors as dependent variables, were performed using ordinary least squares.

The final two regressions concentrated on voting and volunteering behaviors and considered the same categories of independent variables, but used a multinomial logistic procedure to best account for the three responses in each dependent variable. The dependent variable, voting behaviors, included three outcomes (never, once, and more than once). Similarly, volunteering behaviors also included three outcomes (never, sometimes, and often). The multinomial logistic regression produced log odds, where higher levels of participation in

voting and volunteering were analyzed in relation to those who never voted or volunteered, respectively. For ease of interpretation, and to examine coefficients for each response category, including the reference category, log odds were transformed into marginal effects. The outcomes are discussed in more detail in Chapters 4 and 5.

Summary

This study used ELS:2002 data to examine the impact of educational attainment on quality of life. Using Flanagan's (1978) QOLS as a guide, I selected survey items that had little missing data and related to quality of life. After conducting an EFA, I used eigenvalues and a scree plot to identify four factors that best represented aspects of quality of life for this study. These four factors were allowed to correlate with each other, as an oblique rotation was applied, as is suggested for social sciences (Costello & Osborne, 2005). These EFA factors, as well as voting and volunteering behaviors, made up the dependent variables in my study. I then conducted a multinomial PSW analysis to balance participants based on their observable covariates, such that standardized differences between participants at each level of postsecondary attainment and those who pursued no postsecondary education were approximately zero. To clarify, I created a weight based on propensity toward treatment and used that weight to balance my groups, ensuring a more accurate analysis. Accounting for ELS:2002 design effects, I applied this weight to six regression models to ascertain the effect of educational attainment on quality of life. Six additional regression models were also performed without PSW weights, but with ELS:2002 design effects. In the following chapter, I discuss the results of this study.

CHAPTER 4

RESULTS

This study sought to determine the relationship between theoretical constructs of quality of life, and the significance of varying levels of higher education, personal characteristics, and educational aspirations on perceived quality of life. This chapter provides an overview of the findings from this study. To better understand the factor reduction process, data are summarized in multiple tables, depicting factor loadings, Cronbach's alpha, obtained latent variable correlations, and the polychoric correlation coefficients between observed variables; the latter can be found in the appendices. Additionally, descriptive statistics are provided for the total sample, and detailed descriptions of the regression results are discussed.

Exploratory Factor Analysis

The first research question and sub-questions for this study were:

1. What are the underlying constructs associated with perceived quality of life, beyond economic prosperity?
    a. In what ways are these differing social and cultural constructs related to one another? and
    b. How do these constructs relate to the typically defined benefits or positive externalities associated with higher education?

The investigation of these questions allows the reader to better understand outcomes that contribute to perceived quality of life from not only a theoretical, but also a quantitative standpoint. Understanding these concepts aids in the overall understanding of the impact of higher education on perceived quality of life when these constructs are later used as outcome

variables for final regression analyses. An exploratory factor analysis was used to identify the latent constructs. Consideration of a scree plot and eigenvalues were used to determine the number of factors that should exist (see in Appendix C). Costello & Osborne (2005) recommend the use of an oblique rotation in social sciences, as many outcomes in social sciences are likely to influence each other. Similarly, because the polychoric correlation table (Table C.1) showed high correlations between some of the included survey items, an oblique rotation was used for methodological accuracy (Tabachnick & Fidell, 2007). Unlike orthogonal rotations, oblique rotations allow variables to correlate with one another; however, it is not possible to know the total amount of variance accounted for by the EFA since factors may correlate. Table 4.1 displays the ELS:2002 variables used in the exploratory factor analysis, the latent constructs into which they best fit, rotated factor loadings (using promax rotation), and values of Cronbach's alpha.

Factor 1, benefits of job/career, includes work responsibilities or facets of a job or career that lead the individual to see the job as useful. It is worth noting that while this study focuses primarily on social and cultural aspects of quality of life, physical and material well-being, economic capital acquisition, and other monetary facets are intertwined with perceived quality of life. No such variables were included in this study because this study aims to focus on the less researched benefits of higher education, as monetary acquisition is likely to be more affected than other aspects of quality of life by the attainment of a degree, suggested by signaling theory in Chapter 2. However, the ELS:2002 questions associated with Factor 1 likely also relate to advanced positions and higher pay. Therefore, this should be considered when analyzing social and cultural facets of life that may also relate to economic capital. Factor 2 focuses on aspects of work-life balance, such as whether the person has time for leisure activities or a family. Factor 3

addresses an individual's relationship with others and his/her own personal growth, with variables related to values concerning people outside of the immediate family or self, and continued growth in personal education and expertise in a given field. Factor 4 reports current/future marriage and children values, including survey questions on marriage and children. The factors will hereby be referred to by their given names in Table 4.1.

Cronbach's alpha is reported for each factor, with alphas ranging from .60 to .77. It is worth noting that acceptable values of Cronbach's alpha have varied by time and field, with Davis (1964) suggesting varying levels of minimal acceptance based on sample size; Nunnally (1967) suggesting a minimally acceptable reliability of .50 to .60; Murphy and Davidshofer (1988) suggesting unacceptability with alphas of less than .60; Kaplan and Saccuzzo (1982) suggesting acceptability above .70; and Hair, Black, Babin, Anderson, and Tatham (2010) suggesting acceptability within EFA analyses for alphas greater than .60. One factor that may have affected the measures of internal consistency is the small number of variables in each group (Briggs & Cheek, 1986; Clark & Watson, 1995). Therefore, for those constructs with alpha levels below .70, I also analyzed average inter-item correlation, as recommended by Clark and Watson (1995). For the two constructs in question, social and educational values, and marriage and children values, average inter-item correlations were .25 and .43, respectively; this is well within the margins (.15-.50) outlined for acceptable internal consistency (Clark & Watson, 1995), and therefore, these constructs may be safely used as the outcome variables for this study.

To address the first part of research question one, I used a promax rotation to allow for both simplicity and for correlation of latent factors. Table 4.2 shows a moderately strong positive correlation (.4686) between the factors: benefits of job/career, and work-life balance. Weaker positive correlations can be seen between the first two factors and social and educational

values, and marriage and children values. The final two factors are positively moderately correlated (r=.2817). Table 4.2, therefore, reveals a verifiable relationship between these latent constructs of quality of life, as hypothesized by Bourdieu (1973, 1984, 1986). The second part of question one is addressed in both Chapter 2 with a discussion of the literature, and Chapter 5 with further discussion of the variables, findings, and relationships of findings to the theoretical frameworks of this study.

Demographics of Participants

The second question in this research study was:

2. Compared to those who did not attend college, what is the effect of college attendance on various cultural and social aspects of quality of life? Specifically, what are the effects of:
    a. Attending a higher education institution for the equivalent of two years or less, compared to never attending?
    b. Attending a higher education institution for the equivalent of more than two years without attaining a degree, compared to never attending?
    c. Graduating with an associate's degree, compared to never attending?
    d. Graduating with a baccalaureate degree, compared to never attending?

Investigating these questions allows the reader insight into the effects of "some college" on cultural and social aspects of quality of life, depending on the amount of time spent exposed to higher education. Descriptive analyses of the continuous independent and dependent variables were conducted to check for validity and to better understand the range of values in each variable, including all calculated EFA variables which were continuous. The results can be seen in Table 4.3. The total sample (N≈8,890, rounded) included participants whose highest level of

education was between a high school diploma and a baccalaureate degree. The continuous independent variables were age, GPA, and SES.

Descriptive analyses that included frequencies and percentages were also conducted to better understand the demographics of the participants, as well as other facets that may have contributed to their educational attainment, such as their educational expectations. Level of education, voting behaviors, and volunteering behaviors as of follow-up three (F3) in the ELS:2002 data set were also included in Table 4.4.

Student-Level Independent Variables

Descriptive Statistics. As shown in Table 4.4, approximately 53% of the sample was female (4,700 rounded); the majority of participants were White (61%), while another 13% were Hispanic; 12% of the sample was Black/African American; approximately 9% was Asian or Hawaiian/Pacific Islander in origin; and about 5% was Other Race. A larger percentage of parents held bachelor's degrees than any other category, and the smallest percent held associate's degrees (10%). According to Table 4.4, parents and students expected relatively high levels of education, and about 41% of parents earned a bachelor's degree. Table 4.4 shows that within this sample of participants, about 39% of participants earned baccalaureate degrees, 21% earned associate's degrees, about 31% earned some credit but no degree, and approximately 9% held a high school diploma as their highest level of education. Finally, Table 4.4 shows voting and volunteering behaviors, with about one third of the participants in each level of voting designated by this study, and the majority of participants (58%) choosing not to volunteer.

Sex and Educational Attainment. The relationship between sex and educational attainment is depicted in Table 4.5, revealing that approximately 40% of females and 38% of males earned baccalaureate degrees. When considering level of educational attainment, those

who obtained some college, whether up to 60 credit hours or more than 60 credit hours, were approximately evenly distributed among male and female students, with approximately 30% of males and females earning some college. More males than females (approximately 12% versus 6%, respectively) received only a high school education.

Race and Educational Attainment. Table 4.6 highlights the relationship between race and educational attainment. Those who were identified as Other Race were the most likely to obtain only a high school diploma (14%), followed by Hispanics at 12%. Hispanic and Black/African American individuals were most likely to complete less than 60 credit hours in a higher education institution (about 25% for both groups). Asians or Hawaiian/Pacific Islanders were most likely to complete more than 60 hours but not obtain a postsecondary degree, with about 17% of participants doing so. Black/African American and Hispanic participants were most likely to acquire an associate's degree, with 26% and 25% of participants in each group doing so. Finally, the groups most likely to obtain a baccalaureate degree were Asians or Hawaiian/Pacific Islanders (51%) and White participants (43%).

Student Education Expectations and Educational Attainment. Table 4.7 shows that educational expectations and educational attainment aligned relatively well in this sample. As would be expected, those students who did not expect to attend any form of postsecondary education were more likely to obtain only a high school diploma, with approximately 160 out of the 350, or 46%, meeting their expectations; with that, over 50% of the students who planned no further education beyond high school went beyond their expectations, approximately 5% of whom received bachelor's degrees.

For those who expected to obtain associate's degrees, Table 4.7 reveals approximately 38% of them met their goal, and 6% went on to obtain a bachelor's degree; with that said, 20%

ended up with only a high school diploma, and another 36% of students received some college credit but did not attain a degree.

Those students who expected to obtain a bachelor's degree most frequently did so, with approximately 42% meeting their own expectations, and smaller percentages reaching various other levels of education in this study. It should be noted that those students who acquired degrees beyond a baccalaureate degree were dropped from this study for simplicity, as individuals who pursue graduate degrees may be more likely to do so later in life, which this does not analyze. Therefore, everyone in this study either obtained a bachelor's degree or lower. With that, the majority of this sample that wished to obtain education beyond a bachelor's degree did obtain a bachelor's degree, with about 57% of students falling into this category, as shown by Table 4.7. I did not examine how many students from the ELS:2002 survey went on to graduate programs, as they were excluded from this study. With that said, this result is also as expected, as the largest percent of these students did earn a bachelor's degree and may later go on to obtain graduate education beyond the scope of the ELS:2002 survey.

Those students who were unsure of their educational expectations went on to obtain some level of college (less than 60 credit hours) and associate's degrees equally (approximately 26%). Beyond that, approximately 20% finished only high school, and 18% went on to obtain baccalaureate degrees in their educational endeavors. These results can be seen in Table 4.7.

Continuous Variables and Educational Attainment. The final set of student-level independent variables by educational attainment are shown in Table 4.8 as continuous variables. When separated by level of educational attainment, few differences were found between mean ages of the participants, due to the fact that ELS:2002 originally collected its data from one cohort of sophomores in high school; the age column reflects the ages of the participants as of

the third follow-up. In analyzing high school GPA, clear differences can be seen between the groups, with those with higher GPAs achieving higher levels of educational attainment. SES follows a similar pattern; those students with a higher initial SES showed a higher likelihood of obtaining higher levels of education.

Parent-Level Independent Variables

Parent Expectations and Educational Attainment. Similar to the results seen with student expectations, parent expectations seemed to strongly influence the students' educational attainment. As shown in Table 4.9, approximately 45% of students whose parents expected them to obtain only a high school diploma met but did not exceed their parents' expectations. Over 30% of those whose parents expected them to earn their associate's degrees did so, but only 10% went on to receive their bachelor's degrees. About 41% of students who were expected to obtain a bachelor's degree did so, with less than 10% of students receiving only a high school diploma. For those students whose parents expected them to obtain an education beyond that of a baccalaureate degree, approximately 54% obtained a bachelor's degree. Again, it is worth noting that those participants whose level of education were beyond a bachelor's degree were removed from this study; however, obtaining a bachelor's degree by age 26 allows these participants the opportunity to later pursue a graduate degree, revealing them to be on the path that is expected of them. For those students whose parents did not have specific expectations, or were unsure of their expectations for their students, about 33% obtained a bachelor's degree, while 25% earned an associate's degree, and 35% went on to some level of college. Further details can be seen in Table 4.9.

Parent Level of Education and Educational Attainment. For the most part, students were likely to reach higher levels of education if their parents had done so, perhaps suggesting a

form of social and cultural reproduction (Bourdieu, 1973). Parent education was determined by the highest level of education acquired by either parent; with that said, the highest level of education received by one parent may not have been achieved by both parents. As shown in Table 4.10, approximately 22% of those students whose parents' highest level of education was high school or less obtained a bachelor's degree; meanwhile, about 29% of students whose parents went on to some college, as well as 29% whose parents received associate's degrees, received their bachelor's degree. For those students whose parents obtained bachelor's degrees, approximately 49% acquired a bachelor's degree, and finally, of those students whose parents held a graduate or professional degree, about 61% received a bachelor's degree. More results can be seen in Table 4.10.

Outcome Variables and Educational Attainment

Table 4.11 shows the relationships between level of educational attainment and the outcome variables in this study. Consistent with signaling theory (Stiglitz, 1975), those with some college reported lower mean values in reference to benefits of job/career; this same pattern can be seen with work-life balance. Values generally increased with education in reference to social and educational values, as well as the value of marriage and children. Voting and volunteering behaviors saw stepwise patterns, with a higher likelihood to vote and volunteer being associated with the number of credit hours earned in postsecondary education.

Propensity Score Weighting

As explained in greater detail in Chapter 3, level of educational attainment acts as a "treatment" for propensity score weighting (PSW), and it is important to the design of this study that individuals with similar propensity toward a treatment be compared with one another for an accurate understanding of the impact of higher education on perceived quality of life. The

variables shown in the tables listed thus far in this chapter suggest that participants who acquired varying levels of educational attainment are likely to have had a different propensity toward their received treatment, based on covariates including expectations, parent education, SES, race/ethnicity, and sex. As such, PSW was used to balance the covariates such that they would be relatively equal among the treatment groups (varying levels of college attainment) and the control group (no postsecondary education). Tables containing balancing scores for dependent variables can be found in Appendix E. These balancing scores were used, as were ELS:2012 design effects that accounted for clustering, to generate a weight by which individuals could be compared based on their propensity toward treatment. This weight was then applied to a regression model to best understand the impact of varying levels of higher education. All PSW models accounted for more variance in the dependent variable and contained statistically significant *F* statistics. Propensity score weighting showed educational attainment to be significant for some outcomes in this study, even after accounting for observable covariates. As such, propensity score weights were calculated and applied to regressions to create a doubly robust measure of the impact of educational attainment on various outcomes related to quality of life.

Regression Analyses

To examine the impact of higher education on perceived quality of life by level of educational attainment, multiple regression analyses were employed, each one examining a different construct of perceived quality of life, and accounting for all participants regardless of level of education. Two additional outcomes were considered that validate my findings within the existing body of literature about the benefits of higher education and its positive externalities: voting behaviors and volunteering behaviors. Each regression analysis is described in the pages

below. Naïve and propensity score weighted results were addressed separately as a whole, and then compared to each other to better examine relationships within each outcome variable; due to the incorporation of PSW in this study, specific sections focused on the comparison between the naïve and PSW models, while general trends among naïve models and PSW models were addressed in less detail to avoid repetition.

The regression analyses provided insight into which independent variables contributed to participants' quality of life, including variables concerning educational attainment. Balanced according to observable characteristics, and considering educational attainment the "treatment" in this study, the regressions provided specific coefficients that suggested direct relationships between the independent variables and the quality of life outcome analyzed. The independent variables within all regressions consisted of the various pre-college characteristics analyzed above for an accurate comparison between those who did and did not obtain some level of postsecondary education. The independent variables used in these analyses were: level of postsecondary attainment (with no college acting as the referent group); sex; race or ethnicity; age; cumulative GPA for all high school courses; SES as of 2004; parent education level; student educational expectation; and parent educational expectation. The dependent variables reflect various aspects of perceived quality of life that also exist within higher education literature as benefits and positive externalities. For all subsequent regressions, the PSW model used the propensity score weights, accounting for propensity toward treatment, as well as ELS:2002 design effects. The naïve model also included design effects to account for clustering, but did not account for propensity toward treatment, weighing all participants equally.

Naïve Models: Overview

Table 4.12 shows that throughout the naïve models for the EFA outcome variables, some

level of postsecondary education was shown to contribute to factors related to quality of life, except for the factor related to marriage and children. In regressions concerning benefits of job/career and work-life balance, earning some college but no degree showed a negative coefficient. Findings also showed that an increased exposure to higher education via more credits earned contributed to stronger social and educational values.

Being male showed a negative relationship in all outcome variables except the benefits of job/career; pertaining to the benefits of job/career, males showed a positively significant value. Those who identified as Black/African American, Hispanic, or Other Race showed positively significant coefficients in reference to social and educational values, compared to their White counterparts. However, respondents in these underrepresented groups showed significant negative coefficients in reference to marriage and children values, holding all else constant. Those who identified as Asian or Hawaiian/Pacific Islander reflected statistically significant negative coefficients in every outcome variable except for social and educational values; for that outcome variable, Asians or Hawaiian/Pacific Islanders showed a positively significant coefficient.

GPA for all high school courses was a positive and significant contributor in every model except for social and educational values, where it was negatively statistically significant; senior year SES was also negatively significant in the model addressing social and educational values. High levels of parent education were negatively associated with benefits of job/career, perhaps because of correlation among the independent variables, but positively associated with social and educational values. Compared to those students who were uncertain about their educational expectations, and holding all else constant, those who anticipated receiving higher levels of education reported higher values for social and educational values, as well as marriage and

children values. Finally, compared to those whose parents were uncertain of their educational expectations, statistically significant findings related to parent educational expectations were negative, suggesting that those whose parents dictated an educational expectation reported lower values in each of the EFA outcome variables at some level.

Propensity Score Models: Overview

Shown in Table 4.13, respondents with higher levels of education were more likely to report higher benefits in their jobs or careers, and social and education values in the PSW models. Specifically, this can be seen when looking at the benefits of job/career outcome, in which only those who earned an associate's degree/undergraduate certificate or bachelor's degree showed statistical significance, compared to those who pursued no postsecondary education. Similarly in the social and educational values outcome variable, respondents with higher levels of education had higher and statistically significant coefficients, based on earned credit hours earned rather than degree attainment.

Results also showed some notable differences by sex and race/ethnicity. Except for benefits of job/career, being male was associated with negative quality of life factors. Compared to participants who identified as White, those who identified as Black/African American showed positive and significant coefficients for the social and educational values outcome, but showed negative significant results for marriage and children values. Those who identified as Asian or Hawaiian/Pacific Islander showed a similar trend among the outcome variables, with an additional negatively significant coefficient in the work-life balance outcome. Hispanic participants showed negatively significant results for work-life balance but positively significant results in social and educational values. Age was positive and significant in only one outcome, work-life balance.

GPA was negative and significant in reference to benefits of job/career, and social and educational values, potentially due to correlations among the variables; however, it was positive and significant in marriage and children values. Senior year SES was also negatively significant in reference to social and educational values, as well as work-life balance. Parent level of education was insignificant across all PSW models. Where student expectations maintained significance, they were negative, compared to those students who did not identify educational expectations, holding all else constant. Parent educational expectations followed the same trend, with one exception existing in reference to the marriage and children values outcome, if participants indicated that their parents expected them to earn an associate's degree; this was positively significant, compared to those whose parents were uncertain of their educational expectations.

Benefits of Job/Career: Naïve vs. PSW

The PSW model was compared to the naïve model, showing the impact of higher education and other relevant variables on perception of benefits of job/career. Included in Tables 4.12 and 4.13 are the coefficients of determination (R^2) to indicate the fit of the regression line.

In the naive model, compared to obtaining only a high school education, those with up to 60 credit hours of postsecondary education (B= -.214, p <.001) and those with more than 60 credit hours (B= -.276, p <.001) showed negative relationships with the perceived benefits of job/career, holding all else constant. There was no significant relationship between those who obtained a degree or certificate and the dependent variable. In contrast, after weighting, the initial two groups that constituted those with some college became insignificant, compared to their counterparts who received only a high school education. Contrarily, those who attained an associate's degree or undergraduate certificate (B=.214, p <.05) and individuals who earned a

bachelor's degree (*B*=.182, *p* <.10) showed a significant (or marginally significant) positive link between degree attainment and perceived benefits their jobs/careers.

Several variables were significant in the naïve model, but many of them lost their significance when propensity score weights were applied, holding all else constant, such as sex. In the naïve model for benefits of job/career, males reported higher values of benefits in their jobs/careers by .079 (*p* <.001), compared to females; however, after weighting to balance participant covariates sex was no longer significant. Other variables that were significant in the naïve model but were insignificant after weighting were facets of race, parent education, and parental expectation.

Beyond educational attainment, marginally significant in the PSW but not the naïve model was student educational expectation to receive an associate's degree, compared to those students who were unsure of their educational expectations, with a coefficient equal to -.152 (*p* <.10). Albeit at the higher p <.10 level, this finding can be interpreted to mean that the students who expected to receive an associate's degree reported lower values of benefits in their jobs/careers by .152, compared to the referent group. Also, the naïve model showed high school GPA to be positively related to perceived benefits in a participant's job/career (*B*=.043, *p* <.05), but the PSW model showed a negative relationship between GPA and perceived benefits, where as GPA increased by one point, perceived benefits of job/career decreased by .071 (*p* <.05), perhaps due to a correlation between high school GPA and level of educational attainment. Although related to educational attainment, this variable was necessary to best balance student covariates using propensity score weighting, and when an F test was conducted to assess whether GPA added value to the PSW model (*F* (1, 8205) =17.93), the results were significant at *p* <.001,

suggesting that the variable should remain in the model[3]. The R^2 of the naïve model is .026, whereas the R^2 of the PSW model is .039, revealing that the PSW model is a better fit when analyzing benefits of job/career with the F being significant at p <.001 in both models.

Work-Life Balance: Naïve vs. PSW

This in-depth analysis of the second regression outcome looks at PSW versus naïve models, showing the impact of higher education attendance and other relevant variables on work-life balance. The coefficient of determination in the PSW model was higher than that in the naïve model (R_w^2 =.060; R_n^2 =.015, respectively), revealing a better fit of the PSW model (p <.001 for F values in both models).

In the naive model, holding all else constant, ELS respondents with up to 60 credit hours of postsecondary education, those with more than 60 credit hours, and those with a bachelor's degree reported lower values of work-life balance by -.229 (p <.001), -.174 (p <.001), and -.068 (p <.05), respectively, than participants who obtained a high school education only. There was no significant relationship between those who obtained an associate's degree or undergraduate certificate and the dependent variable. Despite significant findings in the naïve model, none of the treatments were significant in the PSW model. However, other variables in the model held varying levels of significance.

Looking at the naïve model, findings showed that with a one point increase in GPA, work-life balance increased by .043 (p <.05). However, the PSW model showed GPA to be insignificant. The naïve model also displayed results suggesting that participants whose parents expected them to obtain an associate's degree perceived lower work-life balance (B= -.118, p <.01) than their counterparts whose parents were unsure of their educational expectations. With

[3] F-test degrees of freedom consisted of actual sample size, not rounded figure at the bottom of Table 4.13. Actual F=17.93 with rounded degrees of freedom approximately (1, 8205).

that said, in one or both of the models, every level of parental expectation was associated with significant negative outcomes. In the PSW model, those participants with parents who expected their student to earn bachelor's degrees reported a lower value of work-life balance by .097 (p <.05), compared to those whose parents were unsure of their educational expectations, holding all else constant. Similarly, the PSW model showed that compared to individuals whose parents were unsure of their educational expectations, parental expectation of a degree beyond a bachelor's was associated with lower values of work-life balance (B =.155, p <.01). Those whose parents expected them to complete only high school also reflected negative results associated with work-life balance in the PSW model (B= -.383, p <.01), compared to participants whose parents were unsure of their expectations. The naïve model showed negative significance for those participants whose parents expected high school, associate's, and beyond bachelor's levels of education, compared to those whose parents did not specify expectations.

As with parent expectations, the PSW model shows that students who expected to obtain either an associate's degree or a graduate or professional degree were more likely to report lower levels of work-life balance. Those participants who expected to obtain an associate's degree reported marginally lower values for work-life balance by .188 (p <.10), and those who expected to earn more than a bachelor's degree reported a perceived work-life balance coefficient of -.140 (p <.05), with the referent category being those students who were unsure of their expectations for themselves. The naïve model did not show significant results for student expectations. Similarly, results from the PSW model suggested as the composite variable for SES in a participant's senior year of high school increased by one, their reported work-life balance in 2006 decreased by .078, with marginal significance (p <.10). Contrarily, results suggested that

reported work-life balance was positively associated with age (B=.059, p <.05), indicating that work-life balance increased by .059 unit with each year of age, holding all else constant.

In this model for factors that contribute to work-life balance, race was a relatively insignificant contributor, except for participants who identified as Asian and Hawaiian/Pacific Islander. Findings showed that Asian/Pacific Islander participants reported lower levels of work-life balance in both the naïve model and the PSW model, with a PSW coefficient of B= -.128 (p <.05). An analysis of sex revealed that males reported lower work-life balance than their female counterparts by .181 (p <.001) in the PSW model, and by .098 (p <.001) in the naïve model.

Social and Educational Values: Naïve vs. PSW

The third regression outcome in the naïve and PSW models examined the contribution of higher education attendance by level on the third dependent variable, social and educational values, controlling for other independent variables. This factor included questions about continued learning and expertise in a field, suggesting a level of personal growth, while also including social and cultural values such as strong friendships, helping others, and correcting social inequalities. In this third set of analyses, the R^2 in the model was higher than that in the naïve model (R_w^2 =.078; R_n^2 =.067), revealing a better fit of the PSW model (p <.001 for both models).

In both the naïve and PSW models, for individuals with a minimum of 60 college credit hours, significant and positive results were reported in association with social and educational values; these findings support the theoretical assumptions of social and cultural reproduction, as those with more exposure to postsecondary education display higher coefficients, as well as increasing significance levels within the findings. While those with up to 60 credit hours did not display any significant findings relative to social and educational values, the PSW and naïve

models revealed a stepwise relationship between educational attainment and the dependent variable. The PSW model showed an increase of .191 (p <.05) in the dependent variable for those who had obtained an associate's degree or undergraduate certificate, compared to individuals who obtained no higher education. Participants who obtained more than 60 credit hours but did not graduate reflected a higher positive, significant relationship with the social and educational values factor in both the naïve (B=.144, p <.001) and PSW (B=.210, p <.05) models as well, compared to participants with no college experience. Finally, in both models those who obtained a bachelor's degree had the highest coefficients and significance levels, with individuals in the PSW model exhibiting a .250 increase (p <.01) in the social and educational values factor compared to individuals who obtained no postsecondary education, holding all else constant.

In both models, coefficients revealed that males reported lower scores in social and educational values, with the PSW model showing a decrease of .133 (p <.001). In the PSW model, compared to participants who identified as White, race was a significant contributor to social and educational values for participants who identified as Black/African American (B= .221, p <.001), Asian or Hawaiian/Pacific Islander (B= .149, p <.01), and Hispanic (B=.138, p <.05); similar trends were also present in the naïve model. Other positive relationships can be seen in the higher levels of parental education in the naïve model, but after weighting, these findings are insignificant. A similar observation can be seen in the naïve model with students whose educational expectations are to obtain more than a bachelor's degree, with the social and educational values dependent variable increasing by .119 (p <.001) compared to those students who were unsure of their educational expectations; in the PSW model, this too loses significance.

Negative relationships were found in the naïve model between parent educational expectations lower than post-baccalaureate prospects and the dependent variable, compared to participants whose parents were unsure of their educational expectations, holding all else constant. After weighting, parent expectation was no longer significant. Of significance in the PSW model but not in the naïve model was student expectation of completing only high school, compared to those who were uncertain of their expectations (B= -.372, p <.01), resulting in a decrease in the social and educational values dependent variable. Significant and negative in both the naïve and PSW models was a student's expectation to receive an associate's degree as their highest level of education, with the naïve model showing a coefficient of -.099 (p <.01), and with the PSW model showing a marginally significant coefficient of -.143 (p <.10), compared to participants who were unsure of their educational expectations for themselves, holding all else constant.

Of particular interest were the negative relationships in both the naïve and PSW models between high school GPA and senior year high school SES, and the social and educational values dependent variable. In the PSW model, for every one point increase in GPA, there was a decrease of .136 (p <.001) in the social and educational values dependent variable value. Likewise, SES was negatively significant in both models as well. As the composite variable for SES in a participant's senior year of high school increased by one, the dependent variable decreased by .061 (p <.10) in the PSW model. Just as with the dependent variable related to work-life balance, these variables may have been correlated with obtaining various levels of higher education; however, their inclusion in the propensity score model and regression models were crucial to this study to balance the covariates of otherwise systematically different students.

Marriage and Children Values: Naïve vs. PSW

The fourth regression outcome, in terms of PSW and naïve models, analyzed the effect of various levels of higher education on marriage and children values; it should be noted that the variables that comprise this factor are meant to determine family aspirations and values, including questions of marriage and children, but it intentionally does not ask about parents, siblings, or other nuclear family members, as participants were approximately 26 years old when they took this survey and were less likely to live with or need to care for parents. The PSW model had a higher R^2 than the naïve model (R_w^2 =.085; R_n^2 =.017), suggesting the better fit of the PSW model (p <.001).

In both the PSW and naïve model, educational attainment remained insignificant, indicating that perhaps level of education had less of an impact on whether participants reported higher coefficients in marriage and children values. While theoretically there may be some ways in which higher education relates to marriage and children, this study reveals that these facets of quality of life may depend more on other observable covariates that existed prior to postsecondary education. Compared to females, males showed lower coefficients in both the naïve and PSW model (B= -.138, p <.001; B= -.136, p <.01) respectively. Similarly, participants who identified as Black/African American, and Asian or Hawaiian/Pacific Islander had lower coefficients compared to their White counterparts. In the PSW model, Black/African American participants had lower marriage and children values by .415 (p <.001) compared to their White counterparts, holding all else constant, suggesting that compared to participants who identified as White, those who identified as Black/African American reported lower values of being married and having children on the ELS:2002 third follow-up survey questions. Participants who identified as Asian or Hawaiian/Pacific Islander showed similar significant and negative results

in their PSW model (B= -.138, p <.05), compared to participants who identified as White. Participants who were identified as Hispanic and Other Race also reported lower marriage and children values (B= -.078, p <.05; B= -.121, p <.05), respectively, in the naïve model compared to those who were categorized as White, but those statistics were no longer significant after weighting. With this, it can be said that participants who identified themselves as White reported the highest values in the ELS:2002 survey items about the value of marriage and children, holding all else constant.

High school GPA was positive and significant in both the naïve and PSW model. Holding all else constant, the PSW model showed that as GPA increased by one point, marriage and children values increased by .110 (p <.01). Other positive and significant findings existed when looking at student expectations, but only within the naïve model. However, upon applying the appropriate propensity score weights, these variables were no longer significant. Within the PSW model, the only variable related to student educational expectation that was significant was with those participants who expected to obtain only a high school education, compared to those who were unsure of their expectations; these students who expected to obtain no higher education reported values .473 lower (p <.05) in marriage and children values than the referent group, holding all else constant. Within the PSW model, those whose parents expected them to obtain an associate's degree, compared to those whose parents were uncertain of their educational expectations, showed responses with values .250 higher (p <.05) for the marriage and children values dependent variable, suggesting higher marriage and children values among those who were expected by their parents to earn an associate's degree. The opposite trend could be seen with marginal significance in the naïve model with those respondents whose parents expected a high school education (B= -.124, p <.10).

Voting Behaviors: Naïve vs. PSW

The fifth outcome variable can be seen in Tables 4.14 and 4.15, with this section focusing on PSW and naïve models that examine the effect of educational attainment on voting behaviors. This regression was, in part, conducted to connect my study with the existing literature. Another reason for studying voting behaviors involves a clear analysis of civic participation, which is increasingly relevant in society today. For the analysis of voting behaviors, three categories were created to encompass all possible participants: those who did not vote during any election between 2008 and 2011; those who voted during one local, state, or national election between 2008 and 2011; and those who voted in more than one local, state, or national election between 2008 and 2011. A multinomial logistic regression was conducted, with those who did not vote as the reference category, to best assess the impact of various levels of educational attainment on voting patterns. The results were reported for each category, including the reference category, in marginal effects to best understand and explain which variables most likely affected voting behaviors. The pseudo R^2 in the PSW model was .076 (χ <.001), whereas the pseudo R^2 in the naïve model was .047 (χ <.001).

Never Voted. First exploring those who did not vote in any election between 2008 and 2011, the naïve model showed a significant and negative impact at every level of educational attainment, compared to those who pursued no higher education. Given that the category in question addresses those individuals who were *less* likely to vote, negative coefficients are to be expected in a stepwise manner according to amount of time exposed to higher education (i.e., how many hours of higher education a participant obtained), as they correspond with a higher likelihood of voting. The PSW and naïve models showed the same pattern, with participants who earned more credits in higher education being more likely to have voted at some point

between 2008 and 2011. According to the PSW model, participants who obtained up to 60 credit hours in college were 13.5% (p <.01) less likely not to vote, or 13.5% more likely to vote, compared to those who pursued no higher education. Holding all else constant, those who obtained an associate's degree were 16.6% (p <.001) less likely not to vote, compared to those who obtained no higher education. Participants who obtained more than 60 credit hours but did not obtain a degree were 21.5% (p <.001) less likely not to vote, or 21.5% more likely to vote than their counterparts who obtained no higher education. Finally, according to the PSW model, holding all else constant, those who attained a bachelor's education were 21.3% (p <.001) less likely not to vote compared to those who did not pursue higher education at all.

Outside of educational variables, sex was significant in both the naïve and PSW models, with males being approximately 5.5% (p_n <.001; p_w <.05) more likely not to vote than their female counterparts in both models, holding all else constant. Both models also revealed those who identified as Asian or Hawaiian/Pacific Islander to be less likely to vote than their White counterparts, with the PSW model suggesting that they were approximately 15% (p <.001) less likely to vote. Although the naïve model suggested that Hispanics were less likely to vote, this variable did not maintain significance after weighting. However, in both the naïve and PSW model, individuals who identified as Black/African American were more likely to vote than their White counterparts, holding all else constant. In the naïve model, participants who identified as Black/African American are 16.4% (p <.001) more likely to vote than their White counterparts, and in the PSW model, they were 24.2% (p <.001) more likely to vote.

The naïve model showed that as a participant's high school GPA increased by one grade point, the individual was less likely not to vote, or more likely to vote; after applying propensity score weights, however, high school GPA is insignificant. In both the naïve and PSW models,

higher senior year SES was associated with a higher likelihood of voting. In the PSW model, with a one point increase in the SES composite score, a participant was 9.4% (p <.001) more likely to have voted. In terms of student educational expectations, the PSW model showed that students who expected only to obtain a high school education were marginally less likely not to vote than their counterparts who were uncertain of their educational expectations (B= -.108, p <.10). Both the naïve and PSW models suggested that participants who expected to obtain a bachelor's degree or beyond were more likely to vote than those who were unsure of their educational expectations. According to the PSW model, compared to those who did not specify their educational expectations, those participants who expected to obtain a bachelor's degree were 11.3% (p <.01) more likely to have voted between 2008 and 2011, and those who expected to obtain a degree beyond a bachelor's degree were 13.2% (p <.001) more likely to have voted, holding all else constant.

Voted Once. Examining those who voted in one election between 2008 and 2011, respondents with any level of postsecondary education, even those who did not complete a degree program, were more likely to vote compared to those who completed no postsecondary education. The PSW model showed a similar trend, but it was insignificant for those participants who earned 60 hours or less at a higher education institution. The PSW model revealed that compared to participants who obtained no college education, those who obtained an associate's degree or an undergraduate certificate were 8.1% (p <.05) more likely, those with more than 60 credit hours were 9.8% (p <.05) more likely, and those who attained a bachelor's degree were 10.9% (p <.05) more likely to vote in one election between 2008 and 2011, holding all else constant. This suggests that voting became increasingly important and likely with more exposure to higher education.

The PSW and naïve models reported males to be less likely to vote once in the given time period than their female counterparts, with the PSW model suggesting that they were 7.7% (p <.001) less likely, holding all else constant. In alignment with the previously discussed marginal effects for voting behaviors, the models showed those who identified as Black/African American to be more likely to have voted in one election, with the PSW model showing those participants to be 10.7% (p <.001) more likely to vote than their White counterparts. Holding all else constant, both the naïve and PSW models also showed Asian or Hawaiian/Pacific Islanders to be less likely to vote in one election than those who identified as White, showing B= -.060 (p <.01) and B= -.066 (p <.05), respectively.

High school SES and GPA were insignificant contributors in both models, but some levels of student educational expectations had a positive influence on voting in the PSW model. Those participants who indicated that they expected a high school education or equivalent were 22.5% (p <.01) more likely to vote in one election between 2008 and 2011 than those students who were unsure of their educational expectations. Similarly, compared to those who were uncertain of their educational expectations, and holding all else constant, those individuals who expected to earn a bachelor's degree were 5% (p <.10) more likely to vote in one election, and those individuals who expected to earn a degree beyond their bachelor's were 6% (p <.10) more likely to vote in one election between 2008 and 2011. However, parent educational expectations had a negative effect in both the naïve and PSW models. Compared to those participants whose parents were unsure of their educational expectations of their child, those whose parents expected the participants to obtain an associate's degree were less likely and 13.4% (p <.01) less likely to vote in one election according to the PSW model, holding all else constant.

Voted More than Once. Analyzing participants who voted in more than one election between 2008 and 2011 (including a state, local, or national election), similar patterns emerged as previously seen. All levels of postsecondary education were positive and significant in both the naïve and PSW models. The PSW model reflected an increasing pattern: participants earning up to 60 credit hours were 8% (p <.05) more likely to vote more than once; those with an associate's degree or undergraduate certificate were 8.5% (p <.05) more likely; those with more than 60 credit hours were 11.6% (p <.01) more likely; and those with a bachelor's degree were 10.4% (p <.05) more likely to vote in more than one election, compared to those with no college education and holding all else constant.

Within this marginal effects analysis, sex was insignificant. However, similar patterns in race/ethnicity held in relation to previous marginal effects discussed in reference to voting behaviors. Compared to those who identified as White, participants who identified as Black/African American were 13.5% (p <.001) more likely to have voted more than once in the PSW model. However, participants who identified as Asian or Hawaiian/Pacific Islander were 8.9% (p <.01) less likely to vote in more than one election, compared to their White counterparts, holding all else constant. In the naïve model, Hispanics were reported to be 4.7% (p <.01) less likely to vote in more than one election than their White counterparts, but when propensity score weights were applied, this variable did not maintain its significance.

Results indicated that as high school GPA increased by one grade point, holding all else constant, participants became 3.3% (p <.10) more likely to have voted in more than one election, according to the PSW model. Both models suggested that increasing SES in a student's senior year of high school would make participants more likely to vote in more than one election as well, with the PSW model suggesting that for every one point increase in composite SES score, a

participant would be 10% (p <.001) more likely to vote in more than one election between 2008 and 2011, holding all else constant. Oddly, the PSW model suggests that participants whose parents obtained higher levels of education were less likely to vote in more than one election; participants whose parents attained a bachelor's degree were 6.2% (p <.10) less likely, and those whose parents earned a graduate or professional degree were 8.5% (p <.05) less likely to vote in more than one election, compared to those whose parents earned a high school diploma or less. This suggests that these variables may be closely related to other variables in this regression, perhaps SES, and therefore may be correlated. Despite this, including both parental education and SES in the model proved significant in an F test[4]. Additionally, initial VIF scores revealed no multicollinearity.

In the naïve model, both student and parent educational expectations had a positive impact on likelihood of voting in more than one election between 2008 and 2011; however, when propensity score weights were applied, parental educational expectations became insignificant. Student educational expectations, however, remained significant at some level in both the naïve and PSW models. Students who expected to earn a bachelor's degree were shown to be 6.3% (p <.05) more likely to vote in more than one election according to the PSW model, compared to those students who were uncertain of their educational expectations. Similarly, students who expected to earn more than a bachelor's degree were 7.2% (p <.05) more likely than their counterparts who were unsure of their educational expectations to vote in more than one election between 2008 and 2011, holding all else constant.

Volunteering Behaviors: Naïve vs. PSW

The sixth regression outcome was also portrayed in Tables 4.14 and 4.15, showing PSW

[4] F-test degrees of freedom used actual sample size, not rounded figure at bottom of Table 4.15. F=2.66 with degrees of freedom approximately (4, 8195).

and naïve models that investigated the effects of various levels of educational attainment on volunteering behaviors. Like the regression for voting behaviors, this regression was performed to align my study with the existing literature. For the analysis of volunteering behaviors, three categories were created to encompass all possible participants: those who had not volunteered at any point in the past two years since the survey was administered, labeled "Never Volunteered" in Tables 4.14 and 4.15; those who volunteered less than once per month but had volunteered in the last two years since the survey was taken, labeled "Sometimes Volunteered;" and those who volunteered at least once a month, labeled "Often Volunteered.". As with the voting variable, a multinomial logistic regression was used to analyze the data, with those who never volunteered as the reference category. The results were reported in marginal effects for each category of volunteer participation, including the reference category, to explain which covariates and treatments were most likely to affect volunteering behaviors. In both models, $\chi < .001$, and the pseudo R^2 in the PSW model was .042, where the pseudo R^2 in the naïve model was .037.

Never Volunteered. The PSW and naïve models revealed a relationship between level of education and volunteer activity. Compared to those individuals who obtained only a high school education, the naïve model reported those participants who obtain more than 60 credit hours were 5.5% ($p < .05$) less likely to never volunteer, or more likely to volunteer more than once every two years; on the contrary, the PSW model revealed this level of education to be insignificant. Significant in both models, however, were participants who obtained baccalaureate degrees. The PSW model suggested that those who obtained bachelor's degrees are 10.3% ($p < .05$) more likely than their counterparts with no higher education to volunteer, holding all else constant.

Although the naïve model suggested sex to be significant, when propensity score weights were applied, sex became insignificant. Race was insignificant in both models with one exception. Participants who identified as Black/African American, compared to their White counterparts, appeared to be 6.6% (p <.001) less likely in the naïve model and 7.8% (p <.05) less likely in the PSW model to never volunteer, holding all else constant.

High school GPA was significant in both the naïve and PSW models. When GPA increased by one grade point in the PSW model, holding all else constant, participants become 8.3% (p <.001) more likely to volunteer, according to the PSW model; in other words, those with higher GPAs were more likely to have volunteered at some point between 2010 and 2012, holding all else constant. The PSW model also suggested that increasing age by one year made participants less likely to volunteer (B=.031, p <.10). Although significant in the naïve model, high school SES proved insignificant in the PSW model.

In terms of student educational expectations, and holding all else constant, those participants who expected only to earn a high school education were 8.5% (p <.05) more likely in the naïve model and 20.2% (p <.10) more likely in the PSW model to have never volunteered between 2010 and 2012, compared to those students who were uncertain of their educational expectations. All other levels of students and parent educational expectations remained insignificant in the PSW model, as did parent education.

Sometimes Volunteered. While the naïve model suggested that participants who obtained a bachelor's degree, compared to receiving no higher education, were 6.5% (p <.01) more likely to volunteer sometimes (remembering that sometimes can be defined as less than once a month but more than once every two years), the PSW model showed no significant results for educational attainment.

Both the naïve and the PSW models suggested that participants who identified as Hispanic were less likely to volunteer "sometimes" than their White counterparts, with the PSW model suggesting that they would have been 5.7% (p <.05) less likely to volunteer sometimes, holding all else constant. Also significant in both models, as high school GPA went up, so did the likelihood of sometimes volunteering, as defined earlier in this passage. The PSW model showed that as high school GPA increased by one point, participants became 4.7% (p <.001) more likely to sometimes volunteer. Holding all else constant, senior year SES was also shown to be significant in both models, with the PSW model suggesting that participants were 3.5% (p <.10) more likely to volunteer sometimes, holding all else constant. No further significant findings existed in the PSW model, although student expectations to obtain a high school education (B= -.133, p <.001) and age (B=.018, p <.05) were further significant in the naïve model.

Often Volunteered. Similarly to the marginal effects for the "Sometimes Volunteered" category, there were no significant findings reported in the PSW model of the "Often Volunteered" category, although obtaining more than 60 credit hours in a higher education institution and obtaining a bachelor's degree were significant in the naïve model, compared to those who obtained no higher education, with B= .045 (p <.05) and B=.069 (p <.001), respectively.

Although significant in the naïve model, sex remained insignificant in the PSW model. Significant in both the PSW and naïve models, participants who identified as Black/African American were 9.8% (p <.001) more likely according to the PSW model to participate in volunteer activities often, compared to their White counterparts and holding all else constant. Similarly, holding all else constant, in the PSW model, participants who are categorized as Other

Race were 6.9% (p <.01) more likely to volunteer often compared to participants who identify as White.

High school GPA was significant in the PSW model, suggesting that as GPA increased by one grade point, holding all else constant, participants became 3.5% (p <0.05) more likely to volunteer often. Contrarily, the PSW model also suggests that as age increased by one year, participants were 3.2% (p <.05) less likely to volunteer often.

There were no significant findings within the PSW model concerning parent education level or parent educational expectations, although the naïve model showed significance in higher levels of parent education and certain postsecondary levels of expectation; one significant result existed within both the PSW and naïve models that reported that participants who expected to obtain an education beyond a bachelor's degree, compared to those students who were unsure about their educational expectations, were 5.2% (p_n <.001, p_w <.05) more likely to volunteer often.

Summary: Educational Attainment

Findings showed that enrollment in higher education contributed to certain dimensions of quality of life more than others; of particular importance were the findings related to higher social and educational values, as they were not contingent upon earning a degree. Similarly, voting was more related to exposure to higher education than degree attainment. In both the propensity score weighted and naïve models, these two outcomes had higher coefficients for increased credits earned in a higher education institution, meaning that those participants who earned more credits in higher education but did not obtain a degree (i.e., those who earned more than 60 hours compared to respondents who earned an associate's degree or certificate) were still likely to experience some benefits of higher education and increased quality of life.

More degree-centric results included those related to benefits of job/career. In this outcome, the PSW and naïve models differed, with the naïve model showing negative effects of earning some college, while the PSW model showed positive contributions for earning a credential. Although similar in concept, the difference between the models lies in whether the participants were negatively or positively impacted; this difference could be seen when weighting was applied. Overall, having some level of postsecondary education was shown to be significant in contributing to perceptions of quality of life in every model except those assessing marriage and children values and work-life balance, which were more likely affected by other participant characteristics.

CHAPTER 5

DISCUSSION, IMPLICATIONS, AND CONCLUSIONS

The primary purpose of this study was to assess the effects of educational attainment on quality of life, with particular focus on the benefits of higher education for those who did not earn a postsecondary degree or certificate. Filling a gap in the existing literature, the results of this study suggest that those who earn postsecondary degrees are likely to be given more responsibilities and autonomy in the workplace. Meanwhile, those with only some college do not experience these benefits. However, those with any college attainment valued social and cultural aspects of life, such as relationships, and continued growth and learning, more than those with no postsecondary education. As evidenced by this study, those with certain levels of higher education are more likely to volunteer, although frequency cannot easily be determined. Finally, those with any higher education are more likely to vote and to vote with more frequency than those who never attended college. The results of this study show the importance of higher education, suggesting the pecuniary and nonpecuniary benefits to quality of life that individuals with more education may experience. Those with some higher education are likely to experience some benefits, while those who earn degrees reap more rewards. Thus, this study confirms the importance of postsecondary education to social and cultural aspects of life, while also suggesting the importance of access and retention within higher education.

Although the benefits of obtaining a higher education have long interested researchers in the field, much of the research has focused on those who obtain degrees, rather than the benefits to those who pursue varying levels of postsecondary education. This may be because it is easier to classify individuals as either obtaining or not obtaining a degree, affirmed by theories such as

the signaling theory (Stiglitz, 1975) and sheepskin effect (Bitzan, 2009), both of which purport that individuals will experience more success when levels of educational attainment include a specific credential. With many students failing to earn their degrees after matriculation, however, (National Student Clearinghouse Research Center, 2016), some researchers have begun focusing on outcomes of higher education as a whole, regardless of completion. Flanagan (1978) suggested that the outcomes of higher education impact overall quality of life, as has more recent research (McMahon, 2009), signifying that the benefits of higher education should be considered together in reference to overall wellbeing and quality of life, as opposed to simply considering the economic benefits of degree attainment. As stated in Rosenbaum et al.'s (2015) research, those who do not complete degrees are more likely to suffer financial hardship, yet Baum, Ma, and Payea (2010, 2013) show increasing benefits with higher levels of educational attainment, even for those who only complete "some college." In addition to considering education's impact on quality of life, the present study adds to the existing literature on outcomes of higher education for not only those who obtain a degree, but also for those who fail to do so.

The overall purpose of this study was to examine the outcomes of higher education for groups of participants with varying levels of educational attainment, including participants who: pursued no postsecondary education; received up to 60 hours of college credit; obtained more than 60 hours of college credit; attained an associate's degree; or earned a bachelor's degree. Bourdieu's (1973) theories of cultural and social reproduction and human capital theory, as well as Flanagan's (1978) QOLS, were used as a guiding principle for the selection of outcome variables. Although Bourdieu and Flanagan never cited each other, as referenced in Chapter 2, much of their research focused on the outcomes of higher education and the ways in which individuals would benefit from higher educational attainment; similar in concept, these two

theorists both suggested social and cultural, as well as financial, benefits to higher education. Their combined works informed this study.

Using ELS:2002, this study used exploratory factor analysis (EFA) to create factors to represent and show the connection between proposed aspects of quality of life. These factors were then used as dependent variables in a regression context to better elucidate the relationship between higher education and quality of life. Descriptive statistics with frequency distributions and cross-tabulations were conducted to provide information about the sample of participants. In addition to demographics and educational aptitude, educational expectations were also included among these descriptive analyses. Propensity score weighting (PSW) with multiple treatments was applied, taking into account the above observable characteristics. Balancing scores for each level of educational attainment were used in inverse probability weighting (IPW) to best account for observable covariates; this allowed for a more accurate analysis of the effect of educational attainment on quality of life. Naïve and PSW regressions were conducted for each aspect of quality of life, with the PSW models depicting a more accurate relationship regarding the effect of higher education on quality of life. Additional models were run to analyze the effect of educational attainment on specific voting and volunteering behaviors.

The following research questions were addressed in this study: 1) What are the underlying constructs associated with perceived quality of life, beyond economic prosperity? In what ways are these differing social and cultural constructs related to one another, and how do these constructs relate to the typically defined benefits or positive externalities associated with higher education? 2) Compared to those who did not attend college, what is the effect of college attendance on various cultural and social aspects of quality of life? Specifically, what are the effects of attending a higher education institution for the equivalent of two years or less,

compared to never attending? Attending a higher education institution for the equivalent of more than two years without attaining a degree, compared to never attending? Graduating with an associate's degree, compared to never attending? Graduating with a baccalaureate degree, compared to never attending? This study intended to answer these research questions while also gaining a greater understanding of the effects of observable student demographic characteristics, academic achievement, and educational expectations on quality of life. Included in this final chapter is a discussion of the findings, limitation, implications for policy, suggestions about future research, and concluding statements.

Main findings of this dissertation reveal that level of educational attainment seems to be directly related to student and parent expectations, GPA and SES as of a participant's senior year in high school, sex, and race. In reference to regression outcomes, while some outcomes are more reliant on degree attainment, such as benefits of job/career, other aspects of quality of life are impacted by level of educational attainment regardless of degree attainment. Particularly considering social and educational values as reported by the participants, those with higher levels of education reported higher coefficients even if they had not earned a credential. A similar pattern was seen with voting as well.

Discussion

This discussion section begins with a brief conversation about demographics and other observable covariates are discussed, with special attention to level of educational attainment in relation to observable covariates. Then regression model results are discussed for each dependent variable, with particular focus on level of educational attainment.

The Influence of Parents

Analyses of parental education suggest that fewer participants' parents received

associate's degrees than all other lower and higher levels of education, potentially impacting whether students saw an associate's degree as a feasible option. With that said, students were more likely to expect to obtain an associate's degree than parents. Although cultural reproduction is a facet that may have dictated participant expectations and level of educational attainment, it must be considered that these students received additional information and input about higher education, beyond the contributions of their parents. Fewer parents and students reported expecting the student to earn a high school education, compared to higher levels of education. While fewer students obtained a high school education than any other level, more students stopped at this level than either parents or students expected. This suggests that some students earned high school diplomas who were expected to earn higher, or perhaps whose expectations were uncertain.

Voting and Volunteering

More respondents were likely to vote in more than one election between 2008 and 2011, compared to voting in only one election or not at all. However, significantly fewer participants volunteered, perhaps suggesting it is perceived to have a lower level of importance than voting. Alternatively, it is possible that voting takes less time than volunteering on a regular basis, and other life obligations would interfere. Bourdieu would suggest that perhaps participants would be more likely to value volunteering (Bourdieu, 1984), but the acquisition of various forms of capital may take precedent. Flanagan (1978) found that multiple facets of life beyond social, community, and civic activities contributed to overall perception of quality of life, and perhaps volunteering is one aspect that was overshadowed by other obligations for these participants.

Educational Attainment

Overall, as shown in Tables 4.5 through 4.10, females were more likely to earn higher

levels of education than their male counterparts, with approximately 54% and 60% of bachelor's degrees and associate's degree/certificates being earned by women, respectively. Additionally, approximately 51% of those who earned more than 60 credit hours were female. This aligns with current statistics, as women are shown to reach higher levels of education than men in the United States (Bureau of Labor Statistics, 2016). Perhaps women earn higher levels of education because they earn less money than men (Bureau of Labor Statistics, 2017) and need higher educational credentials to earn more. Bourdieu (1974) would suggest that earning higher levels of education would aid individuals in earning more economic, social, and cultural capital, thus making this a feasible option for women who typically earn less.

Participants who identified as White made up the largest group in each level of educational attainment, as there were more White participants than any other race in the sample. In alignment with previous research, those participants who could most benefit from a higher level of education are precisely the ones who are less likely to obtain it (Brand & Xie, 2010). In this study, a higher percentage of those who identified as Other Race, Hispanic, or Black/African American earned a high school diploma, up to 60 credit hours with no degree, and associate's degrees or certificates than their White or Asian counterparts. Meanwhile, approximately 43% of White and 51% of Asian participants earned baccalaureate degrees, compared to lower percentages of the other measured races. Ogbu (1982) might suggest that this occurred because of a different counterculture that devalues White values for minorities, specifically Black/African American participants. Bourdieu (1973) would suggest that education may not be as important in these cultures, and cultural reproduction would incline participants to earn less education than their White and Asian counterparts who are more likely to value education.

Student expectations in their senior year of high school aligned fairly well with their levels of educational attainment, but the option of obtaining "some college" was never presented to them. It is less likely that students pursued higher education with the intent of obtaining some credit but no degree, so those participants who obtained up to 60 credit hours and more than 60 credit hours with no degree in this study are shown to generally underachieve compared to their expectations. Among other reasons, it is this perception of underachievement that this study aims to address, as obtaining some level of college still presents some benefit in terms of quality of life to those who do not graduate with their expected degree. Parent expectations aligned well with student expectations, as shown in Table 4.9, and therefore may also present some findings of underachievement. With that, it can be seen that with lower parent and student expectations came lower levels of educational attainment in general. Therefore, for the expansion of access and retention within higher education, it is crucial to start not when the student is in college, but before students have formed concrete ideas about higher education; to do this, it may be necessary to educate parents on the merits of higher education when their children are young to best facilitate cultural reproduction, or in some cases production, regarding the importance of education.

For those whose parents earned lower levels of education, such as some college, high school equivalents, or less, high proportions of students were likely to earn higher degrees than their parents had, many earning some credential in higher education. With that said, the higher the level of parent education, the more likely students were to earn a baccalaureate degree. Bourdieu (1973) would suggest that for these students, the value of education was taught to them via cultural and social reproduction, as their parents would likely convey the merits of postsecondary education to them. Choy (2001) would express a similar idea, suggesting that

those whose parents pursued higher levels of education would be more likely to pursue higher education themselves. As far as those whose parents earned lower levels of education, it is likely that they learned of higher education options from schools, whose job it is to instill the values of the dominant class within society (Bourdieu, 1974). To clarify, students, more so than their parents, may have received input from their schools urging them to pursue higher education; however, those students who were taught the importance of higher education from both school and home were more likely to reach higher levels.

Table 4.8 shows that as high school GPA increased, so did level of educational attainment; GPA is one of the measures of academic achievement and capability that college officials use to make decisions about accepting students, along with test scores and other measures of academic ability. GPA was used because students could elect not to participate in standardized tests. GPA was more closely aligned with hours earned than degree attainment, as seen by a dip in GPA for those who earned an associate's degree or undergraduate certificate, compared to students who earned more than 60 credit hours (an amount that surpasses the minimum number of credit hours of a typical associate's degree). High school GPAs for students who obtained a bachelor's degree were, on average, one point higher than those who obtained no college education (3.25 and 2.21, respectively). A similar stepwise trend can be seen in SES as of 2006. Those individuals with higher SES were likely to reach higher levels of educational attainment. Like GPA, SES is more closely aligned with credits received than actual degree attainment, as those who received more than 60 credits of higher education reported higher levels of baseline SES than those with associate's degrees or undergraduate certificates. The lowest average SES could be seen among those who obtained no college education, and the highest could be seen with those who obtained baccalaureate degrees. Especially because of the

inclusion of parent education and occupational prestige, Bourdieu (1973, 1984) would consider this a form of cultural reproduction, making it an ideal variable to include in this study.

EFA Outcome Regressions

For the following pages about the regression analyses, naïve and propensity score weighted results will be discussed. Naïve and PSW results were shown initially and briefly discussed in Chapter 4 to explain the ways in which the models differed, which models were better, and why PSW was necessary for this analysis. To recap, all PSW models showed higher R^2 values than their naïve counterparts, accounting for weights produced using inverses probability weighting of balancing scores and design effects. In some cases, the naïve models showed level of educational attainment to be significant where the PSW model did not, suggesting that when covariates were balanced between groups, level of educational attainment had less of an effect on the various outcome variables. Despite this, clear associations could be seen between educational attainment, other independent variables, and the outcome variables.

Factor 1: Benefits of Job/Career. Findings herein showed that in the naïve model, students with some college credit but no completed degree reported statistically lower perceptions of benefits in their job/career than did their counterparts who received no postsecondary education. In the PSW model, however, this was no longer significant. Contrarily, after applying propensity score weights, those who obtained an associate's degree or undergraduate certificate, or bachelor's degree perceived higher benefits in their job/career. These findings of the PSW model generally align with the sheepskin effect and signaling theory (Stiglitz, 1975). Employers are unlikely to allow employees to serve as supervisors, or give them additional autonomy, if they do not believe the employees capable. Therefore, to be provided with more opportunities and responsibilities in a job, it is useful for employees to have a higher

level of human capital (Becker, 1962; Mincer, 1958), specifically educational credentials. Signaling theory and the sheepskin effect take this even farther than a simple accumulation of skills to the point of labeling some milestones as more significant than others in terms of education and training. At certain points, particularly times in which degrees are awarded, a signal was likely sent to potential employers about competence and skills, making it not only more likely for participants to get jobs, but also more likely for them to be given certain obligations and responsibilities. These aspects of the job that were awarded to individuals with degrees but not awarded to those without relate to perceived benefits of a job/career.

Along similar lines, although not included in this study, positions with higher levels of supervisory experience, autonomy, and other crucial aspects of work are also likely to be positively correlated with pay. Therefore, this factor that best accounts for the variance of survey items relating to benefits of participants' jobs may also be related to how much economic capital they accrue. Among others, Cheeseman Day & Newburger (2002) have researched the impact of educational attainment on pay, but that same educational attainment is also likely to increase other benefits relating to an individual's job (Baum, Ma, & Payea, 2013; College Board, 2008). Bourdieu (1984, 1986) suggests that economic, social, and cultural capital impact each other, as capital begets capital. Due to perceived cultural importance of job responsibilities, social relationships with employers and fellow employees, and potentially increased accrued economic capital, it is entirely possible that those who obtained a degree or certificate experienced more of each type of capital, in reference to this PSW regression outcome. Specific economic data was not analyzed for multiple reasons: 1) Salary and debt were not provided for each individual, so a full analysis may have left out some of the most relevant cases; 2) For those cases for which pecuniary variables were provided, it would be difficult to balance the covariates

when clear differences in pay exist based on level of education; 3) Many studies have focused on economic capital, but few have focused on social and cultural capital in a quantifiable way; and 4) If types of capital are connected, as Bourdieu suggested, discussing levels of social and cultural capital based on regression coefficients also likely addresses economic capital to some extent. With this said, findings from this regression likely suggest that those with degrees achieve higher levels of social, cultural, and economic capital, as related to benefits of job/career.

When all observable covariates were balanced in the PSW model, sex and race became insignificant in perception of the benefits of a job/career, but high school GPA became negatively significant where it was positively significant in the naïve model at $p < .05$. Addressed in Chapter 4, this is likely because of a connection between GPA and level of education, but keeping GPA in the model significantly increased the R^2. The unexpected relationship between GPA and benefits of job/career may also have to do with the kinds of work respondents are doing in their entry- or near-entry level positions. Perhaps as they move into work roles with greater responsibility or challenge, their perceptions may change.

Within the naïve model, those participants whose parents expected them to earn a high school education or beyond a bachelor's degree showed significant and negative perceptions of benefits of job/career, compared to respondents whose parents were uncertain of their educational expectations for their students; several levels of parent education were also associated with lower perceptions of benefits of job/career, including those with some college, a bachelor's degree, and a graduate or professional degree. Alternatively, parent and student expectations, as well as parental education, were largely insignificant in the PSW model, with student expectations of an associate's degree being marginally negatively significant. This may potentially be indicative of participants' lower perceptions of the benefits of jobs that can be

obtained with an associate's degree; the comparison group for this variable was those participants who were uncertain about their level of educational attainment, which may simply suggest that those who were uncertain of their educational expectations may have also been uncertain of their future jobs and their benefits, compared to those who expected to obtain an associate's degree. With that, there were no other significant results in expectations, so this must be considered when analyzing the results. High school SES was insignificant in the PSW and naïve regressions, potentially due to a relationship between SES and level of educational attainment.

The purpose of using a PSW technique was to create and apply a balancing score based on observable covariates. As such, the results seen in the PSW model likely reflect a more realistic impact of level of educational attainment on perception of benefits of job/career for participants. With this, it is important to consider how the results would have differed had this study only relied on the naïve model. The naïve model would have suggested worse outcomes for those who obtained some college, as do some other studies, such as Rosenbaum et al.'s (2015) research about "the forgotten half." Meanwhile, the PSW model reveals that obtaining some college is relatively inconsequential in perceived benefits of job/career, but earning a credential is positively associated with this aspect of quality of life, compared to those with no postsecondary education. Other differences in the models can be seen as well in the significance of observable characteristics. Therefore, it is important to consider how existing research in the field frames those individuals with some college, as the effect of level of education drastically changed after weighting in this regression. Where in the naïve model, some college would have predicted lower perceived benefits, in the PSW model, obtaining some college is less relevant. Given that approximately 50% of students who begin college do not finish within six years

(National Student Clearinghouse Research Center, 2016), these results alter their projected outcomes and suggest that failing to obtain a degree is not as detrimental as previously thought. Overall, findings suggested that obtaining certain levels of education was more likely to improve perceived benefits of job/career by allowing participants certain job experiences that would not be available to them had they not obtained their degrees or certificates, but earning some college did not negatively impact perceptions of benefits of job/career.

Factor 2: Work-Life Balance. Although the naïve model suggested lower levels of work-life balance for those with "some college," as well as those who earned a bachelor's degree, level of educational attainment remained insignificant for all levels of education in the PSW model, compared to those who obtained a high school education. This suggests that other personal characteristics were likely more impactful than level of education after balancing and weighting according to observable covariates, such as sex or race.

Some research purports that while work-life balance has long plagued the working woman, it is becoming increasingly important to men as well (Blithe, 2015). This study found that men report lower levels of perceived work-life balance in both the PSW and naïve models. In changing times, and in certain fields, this is perhaps the case. Especially in their mid-twenties, male participants may serve as the primary income when starting and financing families and gaining work experience, leaving less time for activities and relationships outside of work. Compared to their White counterparts, those who identify as Asian or Hawaiian/Pacific Islanders also reported lower levels of perceived work-life balance in both models, while Hispanics also reported lower work-life balance according to the PSW model. This may be a cultural difference, as family and obligations outside of work are likely to pull at Hispanic and Asian participants more so than their White counterparts, creating a greater discretion between time

obligations in and out of work. Age was positive and significant in the PSW but not the naïve model, suggesting that as participants got older, they reported higher perceived work-life balance. A few potential explanations exist for this trend. As participants aged and obtained more work experience, it is entirely likely that they also gained more vacation time, built up credibility in their jobs that allowed them more flexibility at work, or simply had more reasonable expectations of work-life balance. SES as of a participant's senior year of high school was also significant in the PSW model. Those with higher SES as of 2004 reported lower levels of work-life balance, perhaps suggesting that with higher expectations placed upon them, and examples of work behaviors likely to contribute to higher SES performed by those in their social networks, such as working overtime or taking on extra projects, they experienced less of a balance between their time spent at work and time spent on leisure and family activities. Cultural and social reproduction (Bourdieu, 1973) dictates that certain behaviors and values be passed down, and the work behaviors that accrue more income are no different. Working nights and weekends for additional economic capital, or committing extra time to work to advance in a business may be a couple of the examples of participant actions that produce reports of lower work-life balance. As values are passed down in addition to capital (Bourdieu, 1984), expectations to succeed at work may weigh on participants to the point of allocating extra time to work, as opposed to other aspects of their lives.

On a similar note, while parent education remained insignificant in perceived work-life balance, many levels of parent and student expectations were negatively significant in both models, compared to those who reported uncertainty about educational expectations from either themselves or their parents. In the PSW model, student expectations for associate's degrees and post-baccalaureate studies were negatively significant, as were parent expectations for high

school, bachelor's, and post-baccalaureate education. These finding perhaps suggests that those who were uncertain of their educational attainment, or whose parents did not cast expectations upon them, were also uncertain of their future work-life balance. Compared to those who did not specify educational expectations, many participants who had certain expectations may have also had expectations of work-life balance, a potential job, or even just more concrete plans about the future. Those who did not indicate any expectations (either their parents' or their own) may have been more open to varying jobs and workloads, thus impacting their perception of work-life balance. With specific levels of education come an expected quality of life in certain aspects (Flanagan, 1971), so the expectation of better work-life balance may have led some participants, especially younger participants with less work experience, to perceive lower levels of work-life balance.

Again, extreme differences can be seen between the PSW model and the naïve OLS model, with the naïve model suggesting that most levels of educational attainment actually led to lower perceptions of work-life balance compared to those who pursued no postsecondary education. Policy makers could misinterpret this to believe higher education is harmful to this aspect of quality of life, when in reality, once weights were applied based on observable characteristics, postsecondary education was no longer significant. As much of the literature surrounding work-life balance focuses on personal characteristics, it is logical that those characteristics may impact perceived work-life balance more than level of education. With the exception of level of educational attainment, many variables maintained their significance and interpretations between the naïve and PSW models, revealing predictors of perceived work-life balance to be sex, race, age, SES, and educational expectations. In terms of educational attainment, earning some college credit versus a credential, such as a degree or certificate, had no

statistically significant impact on work-life balance once propensity score weights were applied. With this said, the naïve model suggested negative impacts at various levels of higher education attainment, making the distinction between the models a crucial one.

Factor 3: Social and Educational Values. Both the naïve and the PSW models suggest the importance of level of education; all levels of education above "up to 60 credit hours" being significant compared to those who obtained no postsecondary education, with coefficients increasing with number of hours obtained. Logically, the ELS:2002 questions accounted for by this factor are some of the most likely to be affected by exposure to higher education, and some of the least likely to be affected by actual degree attainment, unlike constructs relating to jobs and careers. Created from survey items involving relationships, community involvement, and continued learning and personal growth, this outcome variable would theoretically be less affected by the human capital obtained from higher education and more highly impacted by the social and cultural facets of experiences in higher education.

Bourdieu (1973, 1984), Flanagan (1971, 1978), McMahon (2009), and others have researched the impact of education on values, community involvement, and personal growth, often emphasizing the importance of exposure to higher education in the formation and reproduction of values. College is an environment in which various individuals gather to learn and grow, incorporating their own experiences, ideals, and beliefs. This environment of scholarship and growth is likely to expose students to subjects outside of the purview of their own lives, revealing some of the social and cultural issues that exist within society. With more contact with ideas outside of their own due to increasing exposure to higher education, participants were more likely to value continued learning, social connections, and community involvement. To account for self-selection into higher education, and to dismiss the idea that

many of these participants would have been more likely to value social and educational values regardless of level of education due to other characteristics and experiences, PSW weights were applied. After weighting, level of educational attainment was still significant, implying its importance in the areas that this outcome variable addressed.

To clarify, imagine, for example, a student who attended a higher education institution for a few years, earned more than 60 credits but no degree, and then exited college; this individual would have spent hours exposed to other ideas and individuals, some of whom would be added to his/her social network. When this person stopped pursuing higher education, within his/her lexicon of experiences would exist new outlooks on life, people with whom relationships were formed, knowledge of social inequalities and injustices, and generally enlightened, or at least expanded, viewpoints. Now imagine that person had continued for another two years until bachelor's degree attainment, been exposed to more people and walks of life, added more individuals with more experiences to his/her social network, and continued learning about society and people both from others in the higher education setting and college courses. The person who experienced more higher education would be likely to value learning, growth, connections, and involvement more highly from sheer exposure. This is what was hypothesized for this outcome variable, and the analysis affirmed my expectations. More pointedly, from a theoretical perspective, those who pursued higher levels of education would be more likely to pass along these social connections and cultural values in a cycle of social and cultural reproduction (Bourdieu, 1973), instilling the value of not only education, but also networking, community involvement, learning, and growth into their children and others over whom they have influence, who would also likely attend college and disperse these ideas to a new generation. Even from an economic standpoint, Franzen & Hangartner (2006) would argue that

expanded social networks lead to economic gain. It would be an expanding cycle that is supported not only by theory, but also in practice, as exposed by this model.

In addition to level of educational attainment, demographic variables, such as sex and race, were shown by this regression to impact social and educational values. In both models, males reported lower values of social and educational values than their female counterparts, and participants who identified as any non-White race, aside from the category of "Other Race" in the PSW model, reported higher values in this outcome variable, compared to those who identified as White. From a strictly academic standpoint, male privilege (Case, Hensley, & Anderson, 2014; Goldberg, 2017) and White privilege (Case & Rios, 2017; Goldberg, 2017) may provide some insight into why females and minority races would be more likely to value some of the contributing aspects of this outcome variable, such as correcting social inequalities. That is not to say that White males would not value this, but merely suggesting that women and minorities may be more likely to identify with some of the issues, especially considering cultural reproduction over generations. With that said, higher education is a good way to mitigate this due to the exposure to other viewpoints, and this model shows increased levels of educational attainment to be positively significantly related to the social and educational values outcome variable.

Some surprising results in both the PSW model and the OLS naïve model were the negative influence of GPA, SES, and certain levels of student educational expectation. These negative results were likely a result of a correlation between level of education and GPA and SES. However, both GPA and SES had VIF scores of less than 10, as discussed in Chapter 3, and both added to the model significantly, as discussed in Chapter 4; as such, they remained in the models. For educational expectations, it is possible that those who expected to receive a high

school education or an associate's degree reported lower values in this social and educational values variable because they truly valued education and social issues to a lesser extent, compared to those who were uncertain about their educational expectations. Approximately 80% of those who were uncertain went on to obtain some level of higher education, as seen in Table 4.7, suggesting an openness to postsecondary education and perhaps suggesting openness to other social issues, the formation of additional relationships, and the value of continued learning. Only in the naïve model, further negative relationships were seen with several levels of parental educational expectations as well, compared to those whose parents were uncertain of their expectations; higher levels of parent education and the student educational expectation of earning a degree beyond a bachelor's degree, however, were positively associated with relationships in growth in the naïve model.

Although there were some differences between the PSW and naïve models, including significance of parent education and certain educational expectations, these two models aligned relatively well. Both models suggested a positive stepwise relationship between postsecondary credits earned and value of social and educational values. Additionally, both showed similar findings in terms of sex, race, GPA, and SES. Although both models were similar, there were enough differences to necessitate the analysis of both models to ascertain which was better. In addition to having a higher R^2, it also stands to reason that the PSW model would be better due to its inclusion of the propensity score weights. These weights that balance by covariates across treatment groups (levels of education) account for propensity toward attaining a given level of education based on observable characteristics included in the model; as such, the PSW model would better assess relationships between the variables and the outcome. Despite little

difference between the two models, it is beneficial to know this when reading other research and interpreting the methods and results for accuracy.

Factor 4: Marriage and Children Values. While family relationships contribute to quality of life (Flanagan, 1978), results from this study did not find level of educational attainment to contribute to the latent construct of marriage and children values in either the PSW or naïve model. Instead, it is likely that marriage and children values are influenced by a range of personal characteristics that predate postsecondary education. It is important to note that the marriage and children values outcome included survey items concerning marriage and children, but it did not include survey items related to relationship with or distance from parents, due to the participants' age and likely life circumstances. Research about family and relationships in early adulthood shows that romantic relationships and the potential for children play a large role as individuals progress through adulthood, with less importance designated to parental figures (Axinn & Barber, 1997; Shulman & Connolly, 2013). Given that participants were in their mid-twenties when the third follow-up in this survey was administered, values associated with marriage and children were included, while values related to parent or sibling relationships were not.

With that information in mind, men reported lower levels of marriage and children values than women in both models, suggesting that women may value marriage and children more highly than men. Whether this is the case because of cultural reproduction that emphasizes the importance of marriage and children for women, or because family care has historically fallen on the woman in a relationship (Spencer-Wood, 2013), there are logical reasons for this trend. Those participants who identified as non-White showed lower coefficients in the naïve model, with those who identified as Black/African American and Asian or Hawaiian/Pacific Islander

being more likely to report lower values in marriage and children values in the PSW model. These findings may exist because of cultural differences that are passed down through social and cultural reproduction. For example, while marriage and children values are stereotypically important in Asian cultures, it is important to consider that many Asian cultures allow elders to pick marriage partners, as it is seen more as a union of two families than a signal of romantic feelings for another individual (Inman, Ladany, Constantine, & Morano, 2001). Additionally, childbearing may be viewed differently than dictated by U.S. society. Given that this study did not examine specific countries in which participants were born, it is entirely possible that the cultural value of marriage is simply different for other races, contributing to the significant and negative results.

High school GPA was a significant contributor to marriage and children values, shown in both models, suggesting that those with a higher GPA also valued family and marriage more highly. McMahon (2009) suggests that people who obtain higher education are likely to have a better quality of life in part because they are more likely to meet a romantic partner with whom they connect on several levels, including intellectual levels. Based on the assumption of social and cultural reproduction (Bourdieu, 1973), those same individuals who are likely to have better relationships for this reason are also likely to pass on the value of education, producing students who value education and generally have higher high school GPAs. Considering this, in addition to producing higher GPAs, values may also be higher pertaining to marriage and family relationships. Additionally, those who had higher GPAs due to social and cultural reproduction may have more likely been in stable home situations, having grown up with more steady relationship examples due to a comparative lack of financial problems (Grable, Britt, & Cantrell, 2007).

Aside from high school GPA, the PSW model revealed that those who expected to obtain a high school education, compared to those who were uncertain about their level of educational attainment, reported lower marriage and children values; it is possible that those who expected to obtain only a high school education, compared to those who were uncertain, reported lower marriage and children values because of an expectation to receive less education, meet fewer people in an educational environment, or work more often to support themselves. Alternatively, in the naïve model, the opposite trend can be seen for higher levels of education, perhaps for similar reasons. According to the PSW model, those participants whose parents expected them to obtain an associate's degree, compared to those whose parents did not identify any educational expectations, reported higher marriage and children values as well. Perhaps there is a positive relationship between educational expectations and marriage and children values; compared to those whose parents were uncertain of their educational expectations, perhaps participants with parents who had higher expectations also experienced higher expectations in terms of marriage and children values.

Much like the third outcome, the PSW and naïve models showed similar results, this time suggesting that each level of education was insignificant regardless of propensity score weights. Similarly, many of the variables that were significant in the naïve model remained significant after applying propensity score weights. Some differences could be seen in the significance of educational expectations between models. One observation of note is the marked increase in R^2 when propensity score weights were applied. Compared to the naïve model, which accounts for approximately 1.5% of the variance in the outcome, the R^2 in the PSW model accounted for 8.5% of the variance. Although the models seem similar, the PSW model fits the data better by a substantial margin, suggesting its increased accuracy over the naïve model.

Voting and Volunteering Behavior

Voting and volunteering behaviors were analyzed separately from other civic engagement activities to draw more specific connections about the benefits and positive externalities associated with higher education. Much like other higher education research conducted about voting and volunteering behaviors (Baum, Ma, & Payea, 2013; McMahon, 2009), some connections could be seen in this dissertation between level of higher education and these aspects of civic involvement. In alignment with Dee's (2004), those with more education were shown in this study to specifically be more likely to vote. Unlike previous studies, those with some college were considered in more detail, in addition to those who obtained postsecondary degrees. With this more in-depth analysis, higher education professionals can gain a better understanding of the impact of attaining various levels of postsecondary education on these activities, potentially impacting research and policy surrounding access and retention.

Similar to the social and educational values dependent variable, level of educational attainment heavily impacted voting behaviors. Volunteering behaviors were less influenced by level of education, with personal and academic characteristics being more likely to affect volunteering patterns. Both voting and volunteering were considered at multiple levels using a multinomial logistic regression. The R^2 values of the PSW models were consistently higher than those of the naïve models, suggesting that performing the PSW procedure and weighting based on participant covariates, in addition to the design effects, demographic information, and other personal and academic characteristics that the naïve model included, accounted for more variance in each outcome variable. After conducting multinomial logistic regressions, using never voting or never volunteering as the reference groups in each respective regression output,

marginal effects were analyzed for every outcome within each regression, including the reference groups. As such, all outcomes will be discussed separately below.

Never Voted. As expected and reported by other relevant studies within the field (Baum, Ma, & Payea, 2013; McMahon, 2009), higher education had a significant impact on voting behaviors in both the PSW and naïve models. As this is the reference group within this multinomial analyses, it is crucial to remember that coefficients refer to the likelihood of NOT voting, with negative coefficients reflecting a higher likelihood of voting. Specifically considering the outcome of never voting in any election between 2008 and 2011, all levels of higher education attainment were statistically significant in the PSW and naïve models. A stepwise pattern was shown, revealing that participants with more college credit hours were less likely not to vote, or more likely to have voted in one or more election(s). Those with associate's degrees and undergraduate certificates were less likely to vote than those with more than 60 credit hours, as those with associate's degrees likely obtained fewer credit hours and spent less time immersed in a higher education environment. Like the social and educational values outcome variable, a connection can be drawn between exposure to higher education and voting behaviors. With that said, it is likely that human capital and signaling theory (Becker, 1962; Mincer, 1958; Stiglitz, 1975) had less of an impact on the likelihood of a participant voting than did some of the other theories explored in this dissertation, although it cannot be dismissed that participants with higher human capital or degrees may have had more leniency, autonomy, and job security within their respective positions to vote during more convenient times, or at all. Considering both social and cultural reproduction, it is entirely possible that those exposed to more higher education were also taught about the merits and impact of voting and democracy, either through courses or intellectual discourse with others in the college environment. As well,

college would, theoretically, have been a good arena in which participants may have further developed and grown to understand their own political views and opinions, accommodating for new points of view that may be different from their own. Teaching students about politics in class, and encouraging many of them to conduct their own research and think critically about their own views, it is possible that college teaches students in more direct ways about politics as well. Because higher education imparts not only knowledge, but also skills, such as researching, even just being exposed to such activities, or having others in a social network who have been exposed to higher education, may make individuals more likely to partake in civic participation. Logically, the longer participants are exposed to such ideas and behaviors, the more likely they are to incorporate the activities into their own lexicon of behaviors, as they are further exposed to the cultural values of civic participation.

It is possible that those who are more likely to have voted in at least one election between 2008 and 2011 were also exposed to such behaviors at home, as cultural reproduction and preexisting social networks may have played a role in their perceptions of civic participation. Those individuals who would be more likely to vote may have also been more likely to pursue higher education than others for whom these values were not passed down. To account for this self-selection, inverse probability weighting was applied to create weights that balanced participants based on observable covariates. In this PSW model, higher covariates were seen in each level of educational attainment, compared to the naïve model, compared to those who obtained no higher education and holding all else constant.

In addition to education, other personal characteristics showed a relationship with never voting between 2008 and 2011. In both models, males were approximately 5.5% more likely not to vote in any election during this time than their female counterparts. Contrarily, those

participants who identified as Black/African American were more likely to vote during this time. Although this is counterintuitive to much of the previous research produced (Deufal & Kedar, 2010), potentially due to historical difficulty with voting specifically or a devaluation of "White" values (Ogbu, 1982), it must also be considered that Obama was running for office in 2008, drawing out those who identified as Black/African American to vote (Cross, 2007). Asian or Hawaiian/Pacific Islanders were less likely than their White counterparts to have voted in both models, and those who were categorized as Hispanic were less likely to have voted according to the naïve model. GPA was shown to positively impact the likelihood of voting in the naïve model but not in the PSW; according to both the PSW and naïve models, participants whose high school SES was higher were also more likely to have voted, potentially because of cultural and social reproduction (Bourdieu, 1984). Those participants with higher SES as of high school also likely came from a household in which higher education was more relevant, prevalent, and valued, in which the parents would be more likely to vote and participate in other civic engagement more frequently.

In addition to the abovementioned variables, student educational expectation was also significant at several levels, including high school, bachelor's, and beyond bachelor's degree attainment. The PSW model showed that those participants who reported any of these levels of educational expectations were more likely to vote than their counterparts who were uncertain of their educational expectations; those who expected to obtain a bachelor's degree or higher showed similar results in the naïve model. A potential reason for this lies in the fact that the reference group is those who were uncertain of their level of education expectation. Those who were uncertain about education would also likely be more uncertain about other aspects of their lives, even compared to those who only expected to earn a high school education. It may have

also been the case that those who were uncertain about college would be less likely to attend college and be exposed to the environment in which voting was ingrained as important. As with level of educational attainment, a stepwise pattern can be seen, with those only who expected to earn lower levels of education reflecting lower coefficients than those with higher expectations. Parent educational expectations were significant in the naïve model, with respondents whose parents expected a high school education being less likely to vote, and those whose parents expected beyond a bachelor's degree being more likely to vote.

Voted Once. Although marginally significant in the naïve model, the PSW model shows that participants who earned up to 60 credits of college courses were not significantly more likely to have voted in one of the elections between 2008 and 2011 than their counterparts who had earned no college credit. However, in both models, higher levels of postsecondary attainment, including those who earned degrees or more than 60 credit hours, were shown to be significantly associated with voting in one election, again reflecting a stepwise pattern according to number of hours exposed to higher education, rather than degree attainment. In other words, those with associate's degrees were more likely to have voted in one of the elections during the designated time period than those participants who attained only a high school education; however, those with associate's degrees showed lower coefficients than others who earned more than 60 credit hours in higher education or a bachelor's degree, as they likely had less exposure to postsecondary education.

For reasons discussed above, it is logical that these patterns would exist, with higher education providing an environment in which various individuals with differing views and values can coexist in one place, ideas can be shared, and knowledge can be gained. Those participants with more exposure to postsecondary education are more likely to partake in civic activities due

to a cultural climate in which they are immersed. Additionally, college provides an opportunity to expand one's social network, allowing others who also value civic participation, particularly voting in this case, to influence their points of view.

Sex was statistically significant, with men being 7.7% less likely to have voted once than women in the PSW model and 5.1% less likely in the naïve model. Race was also significant in both models, as those who identified as Black/African American were more likely, and those who identified as Asian or Hawaiian/Pacific Islander were less likely, than participants who identified as White to have voted in one election. The particular elections in question, specifically considering that Barack Obama was running for president for the 2008 election year, may have led to higher levels of voting from those who identified as Black/African American. To explain the lower likelihood of Asians or Hawaiian/Pacific Islanders voting, it is possible that there was some cultural discrepancy in which respondents whose families were not born in the United States felt less involved in the political process and, therefore, were less likely to vote.

As in the previous output concerning voting, student educational expectations significantly impacted whether they were likely to vote in one of the elections between 2008 and 2011, according to the PSW model. Those who expected to obtain a high school education, and bachelor's degree, or a credential beyond the baccalaureate were more likely to have voted in one election than those participants who were uncertain of their educational expectations. It should be noted that those who expected to earn an associate's degree were not significantly more likely to vote, but those whose parents expected them to earn an associate's were less likely to vote, compared to those whose parents expressed no educational expectations. This could be due to fact that those participants whose parents expected an associate's degree had lower GPA's than those whose parents expressed no educational expectation (2.44 and 2.66, respectively),

potentially coming from households that value education and civic participation less, which may be relevant to voting patterns[5]. Additionally, the group of students whose parents expected an associate's degree contained more male participants than those whose parents were uncertain of their educational expectations (56.10% and 44.94%, respectively), which is shown to be related to voting behaviors in this model. In the naïve model, participants whose parent educational expectations were less than a bachelor's degree, compared to having no educational expectation, were also less likely to have voted.

Voted More than Once. In both the naïve and PSW models, level of educational attainment was significant, with those who obtained any level of higher education being significantly more likely to vote in more than one election between 2008 and 2011. Those who obtained up to 60 credit hours or an associate's degree or undergraduate certificate were less likely to vote in more than one election than those who obtained more than 60 credit hours or a bachelor's degree. However, all participants who obtained some level of higher education were more likely to have voted than their counterparts with no higher education.

As previously discussed, these voting patterns may be a result of exposure to higher education, especially due to the integration of new individuals into the participants' social networks and the incorporation of new abilities and knowledge into their skillset. Due to cultural and social reproduction, these participants may have been more likely to be more active in their civic participation regardless of higher education, but after weighting by observable covariates, higher education remained significant in the PSW model.

Sex remained insignificant for these results, but as in other models, certain subgroups of race were significant. In both models, compared to their White counterparts, those who

[5] These numbers are not presented in any provided tables but may be included upon request. Calculations were conducted using Stata.

identified as Black/African American were more likely to vote in more than one election between 2008 and 2011. It must be considered again that these elections in particular involved the election of Barack Obama, in which those who identified as Black/African American were more likely to cast their ballots. Compared to those who identified as White, Asian or Hawaiian/Pacific Islanders were less likely to vote. As in other outputs concerning voting, it is possible that respondents who identified as Asian or Hawaiian/Pacific Islander felt less of an obligation to cast votes due to potential cultural differences. In the naïve model, the same could be said for participants who identified as Hispanic.

GPA in high school was positively marginally significant in the PSW model, suggesting that those with higher GPAs were more likely to vote in more than one election; senior year SES was also positively significant in both models. These variables may be significant due to the cultural and social reproduction within these participants' families. The respondents who earned higher high school GPAs and reported higher SES likely came from households that valued civic participation, as well as households in which the parents were more likely to have the freedom to take the time to vote in elections due to increased financial and job security. This culture of civic participation may have been reproduced in the participants most likely to vote, just as is the value of education. Additionally, the preexisting social network of participants with higher high school GPAs and SES may have also valued civic participation, particularly the importance of voting. Despite the logical conclusions above, higher levels of parent education were associated with a lower likelihood of voting in the PSW model. Particularly those whose parents obtained bachelor's degrees and graduate or professional degrees were less likely to vote in more than one election between 2008 and 2011, compared to those whose parents who obtained a high school education or less. These results may be due to a correlation between SES and parent education.

Students who had expectations of a bachelor's degree or a degree beyond a bachelor's degree were more likely to vote in more than one election between 2008 and 2011, with those expecting higher degrees being more likely to vote in both the PSW and naïve models. Additionally, levels of parental expectation beyond high school were associated with a higher likelihood of voting in the naïve model. This may again be related to the cultural values passed down, as those who value education are also more likely to value civic participation.

Voting Behaviors Summary. Among other factors, voting behaviors were significantly influenced by not only level of education, but also sex, race, high school GPA, high school SES, and student educational expectations. Age did not contribute to voting behaviors, but it should also be considered that all participants were approximately the same age, making it less likely to impact voting behaviors. In each regression model included herein in which sex was significant, males were less likely to vote than their female counterparts. For every outcome, those who identified as Asian or Hawaiian/Pacific Islander were less likely to vote than their White counterparts, but respondents who identified as Black/African American were more likely to vote, potentially due to the specific elections taking place between 2008 and 2011. High school SES was positively correlated with voting activity, suggesting that those with higher starting SES would be likely to vote more frequently than those from lower SES households. When high school GPA was shown to be significant, a similar trend could be seen, with those with higher high school GPAs being more likely to partake in voting activity. Student educational expectations were associated with a higher likelihood of voting, compared to those who were uncertain about educational expectations; those who went on to achieve higher levels of education were also more likely to vote with more frequency.

The PSW and naïve models showed similar results, particularly in level of educational attainment. Of note is that after applying propensity score weights, the coefficients related to educational attainment in the PSW model were most often higher than the coefficients in the naïve model. In other words, the PSW models showed higher levels of education to be even more highly associated with voting than did the naïve models. With some differences between models, it is important to distinguish which model fit better and which should theoretically account for more variance. In both cases, the PSW model is better, as it applied weights based on propensity toward levels of educational attainment, accounting for observable covariates.

Of particular interest to this study were the stepwise patterns seen in the levels of the voting outcome variable, depicting an increasing likelihood of voting with more exposure to higher education, and suggesting the importance of not only social and cultural reproduction but also acquaintance with other people, ideas, cultures, and beliefs. As expected, degree attainment was less relevant to voting behaviors than the amount of time participants spent in a college environment, demonstrated by the number of credit hours they received. Those who obtained associate's degrees (which require approximately 60 credit hours) were less likely to vote than those who obtained more than 60 credit hours regardless of degree attainment, but those with some level of postsecondary education were typically more likely to vote more frequently than those who pursued no higher education. This positive externality associated with higher education, even some higher education with no degree, is pertinent in Flanagan's QOLS as civic engagement, but it is also relevant to others around them, as voting likely impacts policy and decisions within the United States government. As such, it is important for people to engage in this civic activity for their own benefit, as well as the good of others. Those with more higher

education are likely to partake in this activity, demonstrating the relevance of higher education in society.

Never Volunteered. The volunteering outcome variable was analyzed using three categories, never volunteered, sometimes volunteered, and often volunteered. Participants who indicated that they never volunteered participated in no volunteer activities in the two years prior to the administration of this survey (2010-2012). Those who indicated that they volunteered sometimes volunteered their services less than once per month but at least once between 2010 and 2012. Respondents who indicated that they volunteered often did so at least once per month. For the analysis of the outcome "Never Volunteered," it is important to remember that a negative coefficients signifies a higher likelihood of volunteering. Upon analyzing the regression output, the naïve model suggested that those with more hours, specifically participants with more than 60 credit hours and those with a bachelor's degree, were less likely not to volunteer compared to those with no higher education. The PSW model, however, revealed some college to be insignificant, suggesting that only those who obtained a bachelor's degree were less likely never to volunteer, or were more likely to volunteer. This is perhaps the case because volunteering, especially frequent volunteering, is likely to take more time than other civic engagement activities, such as voting. Because of this, it is likely that volunteering is not only affected by social and cultural capital, but also by human capital and the job or career an individual holds.

Those with higher degrees and better jobs may be more likely to volunteer due to more job security and better work-life balance, allowing them time for their community service efforts. More than earning credits in higher education, attaining degrees is more highly associated with providing human and economic capital, according to human capital theory and signaling theory (Stiglitz, 1975). The time commitment of volunteering may be outweighed by the necessity to

obtain pecuniary stability, and thus the PSW model showed that only those who obtain bachelor's degrees are more likely to volunteer. Preexisting participant characteristics, as well as educational achievement and expectations, were also shown to impact volunteering behaviors.

Findings showed that participant volunteerism between 2010 and 2012 was not affected by sex in the PSW model, although men were less likely to volunteer according to the naïve model. Those who identified as Black/African American were more likely to volunteer than their White counterparts to volunteer in both models. It is possible that participants who identified as Black/African American grew up with different cultural values than those of participants who identified as White (Ogbu, 1982), including participating in volunteer efforts around their communities. With this, their social networks may have contained more individuals who participated in volunteer work, passing along these cultural values. Boyd-Franklin (2003) suggested that extended families provide more opportunities in African American communities, while Thompson (2006) found that many African Americans turned to family and their community for support to cope with racism, a catalyst that is less likely to plague the White population. Due to this focus on the extended family and community as a whole, for Black/African American participants the cultural value of helping or volunteering within a community is likely different than that passed down through cultural reproduction for White participants.

In addition to demographic characteristics, high school GPA was negatively associated with the likelihood of never volunteering in both the PSW and naïve models, suggesting that participants with higher high school GPAs were more likely to volunteer than those with lower GPAs. This makes sense, as the respondents most likely to volunteer likely also came from

families that emphasized the importance of civic activities and helping others, which would be passed along via cultural and social reproduction (Bourdieu, 1973, 1984).

Age was positively associated with the likelihood of never volunteering in the PSW model, suggesting that as a respondent aged, they volunteered less, potentially due to family, work, or other life obligations. Additionally, both models show that students who indicated as of 2004 that they expected to receive a high school education, rather than being uncertain of their educational expectations, were less likely to have volunteered between 2010 and 2012. Although insignificant in the PSW model, the naïve model shows a similar pattern for those participants who expected to earn an associate's degree, but the opposite can be seen for those who expected to earn beyond a bachelor's degree. Parent educational expectations and high school SES were similarly significant in the naïve model, with participants being more likely to have volunteered if they had higher SES or parental education expectations beyond a bachelor's degree, compared to those whose parents were uncertain of their expectations.

Sometimes Volunteered. Educational attainment was unlikely to impact whether a participant was likely to volunteer sometimes (less than once per month but at least once in the time period between 2010 and 2012). Although the naïve model displayed significant results for those who obtained a bachelor's degree, these became insignificant after weighting, suggesting that participant covariates had more of an effect on whether a person was likely to have volunteered sometimes. Although bachelor's degree attainment was significant in whether a participant volunteered at all between 2010 and 2012, perhaps it played less of a role in the frequency of volunteering, which would likely be dictated by other life circumstances and participant characteristics.

In both models, Hispanic participants were less likely to volunteer than their White counterparts, holding all else constant. As with voting, it is possible that those participants whose families were originally born outside of the United States, such as some Hispanic families, felt less of an obligation to participate in civic activities, in this case volunteering in the United States. Culturally, there may be little pressure to volunteer in a community that they would not consider their own, resulting in a social network that is less likely to volunteer. Additionally, compared to respondents who identified as White, Hispanics acquired lower levels of education, as seen in Table 4.6, and therefore may have accumulated less human capital, acquired less economic capital, and had less of the income and job security required to perform volunteer work.

Both models showed that participants with higher GPAs were more likely to volunteer sometimes, suggesting that perhaps they came from environments that emphasized the importance not only of education, but also of civic participation. Along these lines, participants with higher SES in their senior year of high school were more likely to volunteer sometimes in both models as well. The naïve model showed age to be positively significantly related to having volunteered sometimes between 2010 and 2012, and it also showed that students with lower educational expectations, specifically high school educational expectations, were less likely to have sometimes volunteered during that time than their counterparts who were uncertain of their educational expectations.

Often Volunteered. As with those who volunteered sometimes, educational attainment remained insignificant in the marginal effects of those who volunteered often (more than once per month). Although obtaining more than 60 credit hours and earning a bachelor's degree were significant in the naïve model, after weighting based on observable covariates, these results

became insignificant. Instead, observable covariates, such as demographic information and educational expectations and achievement, may have impacted volunteering practices more.

Sex was insignificant in the PSW model, but the naïve model showed that males were less likely to have volunteered often during that time. Potentially due to increased reliance on community for participants who identified as Black/African American, compared to those who identified as White, Black/African American respondents were more likely to volunteer often in their communities, according to both models. Those who identified as Other Race also reported a higher likelihood of volunteering often in the PSW model, possibly for similar reasons of community reliance and involvement. As suggested previous outputs, age was negatively associated with the likelihood of volunteering often in the PSW model, perhaps alluding to other pertinent obligations that take the place of volunteering activity.

Also similar to previous models, high school GPA was shown in the PSW model to be associated with a higher likelihood of volunteering often. Those participants with higher GPAs likely came from a household in which the value of education was emphasized, as well as the value of civic engagement, making them more likely to volunteer with more frequency. Along similar lines, those respondents whose parents earned a bachelor's degree or higher were shown to be more likely to have volunteered often in the naïve model, as well as those participants whose parents expected them to earn an associate's degree or beyond a bachelor's degree; however, weighting made these findings insignificant. In both models, those participants who expected to earn a degree beyond the baccalaureate degree were more likely to volunteer with greater frequency than their counterparts who were uncertain of their educational expectations. This could be true because those participants who indicated higher educational expectations came from the same environments that also value civic participation, including volunteering.

Volunteering Behaviors Summary. Level of educational attainment was relevant at the bachelor's level in indicating whether a participant was more likely to volunteer at any point between 2010 and 2012. The naïve model suggested further significance in higher levels of educational attainment, but this was shown to be insignificant after applying propensity score weights. Relevant demographic predictors included race and age, with older participants less likely to volunteer, perhaps because of other obligations, such as work, a family, or children. Participants who identified as Black/African American or Other Race were more likely to volunteer, potentially because of a stronger dependence on community when facing cultural issues; however, participants who identified as Hispanic were less likely to volunteer sometimes (less than once per month), perhaps because of a cultural difference or feeling less obligated to do so in the United States. Other relevant variables that predicted likelihood of volunteering included student educational expectations, high school GPA, and senior year of high school SES. Significant in each model, those respondents who earned higher high school GPAs were more likely to volunteer, and were more likely to volunteer frequently. Senior year SES impacted the likelihood of volunteering sometimes in both the PSW and naïve models, while participants with lower educational expectations were less likely to have volunteered at all during the time between 2010 and 2012. Participants with higher educational expectations were more likely to volunteer often (more than once per month). These findings are logical, as they align with Bourdieu's theory of cultural and social reproduction (1973), and his assessment of education's effects on values (1984). With more education comes a higher value placed on civic engagement, so those who expected more education, or those who came from households with a higher SES, may have been more likely to partake in volunteering activities.

There are several circumstances in which the PSW and the naïve models differ for these outcomes, including significance of parent educational expectations, parent education, some levels of student expectations, and most importantly to this study, educational attainment. Although this dissertation seeks to investigate the impacts of postsecondary education on quality of life and the benefits of higher education, even without obtaining a degree, the naïve model does not predict the data as well as the PSW model. Applying propensity score weights to the analysis made likelihood of volunteering less significant and prevalent in each analysis, but it is more relevant and accurate. With that, an effect of postsecondary education can still be seen in volunteering behaviors, suggesting that participants who obtained a bachelor's degree were still less likely not to vote.

An analysis of the first volunteering outcome in particular revealed bachelor's degree attainment to be significant in whether respondents were likely to volunteer between 2010 and 2012. It is possible that those individuals with bachelor's degrees were more likely to volunteer due to the increased acquisition of economic capital and job security afforded by obtaining a bachelor's degree, freeing up those respondents to participate in volunteering efforts. This aligns with human capital theory (Mincer, 1958) and signaling theory (Stiglitz, 1975). However, in the PSW models of the subsequent two analyses, educational attainment did not dictate the frequency in which participants were likely to volunteer, suggesting that other life circumstances and obligations may take precedent in predicting volunteering behaviors.

Limitations

The ELS:2002 is a survey that was administered to participants in 2002, 2004, 2006, and 2012. There is no possibility to follow up with these respondents further, nor is there a possibility to gain more information than provided in this survey. Therefore, I am limited by the

questions that exist within the survey instrument. As such, I chose the best measures of quality of life, but I could not encompass all relevant aspects of life or benefits of higher education. Additionally, relevant data may have been dropped due to missing values.

Due to small samples of these participants, several categories of race/ethnicity were combined into "Other Race," including American Indian/Alaskan Native and More than One Race. Additionally, specific ethnicities within the categories of Hispanic and Asian or Hawaiian/Pacific Islander were available in ELS:2002; however, due to small sample sizes, they were not included in this study. According to the ELS:2002 technical report (Ingels et al., 2005), further demographic discrepancies for the variables provided by ELS:2002, F1SEX, may have imputed some values based on the interviewer's perception of gender according to participant name.

In terms of educational attainment, it is important to consider two things: 1) Those respondents with higher levels of education than a bachelor's degree had previously been dropped from this study for theoretical and sample size reasons, and 2) Participants were approximately 26 at the time of the final survey in 2012, and there was still the possibility of continued education. As such, this study is limited by the fact that the survey was distributed only eight years after high school graduation. Having a more comprehensive survey that extended farther beyond a participant's high school years may provide more accurate results. In addition to the exclusion of those participants who earned beyond a baccalaureate degree, participants who earned an associate's degree were placed in the same category as those who earned an undergraduate certificate for theoretical and sample size reasons.

Considering the analysis, EFA is a way to identify latent variables that exist in data, but it is unlikely to account for all variance in a sample. When factors are dropped because of lower

eigenvalues or due to their placement on a scree plot, the variance associated with those factors is lost. In this study, I was unable to determine the amount of variance accounted for by my factors because the oblique rotation allowed for correlation between variables. Of particular importance is the way in which survey items were allocated into latent factors. Concrete aspects of life (specifically job/career variables) fit best into the first two factors and had higher alpha values, whereas participants' personal values associated with quality of life fell into the last two factors and had lower alpha values. While still acceptable according to recent guidelines for exploratory factor analysis (Hair et al., 2010), it is likely that Cronbach's alpha was lower in part because participants were asked, "How important is each of the following to you in your life?" for each of the questions, and were presented with multiple questions to answer in this manner. Given that some participants perhaps compared the importance of various survey questions, rather than considering each one separately, and allowed this to bias their answers, respondents may have been answering questions differently despite reading the same wording in the survey. It is also worth noting that the consideration of values may be less relevant in participants' day-to-day lives than the active consideration of their jobs/careers.

Similarly, PSW has limitations. While PSW accounts for observable covariates, unobservable characteristics may also play into students' choices to pursue a higher education, for which a PSW cannot account (Morgan & Harding, 2006). For example, motivation is an unobservable characteristic, as it cannot easily be measured by the ELS:2002 survey; a student's motivation may greatly impact their educational goals and endeavors, but it cannot be captured by the PSW. Instead, I needed to rely on the categorization of students based on observable characteristics and assume that unobservable characteristics, like any other regression formula, could not be analyzed.

Related Research

Results of this study support and elaborate upon conclusions made by previous research, emphasizing the importance of level of educational attainment in various facets of life after high school. In this study, by analyzing participants with more specific levels of postsecondary attainment, particularly those with "some college," compared to those with no higher education, a better understanding of the impacts of higher education on social and cultural aspects of post-secondary life was gained. Similarly to other studies that looked at individuals with only some college, certain benefits were associated with earning any higher education (Perna, 2005; Oreopoulous & Petronijevic, 2013; Toutkoushian, Shafiq, & Trivette, 2013). Unlike many previous studies, this dissertation delves into more detail, separating those with "some college" into groups dependent on credit hour attainment. Considering these differential levels of educational attainment, stepwise relationships between attainment and certain facets of quality of life were found throughout this study. Other facets that could be more heavily influenced by economic capital and human capital saw more significant results related to those who obtained degrees, as opposed to those with some college.

The findings of this study are consistent with previous research about the impact of higher education on postsecondary life. Specifically in reference to more comprehensive pieces, such as McMahon's (2009) *Higher Learning, Greater Good: The Private and Social Benefits of Higher Education*, this study confirmed the significance of multiple private benefits and positive externalities associated with higher education, including voting and volunteering. While McMahon (2009) primarily calculated the monetary benefits (even for private benefits that could be considered nonpecuniary) for those who pursued postsecondary education, his calculations were most relevant to those who received baccalaureate degrees. He delved into general benefits

of higher education throughout his chapters as well, some of which were confirmed by this study, for those who received any formal higher education after high school. This dissertation analyzed multiple private benefits and positive externalities discussed in his book while expanding to include those who did not earn a baccalaureate degree but did pursue higher education. Just as McMahon (2009) found benefits of higher education relevant to quality of life, so does this study.

Other comprehensive works that should be considered are Baum, Ma, and Payea's (2010, 2013) *Education Pays* reports. These works analyze similar areas that higher education may affect in an individual's life using descriptive statistics. The authors show similar results as are reflected in this study in relation to things like employment, civic involvement, voting, postsecondary enrollment and attainment, and other aspects of post-secondary life that may impact quality of life. This dissertation finds similar patterns in its results as reflected by Baum et al.'s (2010, 2013) writings, supporting the current literature surrounding the benefits of higher education. Although the *Education Pays* series does consider those who obtain only some college, it does not differentiate between amounts of "some college." This dissertation further elaborates on Baum et al.'s (2010, 2013) findings while also taking into account the relationships between variables in the context of a PSW regression.

Implications for Future Research

This study presents a plethora of opportunities for future research for those interested in the effects of educational attainment on quality of life, the benefits of higher education (both pecuniary and nonpecuniary), and specifically those who attain some college without earning a postsecondary credential. Researchers should conduct a more in-depth study to further segregate those participants who earned only some college, perhaps analyzing effects per credit hour or

splitting respondents into smaller groups according to credit hour attainment; additionally, while this dissertation took a purely quantitative stance, qualitative research including interviews and surveys may provide more insight into aspects of quality of life less easily captured by quantitative research. Performing similar analyses with future NCES surveys, as well as other relevant surveys, may also prove useful in studying this phenomenon over time.

In addition to the above suggestions, future studies should be conducted to examine what "quality of life" means to today's adults, to better understand some of the changes that may have occurred in society in the last few decades; although many of the aspects of life may be overarchingly similar, it is likely that some changes have occurred since Bourdieu and Flanagan. Bourdieu suggested (1977, 1984) that cultural capital maintains its value within the society in which it exists; however, society is constantly evolving. Especially considering the increases in technological innovations, it is possible that social and cultural aspects of quality of life have altered since the QOLS was created. As such, future research specifically focusing on today's adults and the society in which they exist now is warranted. With that said, research should also look at what constitutes a higher quality of life by various demographic characteristics. Perna (2005) suggests that higher education impacts people in various ways, depending on demographic characteristics, so it stands to reason that quality of life may also be different based on these demographic characteristics. Bourdieu (1984) suggested that values may be different between subgroups of individuals, dependent on education, but different values may also suggest differentiation in aspects of quality of life. The constructs of quality of life in this study were overarching, depending on the results of an exploratory factor analysis conducted for the entire sample of participants. Distinguishing between subgroups of individuals, while accounting for educational attainment, may provide more insight into quality of life.

Beyond the suggestions above, field of study or career should also be considered in future research to best understand the potential impact of higher education. In addition, perhaps with future data sets or larger sample sizes, the differences between two-year and four-year institutions could also allow researchers insight into the specific benefits of higher education, by institutional type. Additionally, future research into online postsecondary educational programs may also be warranted to distinguish which findings are directly related to involvement on a college campus. Especially with qualitative research, this difference should be studied. Along those lines, transfer students, particularly between sectors, may warrant additional study beyond total hours of attainment at any institution. If these variables are included in future studies, researchers should consider using a similar weighting technique as was used in this study to best account for systematic differences between groups of participants.

Policy Implications

Access and retention in higher education in the United States have been studied for decades, with laws and policies being developed over time to further progress these initiatives (Noftsinger & Newbold, 2007). Over time, access to higher education has expanded to include historically non-traditional and underrepresented populations, and it still remains a key tenant in policy-making today, with one example being the recent emphasis on providing free community college in some areas (Pingel, Parker, & Sisneros, 2016). This incentive, for example, aimed to increase not only access, but also retention by putting less financial strain on students, increasing affordability.

In addition to a focus on access, retention efforts have also increased in recent years in the United States due to continued research suggesting that certain subsets of students are more prone to attrition from higher education (Lumina Foundation, 2016; United States Office of the

President, 2014), as well as studies suggesting the necessity for a more highly educated population (Carnevale et al., 2010). This study, in alignment with much research and many efforts already made, suggests the importance of increasing access to higher education, as benefits of postsecondary education are well-documented, as are the impacts of having a more educated country as a whole (McMahon, 2009; Psacharopoulos & Patrinos, 2004). Even for those students who do not obtain a degree, studies have found overall pecuniary benefits to attending college (Baum, Ma, & Payea, 2013; Toutkoushian, Shafiq, & Trivette, 2013). In addition to previous research, this study finds some increased social and cultural benefits for attending a higher education institution, regardless of degree attainment. With that said, this study also finds additional or larger benefits for earning a postsecondary credential, suggesting the necessity of policies that increase retention, so more may reap the full benefits of pursuing and attaining a higher education.

Institutional leaders, researchers, policymakers, and other invested third parties agree that access and retention are crucial issues in higher education today. Various colleges that serve differing populations, including both two-year and four-year institutions, as well as minority serving institutions, emphasize access and life-long learning as a core tenant or mission of the institution (Andrade & Lundberg, 2018; Wang, Gibson, Salinas, Solis, & Slate, 2007). Other leaders in education have suggested the importance of dual-enrollment, ease of transition between high school and college, partnerships between postsecondary institutions and high schools, parental and school support, guidance counseling and advisement, career-preparedness initiatives, adequate resources and funding in K-12, increased need-based financial aid, and special attention to high-risk students (Education Week Commentary, 2014) to improve access. Even still, the government is taking steps to increase access and retention within higher

education, an example of which can be seen in the Improving Access to Higher Education Act of 2017. This bill, introduced in July of 2017, aimed to "amend the Higher Education Act of 1965 to improve accessibility to, and completion of, postsecondary education for students, including students with disabilities, and for other purposes" (Civic Impulse, 2018). This bill would provide grant funding for professional development and technical assistance to faculty, staff, and administrators in higher education institutions; it also addresses the creation and maintenance of improved disability services to better expand educational access, as well as access to instructional technology and materials for continued retention.

In addition to the measures already discussed, remedial education, or learning support, has been researched as a means of increasing learning and retention. Batzer (1997) found learning support to be crucial to persistence of underprepared students in community colleges. Panlilio (2012) found a positive relationship between completing learning support courses for those underprepared students and persistence, as well as a positive relationship between persistence and academic advisement. Research about the persistence of these students contributes to the retention efforts within higher education over the past few decades. In recent years, states have made more changes to learning support to better assist students in their educational endeavors (Lu, 2013) and consider why students enter higher education underprepared, often looking to high schools. With this, much of college preparedness is a result of high school programs, support, and funding, as suggested by professionals within the field (Education Week Commentary, 2014).

Although we know that advisement, funding, business partnerships, and other facets of primary and secondary education directly impact which students pursue postsecondary education (Education Week Commentary, 2014), as well as how prepared those students may be and

therefore how likely they are to persist in their educational endeavors, much of the emphasis in the field of higher education questions what can be done once students reach this point. How can we increase access to higher education for interested students? How can we increase interest in and emphasize the importance of college for those students who would otherwise elect not to pursue higher education? How can we increase retention for those already enrolled? What can we do to ensure higher graduation rates? These questions may be relevant not only to high school seniors or college enrollees, but also to a younger population. Less emphasized, although not absent from the conversation, is the early inclusion of parents and schools in their children's educational pursuits. Waiting until a student's later years of high school may prove too late for many students. Instead, this dissertation suggests talking with students early and often about their educational options, including financial costs and benefits, as well as other aspects of their lives that may be impacted by educational attainment. The findings of this study show relevance of higher education in many aspects of life beyond the attainment of human and economic capital.

In addition to increasing advisement centered on postsecondary options and attainment during high school, steps can be taken even outside of school to increase the likelihood of enrollment in a higher education institution. This study confers the relevance of cultural and social reproduction (Bourdieu, 1973) in the discussion of findings, suggesting that those participants whose parents were more likely to value education were also more likely to pursue and persist in their postsecondary training. Cultural reproduction may depend on not only parents, but also other family, peers, and school officials. Any environment that may emphasize the cultural value of education is partially responsible for whether students pursue postsecondary education after high school. Therefore, it is crucial to begin speaking with parents, especially

those parents who may have less exposure to postsecondary education, about the merits of college, financial assistance, and the pecuniary and nonpecuniary costs and benefits of higher education to lead to more informed decision-making. Specifically speaking to the families of historically underrepresented students may also prove useful. Beginning these conversations, particularly with parents, can reveal options that were previously thought not possible or irrelevant, or perhaps convey the cultural importance of educational attainment to new groups of individuals who would otherwise remain unfamiliar with its merits.

Steps are already being taken, particularly in the STEM field, to reach out to students prior to the later years in high school. The NCES survey following ELS:2002, HSLS:2009, specifically focuses on STEM, college courses, aspirations, activities, and parental involvement. Starting these conversations with students and families prior to high school, both in and out of school, may also increase the likelihood of postsecondary attendance and persistence due to additional familiarity with the obligations of college, financial and otherwise, and additional time to plan for these costs. With additional time to consider the costs and benefits of college, more students and families may feel as though it is an option upon reaching the later years of high school. As such, this dissertation would suggest reaching out to the students' social networks prior to high school, perhaps in middle or elementary school, to allow parents the time to plan and potentially consider the value of postsecondary education. With more emphasis on the cultural value of education from various sources, it is more likely that students will consider college a feasible option. In particular, emphasizing the importance of higher education to parents while their students are young, as well as the benefits and increased quality of life associated with any level of postsecondary educational attainment, may impress upon them the value of education such that they pass this on to their children via cultural reproduction.

As suggested by some educational leaders (Education Week Commentary, 2014), partnerships between postsecondary institutions and high schools may prove useful as well, as it may serve to expand students' social networks to include higher education professionals and instill the cultural value of higher education. Particularly for students in underfunded areas, or for those individuals less likely to pursue higher education after high school, these partnerships could prove relevant in increasing access to higher education simply by increasing exposure to the option of postsecondary enrollment. These partnerships could benefits students and parents by illustrating options for future career paths, financial assistance options, and other benefits of higher education.

Another obvious resource in addition to the parents is a student's school. With more emphasis on higher education in the school system, including advisement and assistance in understanding available tools such as FAFSA, students may feel less overwhelmed as obstacles and opaqueness surrounding the topic of postsecondary education are removed. This dissertation suggests the importance of a student's social network and cultural values as they pertain to resources that allow students to pursue and persist in higher education.

Summary and Conclusion

Approximately half of the entering college freshmen from the fall of 2010 did not obtain their bachelor's degree within six years, and an even smaller percent completed degrees in the two-year sector (National Clearinghouse Research Center, 2016). As such, efforts in higher education have shifted to focus on not only access, but also retention. Although some research suggests that those who do not complete their degree programs are no better off, and in some cases, may experience more financial duress than their counterparts who received only a high school education (Rosenbaum et al., 2015), other research finds that there are still market

benefits to attending a postsecondary institution (Baum, Ma, & Payea, 2013; Toutkoushian, Shafiq, & Trivette, 2015). Still little was known about the nonmarket benefits of pursuing postsecondary education, even without degree attainment.

McMahon (2009) and other prevalent researchers in the field would suggest that there are some benefits to simply attending a higher education institution, although his book did not specify how these benefits would be quantified. Human capital theory suggests that the acquisition of new skills, even for those who obtain only some college, would make individuals more marketable (Mincer, 1958), and Bourdieu's (1984) work suggested that educational attainment strongly influences many facets of life, without specifically referencing those with "some college." Flanagan (1978) also suggested a relationship between higher education and quality of life, values, and other overall wellbeing.

This study incorporates theory and quantitative research to assess the impact of higher education on quality of life. Overall, I find quality of life to be positively impacted by higher levels of educational attainment in most outcomes of interest. Certain social and cultural benefits can be seen for those participants who obtained any level of postsecondary education, as well as increased positive externalities, such as voting and volunteering. Depending on the outcome of interest, either the attainment of a credential or the continued exposure to postsecondary education may be more beneficial. For outcomes more concerned with job/career, credential attainment is crucial. However, in focusing on social and educational values, as well as voting, it may be more important to be exposed to higher education for longer, even without degree attainment. Overall, findings herein showed that earning a bachelor's degree provided the largest benefits in the most outcomes. Therefore, this study suggests further attempts to

improve access and retention in higher education for the good of both students and society as a whole.

REFERENCES

ACT, Inc. (2010). *What works in student retention? Fourth national survey: Community colleges report*. Retrieved from http://www.act.org/content/dam/act/unsecured/documents/Retention-CommunityColleges.pdf

Andrade, L. M., & Lundberg, C. A. (2018). The function to serve: A social-justice-oriented investigation of community college mission statements. *Journal of Hispanic Higher Education*, *17*(1), 61-75. doi: 10.1177/`538192716653503

Austin, P. (2011). An introduction to propensity score methods for reducing the effects of confounding in observational studies. *Multivariate Behavioral Research*, (3), 399-424.

Axinn, W. G., & Barber, J. S. (1997). Living arrangements and family formation attitudes in early adulthood. *Journal Of Marriage & Family*, *59*(3), 595-611.

Bailey, T. (2009). Challenge and opportunity: Rethinking the role and function of the developmental education in community college. *New Directions For Community Colleges, 2009*(145), 11-30. Doi:10.1002/cc.352

Baum, S., Ma, J., & Payea, K. (2010). *Education pays 2010: The benefits of higher education for individuals and society*. Washington, DC: College Board.

Baum, S., Ma, J., & Payea, K. (2013). *Education pays 2013: The benefits of higher education for individuals and society*. Washington, DC: College Board.

Beattie, I. R. (2002). Are all 'adolescent econometricians' created equal? Racial, class, and gender differences in college enrollment. *Sociology of Education*, (1), 19-43.

Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *Journal of Political Economy*, (5), 9-49.

Bell, N. E. (2009). *Data sources: Non-traditional students in graduate education*. Retrieved from http://www.cgsnet.org/ckfinder/userfiles/files/DataSources_2009_12.pdf

Bilkic, N., Gries, T., & Pilichowski, M. (2012). Stay in school or start working? The human capital investment decision under uncertainty and irreversibility. *Labour Economics*, *19*(5), 706-717.

Bitzan, J. (2009). Do sheepskin effects help explain racial earnings differences? *Economics of Education Review, 28,* 759-766.

Blithe, S. (2015). *Gender equality and work-life balance: Glass handcuffs and working men in the U.S.* New York: Routledge, 2015.

Bourdieu, P. (1973). *Cultural reproduction and social reproduction*. Retrieved from https://edu301s2011.files.wordpress.com/2011/02/cultural-reproduction-and-social-reproduction.pdf

Bourdieu, P. (1974). The school as a conservative force: Scholastic and cultural inequalities. In J. Eggleston (Ed.), *Contemporary research in the sociology of education* (pp. 32-46). London: Methuen.

Bourdieu, P. (1977). *Outline of a theory of practice*. Retrieved from https://monoskop.org/images/7/71/Pierre_Bourdieu_Outline_of_a_Theory_of_Practice_Cambridge_Studies_in _Social_and_Cultural_Anthropology_1977.pdf

Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. Retrieved from https://monoskop.org/images/e/e0/Pierre_Bourdieu_Distinction_A_Social_Critique_of_the_Judgement_of_Taste_1984.pdf

Bourdieu, P. (1986). *Forms of capital*. Retrieved from https://www.marxists.org/reference/subject/philosophy/works/fr/bourdieu-forms-capital.htm

Bourdieu, P. (1990). *The logic of practice*. Retrieved from https://monoskop.org/images/8/88/Bourdieu_Pierre_The_Logic_of_Practice_1990.pdf

Bourdieu, P., Calhoun, C. J., LiPuma, E., & Postone, M. (1993). *Bourdieu: Critical perspectives*. Chicago: University of Chicago Press.

Bourdieu, P., Harker, R. K., Mahar, C., & Wilkes, C. (1990). *An introduction to the work of Pierre Bourdieu: The practice of theory*. New York: St. Martin's Press.

Boyd-Franklin, N. (2003). *Black families in therapy: Understanding the African American experience.* New York: Guilford Press.

Brand, J. E., & Xie, Y. (2010). Who benefits most from college? Evidence for negative selection in heterogeneous economic returns to higher education. *American Sociological Review,* (2), 273-302.

Brewer, D. J., Gates, S. M., & Goldman, C. A. (2002). *In pursuit of prestige: strategy and competition in U.S. higher education*. New Brunswick, N.J.: Transaction Publishers.

Briggs, S. R., & Cheek, J. M. (1986). The role of factor analysis in the development and evaluation of personality scales. *Journal Of Personality*, *54*(1), 106. doi:10.1111/1467-6494.ep8970518

Burckhardt, C. S., & Anderson, K. L. (2003). The quality of life scale (QOLS): Reliability, validity, and utilization. *Health & Quality of Life Outcomes, 1*, 60-67.

Burdman, P. (2005). *The student debt dilemma: debt aversion as a barrier to college access.* Retrieved from https://cshe.berkeley.edu/sites/default/files/publications/rop.burdman.13.05.pdf

Bureau of Labor Statistics (2015). *Unemployment rates by educational attainment in April 2015*. Retrieved from https://www.bls.gov/opub/ted/2015/unemployment-rates-by-educational-attainment-in-april-2015.htm

Bureau of Labor Statistics (2016). *Women more likely than men to have earned a bachelor's degree by age 29.* Retrieved from https://www.bls.gov/opub/ted/2016/women-more-likely-than-men-to-have-earned-a-bachelors-degree-by-age-29.htm

Bureau of Labor Statistics (2017). *Women's and men's earnings by age in 2016*. Retrieved from https://www.bls.gov/opub/ted/2017/womens-and-mens-earnings-by-age-in-2016.htm

Campbell, J. (2006). Tuition increases slowing: But high cost still a barrier for students. *Messenger-Inquirer (Owensboro, KY)*. Retrieved from https://www.highbeam.com/doc/1G1-154302646.html

Carnevale, A. P., Smith, N., & Strohl, J. (2010). Help wanted: Projections of jobs and education requirements through 2018. Washington, DC: Georgetown University Center on Education and the Workforce. Retrieved from http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/FullReport.pdf

Case, K. A., Hensley, R., & Anderson, A. (2014). Reflecting on heterosexual and male privilege: Interventions to raise awareness. *Journal Of Social Issues*, *70*(4), 722-740. doi: 10.1111/josi.12088

Case, K. A., & Rios, D. (2017). Educational interventions to raise awareness of white privilege. *Journal On Excellence In College Teaching*, *28*(1), 137-156.

Chang, Y., & Park, S. W. (2014). Exploring students' perspectives of college STEM: An analysis of course rating websites. *International Journal Of Teaching And Learning In Higher Education, 26*(1), 90-101.

Chapman, D. W. (1981). A model of student college choice. *The Journal of Higher Education*, (5), 490-505.

Cheeseman Day, J. & Newburger, E.C. (2002). *The big payoff: Educational attainment and synthetic estimates of work-life earnings*. Retrieved from https://www.census.gov/prod/2002pubs/p23-210.pdf.

Cho, J., Martin, P., & Poon, L. W. (2015). Successful aging and subjective well-being among oldest-old adults. *Gerontologist, 55*(1), 132-143.

Choy, S. (2001). *Students whose parents did not go to college: Postsecondary access, persistence, and attainment. Findings from the condition of education, 2001*. Retrieved from http://www.eric.ed.gov

Clark, L. A. & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7,* 309-319.

College Board. (2008). *Job satisfaction by education level, 2008.* Retrieved from https://trends.collegeboard.org/education-pays/figures-tables/job-satisfaction-education-level-2008

College Board. (2015). *Published prices — National.* Retrieved from https://trends.collegeboard.org/college-pricing/figures-tables/published-prices-national

Corrigan, M. E. (2003). Beyond access: Persistence challenges and the diversity of low-income students. *New Directions for Higher Education, 121*, 25-34.

Costello, A. B., & Osborne, J. W. (2005). Exploratory Factor Analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research, and Evaluation, 10*(7), 1-9.

Cross, T. (2007). Barack Obama is the superior choice for African-American voters. *The Journal Of Blacks in Higher Education*, (56), 68-72.

Dale, S., & Krueger, A. (2002). Estimating the payoff to attending a more selective college: An application of selection on observables and unobservables. *The Quarterly Journal of Economics, 117,* 1491-1527.

Davis, F. B. (1964). *Educational measurements and their interpretation*. Belmont, CA: Wadsworth.

De la Rosa, M. L. (2006). Is opportunity knocking? Low-income students' perceptions of college and financial aid. *American Behavioral Scientist, 49*(12), 1670-1686.

Dee, T. S. (2004). Are there civic returns to education? *Journal of Public Economics 88*, 1697–1720. doi: 10.1016/j.jpubeco.2003.11.002

DesJardins, S., & Toutkoushian, R. (2005). Are students really rational? The development of rational thought and its application to student choice. In J. Smart (Ed*.), Higher education: Handbook of theory and research, XX* (pp.191-240). Dordrecht, Netherlands: Springer.

Deufel, B. J., & Kedar, O. (2010). Race and turnout in U.S. elections exposing hidden effects. *Public Opinion Quarterly* 74, no. 2: 286-318.

DuBois, W. E. B. (2001). *The education of black people: Ten critiques, 1906–1960*. H. Aptheker (Ed.). New York, NY: Monthly Review Press.

Duster, T. (2009). The long path to higher education for African Americans. *Thought & Action,* 99-110.

Dwyer, R., Hodson, R., & McCloud, L. (2013). Gender, Debt, and Dropping Out of College. *Gender & Society*, *27*(1), 30-55.

Eckel, P. D., & King, J.E. (2004). *An overview of higher education in the United States: Diversity, access, and the role of the marketplace*. Retrieved from http://www.acenet.edu/news-room/Documents/Overview-of-Higher-Education-in-the-United-States-Diversity-Access-and-the-Role-of-the-Marketplace-2004.pdf

Estrada, M., Burnett, M., Campbell, A. G., Campbell, P. B., Denetclaw, W. F., Guitierrez, C. G., Hurtado, S., John, G. H., Matsui, J., McGee, R., Okpodu, C. M., Robinson, T. J., Summers, M. F., Werner-Washburne, M., & Zavala, M. (2016). Improving underrepresented minority student persistence in STEM. *CBE-Life Sciences Education, 15*(3), 1-10.

Fitts, P. M., & Jones, R. E. (1947). *Psychological aspects of instrument display. 1: Analysis of 270 "pilot error" experiences in reading and interpreting aircraft instruments*. Retrieved from http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA800143

Flanagan, J. C. (1948). *The aviation psychology program in the army air forces.* Army Air Forces Aviation Psychology Program Research Reports, Report No. 1. Retrieved from http://www.dtic.mil/dtic/tr/fulltext/u2/655590.pdf

Flanagan, J. C. (1949). Critical requirements: a new approach to employee evaluation. *Personnel Psychology,* 2419-425. doi:10.1111/j.1744-6570.1959tb01413.x

Flanagan, J. C. (1953) *The critical incident technique.* Pittsburgh, PA: American Institute for Research & University of Pittsburgh.

Flanagan, J. C. (1971). *Progress in education - 1960-1970: A sample survey*. Retrieved from http://www.eric.ed.gov

Flanagan, J. C. (1975). Education's contribution to the quality of life of a national sample of 30 year-olds. *Educational Researcher, 4*(6), 13-16.

Flanagan, J. C. (1978). A research approach to improving our quality of life. *American Psychologist*, *33*(2), 138-147. doi:10.1037/0003-066X.33.2.138

Flanagan, J. C., & Russ-Eft, D. (1975). *An empirical study to aid in formulating educational goals [and] appendices*. Retrieved from http://www.eric.ed.gov

Franzen, A., & Hangartner, D. (2006). Social networks and labour market outcomes: The non-monetary benefits of social capital. European Sociological Review, 22(4), 353-368. doi:10.1093/esr/jcl001

Goldberg, G. (2017). *The last bastion of white male privilege: Race, gender, and the FDNY, 1977-1999*. Chapel Hill: The University of North Carolina Press.

Goldrick-Rab, S., Harris, D., & Trostel, P. (2009). Why financial aid matters (or does not) for college success: Toward a new interdisciplinary perspective. *Higher Education: Handbook of Theory and Research, 24*, 1-46.

González Canché, M. S. (2017). Community college scientists and salary gap: Navigating socioeconomic and academic stratification in the U.S. higher education system. *The Journal of Higher Education, 88*(1), 1-32.

Gordon, T. (1949). The airline pilot's job. *Journal Of Applied Psychology, 33*(2), 122-131. doi:10.1037/h0054068

Grable, J. E., Britt, S., & Cantrell, J. (2007). An exploratory study of the role financial satisfaction has on the thought of subsequent divorce. *Family & Consumer Sciences Research Journal*, *36*(2), 130-150.

Grodsky, E., & Rieglecrumb, C. (2010). Those who choose and those who don't: Social background and college orientation. *Annals of the American Academy of Political and Social Science*. doi:10.1177/0002716209348732.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate data analysis (3rd ed).* New York: Macmillan.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). Multivariate data analysis. Prentice Hall Pearson Education. Retrieved from https://www.scribd.com/document/126310136/25213166-Multivariate-Data-Analysis-7th-Edition

Handouyahia, A., Haddad, T., & Eaton, F. (2013). Kernel Matching versus Inverse Probability Weighting: A Comparative Study. *International Science Index, Mathematical and Computational Sciences*, *7*(8), 1218-1233.

Heckman, J. J., Ichimura, H., & Todd, P. (1998). Matching as an econometric evaluation estimator. *The Review of Economic Studies*, *65*(2), 261-294.

Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological Measurement, 66*, 393-416.

Hiner, A. (2012). The viability of the English major in the current economy. *CEA Forum, 41*(1), 20-52.

Hossler, D., & Gallagher, K. S. (1987). Studying student college choice: A three-phase model and the implications for policymakers. *College and University, 62*(3), 207-221.

Hechter, M., & Kanazawa, S. (1997). Sociological rational choice theory. *Annual Review of Sociology*, 191-214.

Ingels, S. J., Pratt, D. J., Rogers, J. E., Siegel, P. H., & Stutts, E. S. (2005). *Education longitudinal study of 2002: Base-year to first follow-up data file documentation*. Washington, DC: U.S. Department of Education.

Inman, A. G., Ladany, N., Constantine, M. G., & Morano, C. K. (2001). Development and preliminary validation of the Cultural Values Conflict Scale for South Asian women. *Journal Of Counseling Psychology*, *48*(1), 17-27. doi: 10.1037/0022-0167.48.1.17

Jacob, B., McCall, B., & Stange, K. M. (2018). College as Country Club: Do Colleges Cater to Students' Preferences for Consumption? *Journal of Labor Economics*, *36*(2), 309-348.

Jeynes, W. H. (2007). *American educational history: School, society, and the common good*. Thousand Oaks, CA: Sage Publications.

Kaplan, R. W., & Saccuzzo, D. P. (1982). *Psychological testing. Principles, applications, and issues*. Monterey, CA: Brooks/Cole.

Kiker, B. (1966). The historical roots of the concept of human capital. *Journal Of Political Economy, 74*(5), 481-500.

Knaggs, C. M., Sondergeld, T. A., & Schardt, B. (2015). Overcoming barriers to college enrollment, persistence, and perceptions for urban high school students in a college preparatory program. *Journal Of Mixed Methods Research, 9*(1), 7-30.

Lochner, L., & Moretti, E. (2004). The effect of education on crime: Evidence from prison inmates, arrests, and self-reports. *American Economic Review, 94,* 155-189.

Lumina Foundation. (2016). A stronger nation. Indianapolis, IN. Retrieved from http://strongernation.luminafoundation.org/report/2018/#nation.

Martin, R. E. (2013). Incentives, information, and the public interest: Higher education governance as a barrier to cost containment. In A. P. Kelly & K. Carey (Eds.), *Stretching the higher education dollar: How innovation can improve access, equity, and affordability* (pp. 27-44). Cambridge, Massachusetts: Harvard Education Press.

Maxwell, W. E. (2000). Student peer relations at a community college. *Community College Journal Of Research & Practice*, *24*(3), 207-217. doi:10.1080/106689200264169

McMahon, W. W. (2009). *Higher learning, greater good: The private and social benefits of higher education*. Baltimore: Johns Hopkins University Press.

McNulty, J., Wonsun (Sunny), K., Thurston, T., Jiwon, K., & Larkey, L. (2016). Interventions to improve quality of life, well-being, and care in Latino cancer survivors: A systematic literature review. *Oncology Nursing Forum, 43*(3), 374-384. doi: 10.1188/16.ONF.374-384

Miller, N. E. (1947). *Psychological research on pilot training*. Army Air Forces Aviation Psychology Program Research Reports, Report No. 8. Retrieved from http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=AD0651784

Mincer, J. (1958). Investment in human capital and personal income distribution. *Journal of Political Economy*, (4), 281-302.

Morgan, S. L., & Harding, D. J. (2006). Matching estimators of causal effects prospects and pitfalls in theory and practice. *Sociological Methods & Research, 35*(1), 3–60.

Mugglestone, L. (2003). *Talking proper: The rise of accent as social symbol*. Oxford [England]; New York: Oxford University Press.

Mullen, A. L. (2010). *Degrees of inequality: Culture, class, and gender in American higher education.* Baltimore, MD: Johns Hopkins University Press.

Murphy, K. R., & Davidshofer, C. O. (1988). *Psychological testing: Principles and applications*. Englewood Cliffs, NJ: Prentice-Hall.

Narushima, M., Liu, J., & Diestelkamp, N. (2013). The association between lifelong learning and psychological well-being among older adults: Implications for interdisciplinary health promotion in an aging society. *Activities, Adaption And Aging, 37*(3), 239-250.

Nash, R. (1990). Bourdieu on education and social and cultural reproduction. *British Journal of Sociology*, (4), 431-447.

National Center for Education Statistics [NCES]. (2002). *Education Longitudinal Study of 2002 (ELS:2002)*. Washington, DC: US Department of Education. Retrieved from https://nces.ed.gov/surveys/els2002/index.asp

National Center for Education Statistics [NCES]. (2010). *Status and trends in the education of racial and ethnic minorities*. Retrieved from https://nces.ed.gov/pubs2010/2010015/indicator6_25.asp

National Student Clearinghouse Research Center. (2016). *Completing college: A national view of student attainment rates – Fall 2010 cohort*. Retrieved from https://nscresearchcenter.org/signaturereport12/

Noftsinger, J. J., & Newbold, K. J. (2007). Historical underpinnings of access to American higher education. *New Directions For Higher Education*, (138), 3-18.

Nunnally, J. C. (1967). *Psychometric theory*. New York: McGraw-Hill.

Ogbu, J. U. (1982). Cultural discontinuities and schooling. *Anthropology & Education Quarterly*, (4), 290-307.

Oreopoulos, P., & Petronijevic, U. (2013). Making college worth it: A review of the returns to higher education. *Future Of Children, 23*(1), 41-65.

Paulsen, M. B. (1990). College Choice: Understanding Student Enrollment Behavior. ASHE-ERIC Higher Education Report No. 6. Washington, DC: ERIC Publications.

Perna, L. W. (2005). The benefits of higher education: Sex, racial/ethnic, and socioeconomic group differences. *The Review Of Higher Education,* (1), 23-52.

Perna, L. W., & Titus, M. A. (2004). Understanding differences in the choice of college attended: The role of state public policies. *Review Of Higher Education, 27*(4), 501-525.

Pingel, S., Parker, E., & Sisneros, L. (2016). *Free community college: An approach to increase adult student success in postsecondary education*. Denver, CO: Education Commission of the States.

Psacharopoulos, G., & Patrinos, H. A. (2004). Returns to investment in education: A further update. *Education Economics, 12*(2), 111-134.

Rincon, B. E., & George-Jackson, C. E. (2016). Examining department climate for women in engineering: The role of STEM interventions. *Journal Of College Student Development, 57*(6), 742-747.

Rosenbaum, J., Ahearn, C., Becker, K., & Rosenabum, J. (2015). *The new forgotten half and research directions to support them*. Retrieved from https://www.luminafoundation.org/files/resources/the-new-forgotten-half-and-research-directions-to-support-them.pdf

Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika, 70*(1), 41–55.

Russ-Eft, D., & Flanagan, J. C. (1976). Dimensions of quality of life as an index to aid in formulating educational goals.

Scarborough, H., Turner, E. L., & Gregg, A. (1998). Medical education. In *Encyclopaedia Britannica Online*. Retrieved from https://www.britannica.com/topic/medical-education

Schmidt, B. J. (2016). Core professional nursing values of baccalaureate nursing students who are men. *Nursing Ethics, 23*(6), 674-684.

Schneider, M. (2015). *The value of sub-baccalaureate credentials*. Retrieved from http://issues.org/31-4/the-value-of-sub-baccalaureate-credentials/

Schwartz, A. E., & Scafidi, B. (2004). What's happened to the price of college? Quality-adjusted net price indexes for four-year colleges. *The Journal of Human Resources*, (3), 723-745.

Scott, J. (2000). Rational choice theory. In G. Browning, A. Halcli, & F. Webster (Eds.) *Understanding contemporary society: Theories of the present* (pp. 129-138). Thousand Oaks, CA: SAGE Publications.

Sheridan, L. A., Glendon, M. A., & Alford, W. P. (2011). Legal education. In *Encyclopaedia Britannica Online*. Retrieved from https://www.britannica.com/topic/legal-education

Shulman, S., & Connolly, J. (2013). The challenge of romantic relationships in emerging adulthood: Reconceptualization of the field. *Emerging Adulthood*, *1*(1), 27-39. doi:10.1177/2167696812467330

Snyder, T. D. (1993). *120 years of American education: A statistical portrait*. Washington, National Center for Education Statistics. D.C.: U.S. Dept. of Education, Office of Educational Research and Improvement.

Spencer-Wood, S. M. (2013). *Historical and archaeological perspectives on gender transformations: From private to public*. New York, NY: Springer.

Stanton-Salazar, R. D., & Dornbusch, S. M. (1995). Social capital and the reproduction of inequality: Information networks among Mexican-origin high school students. *Sociology of Education,* (2), 116-135.

Stiglitz, J. (1975). The theory of "screening," education, and the distribution of income. *American Economic Review, 65,* 283-300.

Sullivan, J., & Towell, M. (2017). Student loans: What you need to know before signing. *Journal Of Accountancy, 223*(1), 49-52.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Upper Saddle River, NJ: Pearson Allyn & Bacon.

Thompson, V. L. S. (2006). Coping responses and the experience of discrimination. *Journal of Applied Social Psychology*, (5), 1198–1214.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45, 89–125.

Toutkoushian, R. K., & Paulsen, M. B. (2016). *Economics of higher education: Background, concepts, and applications*. New York: Springer Nature.

Toutkoushian, R., Shafiq, M., & Trivette, M. (2013). Accounting for risk of non-completion in private and social rates of return to higher education. *Journal of Education Finance, 39,* 73-95.

US Office of the President. (2014). Remarks by the President at College Opportunity Summit. Washington, DC. Retrieved from https://www.whitehouse.gov/the-press-office/2014/12/04/remarks-presidentcollege-opportunity-summit

Wang, J., Gibson, A. M., Silinas, L., Solis, F., & Slate, J. R. (2007). Thematic differences in mission statements between four-year public institutions and two-year colleges in Texas. *International Electronic Journal For Leadership In Learning*, *11*

White, J. M. (2005). *Advancing family theories*. Thousand Oaks, CA: Sage Publications.

Wise, L. L., McLaughlin, D. H., & Gilmartin, K. J. (1977) *The American citizen: 11 years after high school volume II*. Retrieved from http://www.projecttalent.org/docs/American_Citizen_-_11_Years_After_H.S._Volume_2_(Wise_McLaughlin_Gilmartin_1977).pdf

DISSERTATION TABLES

Table 4.1

Exploratory Factor Analysis: Factor Loadings

Variable	Variable Description from ELS	Benefits of Job/Career	Work-Life Balance	Social and Ed. Values	Marriage and Children Values	Cronbach's Alpha
F3B20	Whether R supervises other in current/most recent job	0.41				
F3B23	Level of autonomy in current/most recent job	0.35				
F3B25A	Aspects of current/most recent job: Job security	0.46				0.72
F3B25B	Aspects of current/most recent job: Opportunity to learn new things	0.87				
F3B25D	Aspects of current/most recent job: New challenges	0.90				
F3B25F	Aspects of current/most recent job: Useful for society	0.49				
F3B25E	Aspects of current/most recent job: Time for leisure activities		0.79			0.77
F3B25G	Aspects of current/most recent job: Work-family balance		0.91			
F3D53C	Values: Having strong friendships			0.31		
F3D53D	Values: Helping other people in community			0.69		
F3D53G	Values: Working to correct social and economic inequalities			0.70		0.63
F3D53J	Values: Being an expert in field of work			0.57		
F3D53K	Values: Having a good education			0.64		
F3D53A	Values: Having right person to marry/happy family life				1.01	0.60
F3D53H	Values: Having children				0.62	

Note. Items with Factor loadings <.30) are suppressed

Table 4.2
Correlations Between Factors

Factors	Benefits of Job/Career	Work-Life Balance	Social and Ed. Values	Marriage and Children Values
Benefits of Job/Career	1.0000			
Work-Life Balance	0.4686	1.0000		
Social and Ed. Values	0.1993	0.1373	1.0000	
Marriage and Children Values	0.1370	0.1343	0.2817	1.0000

Table 4.3
Continuous Variables

Variable	Rounded N	Mean	Std. Dev.	Min	Max
Independent Variables					
GPA for All High School Courses	8,230	2.831735	0.70865	0.300	4.000
Age	8,890	26.417670	0.60993	24.000	30.000
Senior Year High School SES	8,890	0.106697	0.72764	-1.970	1.870
Dependent Variables					
Factor 1: Benefits of Job/Career	8,890	-0.000000000146	0.90923	-3.183	1.235
Factor 2: Work-Life Balance	8,890	-0.000000000428	0.91156	-2.914	1.413
Factor 3: Social and Ed. Values	8,890	-0.000000000210	0.80616	-3.094	1.258
Factor 4: Marriage and Children Values	8,890	-0.000000000037	0.99418	-4.005	0.618

Table 4.4
Demographics and Frequencies

Variable	Rounded N	%
Sex		
Female	4,700	52.88
Male	4,190	47.12
Race		
White	5,380	60.56
Black/African American	1,030	11.60
Asian or Hawaiian/Pacific Islander	840	9.41
Hispanic	1,180	13.24
Other	460	5.19
Parent Education		
High School or Less	2,000	22.55
Some College	2,010	22.66
Associate's Degree	920	10.35
Bachelor's Degree	2,150	24.22
Graduate or Professional Degree	1,800	20.21
Student Education Expectations		
High School	340	3.79
Associate's Degree	1,060	11.89
Bachelor's Degree	3,230	36.38
Beyond Bachelor's Degree	3,220	36.29
Unsure	1,040	11.66
Parent Education Expectations		
High School	370	4.11
Associate's Degree	800	8.95
Bachelor's Degree	3,650	41.02
Beyond Bachelor's Degree	2,430	27.36
Unsure	1,650	18.56
Level of Education		
High School	810	9.16
Up to 60 Credit Hours	1,640	18.46
More than 60 Credit Hours	1,110	12.49
Associate's Degree/Undergraduate Certificate	1,880	21.18
Bachelor's Degree	3,440	38.71
Voting Behavior as of F3		
Did Not Vote (2008-2011)	2,980	33.54
Voted Once (2008-2011)	2,690	30.33
Voted More than Once (2008-2011)	3,210	36.13
Volunteering Behavior as of F3		
Did Not Volunteer	5,170	58.30
Volunteered Sometimes	1,830	20.62
Volunteered Often	1,870	21.07

Table 4.5
Level of Educational Attainment by Sex

Level of Educational Attainment	Female		Male		Total	
	N	%	N	%	N	%
High School	300	6.39	520	12.42	820	9.22
Up to 60 Credit Hours, College	820	17.45	820	19.58	1,640	18.45
More than 60 Credit Hours, College	570	12.13	540	12.90	1,110	12.49
Associate's Degree/Undergraduate Certificate	1,130	24.05	750	17.91	1,880	21.15
Bachelor's Degree	1,870	39.80	1,570	37.50	3,440	38.70

Table 4.6
Level of Educational Attainment by Race

Level of Educational Attainment	White		Black/African American		Asian/Pacific Islander		Hispanic		Other		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
High School	490	9.07	100	9.51	30	3.47	140	11.56	60	13.67	820	9.22
Up to 60 Credit Hours, College	870	16.15	260	25.32	110	13.04	300	25.34	100	22.34	1640	18.45
More than 60 Credit Hours, College	630	11.75	150	14.06	140	16.51	140	12.24	50	11.06	1110	12.49
Associate's Degree/Undergraduate Certificate	1,080	20.11	270	26.38	140	16.15	290	25.00	100	21.48	1880	21.15
Bachelor's Degree	2,310	42.93	260	24.73	430	50.84	300	25.85	150	31.45	3450	38.70

Table 4.7

Level of Educational Attainment by Student Expectations

	High School		Associate's Degree		Bachelor's Degree		Beyond Bachelor's Degree		Unsure	
Level of Educational Attainment	N	%	N	%	N	%	N	%	N	%
High School	160	46.29	210	20.08	170	5.20	70	2.30	200	19.69
Up to 60 Credit Hours	80	23.15	310	28.88	630	19.34	360	11.23	270	26.06
More than 60 Credit Hours	20	5.64	70	7.01	430	13.3	490	15.11	100	9.65
Associate's Degree/Undergraduate Certificate	70	19.88	400	38.26	670	20.61	470	14.64	270	26.35
Bachelor's Degree	20	5.04	60	5.78	1,340	41.55	1,830	56.73	190	18.24

Table 4.8

Level of Educational Attainment by GPA, Age, and SES

Level of Educational Attainment	Mean GPA	SD GPA	Mean Age	SD Age	Mean SES	SD SES
High School	2.21	0.65526	26.62	0.73166	-0.35	0.60068
Up to 60 Credit Hours	2.42	0.66013	26.48	0.64957	-0.13	0.66159
More than 60 Credit Hours	2.89	0.62264	26.36	0.55889	0.17	0.72571
Associate's Degree/Undergraduate Certificate	2.66	0.65211	26.45	0.64986	-0.10	0.66343
Bachelor's Degree	3.25	0.51757	26.34	0.53046	0.42	0.68137

Table 4.9
Level of Educational Attainment by Parent Expectations

Level of Educational Attainment	High School		Associate's Degree		Bachelor's Degree		Beyond Bachelor's Degree		Unsure	
	N	%	N	%	N	%	N	%	N	%
High School	160	44.93	180	22.77	270	7.27	80	3.37	120	7.40
Up to 60 Credit Hours	80	20.82	210	26.67	660	18.13	320	13.16	370	22.50
More than 60 Credit Hours	20	5.21	70	9.18	450	12.35	370	15.01	200	12.31
Associate's Degree/Undergraduate Certificate	90	24.93	250	31.19	780	21.34	360	14.60	410	24.86
Bachelor's Degree	20	4.11	80	10.19	1,490	40.91	1,310	53.85	540	32.93

Table 4.10
Level of Educational Attainment by Parent Education

Level of Educational Attainment	High School or Less		Some College		Associate's Degree		Bachelor's Degree		Graduate or Professional Degree	
	N	%	N	%	N	%	N	%	N	%
High School	350	17.32	230	11.18	90	10.11	100	4.51	50	2.90
Up to 60 Credit Hours	480	23.70	450	22.45	220	23.59	300	14.13	190	10.69
More than 60 Credit Hours	200	9.83	250	12.42	110	11.41	320	14.96	240	13.14
Associate's Degree/Undergraduate Certificate	550	27.35	500	24.59	240	25.98	370	17.29	230	12.69
Bachelor's Degree	440	21.81	590	29.36	270	28.91	1,060	49.12	1,090	60.58

Table 4.11

Outcome Variables by Level of Educational Attainment

Outcome	Level of Educational Attainment	Mean	SD
Benefits of Job/Career	High School	0.05	0.86910
	Up to 60 Credit Hours	-0.15	0.98687
	More than 60 Credit Hours	-0.21	0.94338
	Associate's Degree/Undergraduate Certificate	0.07	0.88844
	Bachelor's Degree	0.09	0.85864
Work-Life Balance	High School	0.09	0.89359
	Up to 60 Credit Hours	-0.11	0.98724
	More than 60 Credit Hours	-0.07	0.91191
	Associate's Degree/Undergraduate Certificate	0.06	0.91785
	Bachelor's Degree	0.02	0.86809
Social and Educational Values	High School	-0.13	0.89171
	Up to 60 Credit Hours	-0.07	0.82889
	More than 60 Credit Hours	0.03	0.79542
	Associate's Degree/Undergraduate Certificate	0.03	0.81782
	Bachelor's Degree	0.04	0.76479
Marriage and Children	High School	-0.07	1.07035
	Up to 60 Credit Hours	-0.05	1.07451
	More than 60 Credit Hours	-0.07	1.09598
	Associate's Degree/Undergraduate Certificate	0.00	0.98133
	Bachelor's Degree	0.07	0.89991
Voting Behavior	High School	1.65	0.81668
	Up to 60 Credit Hours	1.90	0.84175
	More than 60 Credit Hours	2.07	0.83044
	Associate's Degree/Undergraduate Certificate	1.98	0.84023
	Bachelor's Degree	2.18	0.79196
Volunteering Behavior	High School	1.42	0.73092
	Up to 60 Credit Hours	1.50	0.78245
	More than 60 Credit Hours	1.65	0.82706
	Associate's Degree/Undergraduate Certificate	1.53	0.77908
	Bachelor's Degree	1.78	0.82086

Table 4.12
Naïve (OLS) Models

	(1) Benefits of Job/Career	(2) Work-Life Balance	(3) Social and Educational Values	(4) Marriage and Children Values
Up to 60 Credit Hours	-0.214***	-0.229***	-0.009	-0.027
	(0.043)	(0.044)	(0.039)	(0.051)
More than 60 Credit Hours	-0.276***	-0.174***	0.144***	-0.074
	(0.049)	(0.049)	(0.043)	(0.056)
Associate's Degree/Undergraduate Certificate	0.017	-0.068	0.126**	-0.019
	(0.042)	(0.043)	(0.039)	(0.050)
Bachelor's Degree	-0.003	-0.100*	0.208***	0.024
	(0.045)	(0.045)	(0.040)	(0.051)
Male	0.079***	-0.098***	-0.155***	-0.138***
	(0.021)	(0.021)	(0.018)	(0.023)
Black/African American	-0.037	0.037	0.324***	-0.132**
	(0.036)	(0.037)	(0.030)	(0.042)
Asian or Hawaiian/Pacific Islander	-0.212***	-0.146***	0.104**	-0.130**
	(0.039)	(0.037)	(0.032)	(0.041)
Hispanic	-0.030	-0.002	0.204***	-0.078*
	(0.032)	(0.033)	(0.028)	(0.037)
Other Race	-0.068	-0.042	0.065+	-0.121*
	(0.047)	(0.047)	(0.039)	(0.053)

Age	0.000 (0.017)	0.017 (0.018)	0.020 (0.015)	0.030 (0.019)
GPA for All High School Courses	0.043* (0.018)	0.043* (0.018)	-0.130*** (0.016)	0.038+ (0.020)
Senior Year High School SES (2004)	0.035 (0.025)	-0.018 (0.025)	-0.077*** (0.022)	-0.012 (0.029)
Parent Education: Some College	-0.062+ (0.033)	0.030 (0.033)	0.016 (0.029)	-0.030 (0.038)
Parent Education: Associate's Degree	-0.063 (0.040)	0.055 (0.040)	0.037 (0.035)	0.007 (0.044)
Parent Education: Bachelor's Degree	-0.069+ (0.040)	0.017 (0.040)	0.086* (0.035)	0.015 (0.046)
Parent Education: Graduate/Professional Degree	-0.124* (0.050)	-0.021 (0.050)	0.087* (0.044)	-0.027 (0.057)
Student Education Expectation: High School	-0.001 (0.065)	0.001 (0.065)	-0.045 (0.054)	0.106 (0.073)
Student Education Expectation: Associate's	-0.026 (0.044)	-0.014 (0.043)	-0.099** (0.037)	0.162** (0.049)
Student Education Expectation: Bachelor's	0.001 (0.036)	-0.007 (0.036)	-0.005 (0.030)	0.112** (0.044)
Student Education Expectation: Beyond Bachelor's	0.035 (0.038)	-0.026 (0.038)	0.119*** (0.031)	0.185*** (0.044)

Parent Education Expectation: High School	-0.144*	-0.209***	-0.105+	-0.124+
	(0.061)	(0.061)	(0.055)	(0.070)
Parent Education Expectation: Associate's	-0.026	-0.118**	-0.126***	-0.016
	(0.043)	(0.044)	(0.037)	(0.047)
Parent Education Expectation: Bachelor's	-0.015	-0.037	-0.098***	-0.028
	(0.028)	(0.029)	(0.025)	(0.031)
Parent Education Expectation: Beyond Bachelor's	-0.054+	-0.097**	-0.030	-0.051
	(0.031)	(0.031)	(0.026)	(0.034)
Rounded Sample Size	8230	8230	8230	8230
R^2	0.026	0.015	0.067	0.017

Standard errors in parentheses; design effects used in each model
(d) for discrete change of dummy variable from 0 to 1
+ p<.10, * p<.05, ** p<.01, *** p<.001
Reference categories are- High School Education; White; Parent Education: No College; Student Education Expectation: Unsure; Parent Education Expectation: Unsure

Table 4.13
Propensity Score Weighted Models

	(1) Benefits of Job/Career	(2) Work-Life Balance	(3) Social and Educational Values	(4) Marriage and Children Values
Up to 60 Credit Hours	-0.056	-0.086	0.047	0.052
	(0.098)	(0.065)	(0.084)	(0.100)
More than 60 Credit Hours	-0.025	-0.005	0.210*	0.046
	(0.098)	(0.066)	(0.084)	(0.101)
Associate's Degree/Undergraduate Certificate	0.214*	0.057	0.191*	0.058
	(0.093)	(0.060)	(0.083)	(0.099)
Bachelor's Degree	0.182+	0.093	0.250**	0.004
	(0.098)	(0.074)	(0.086)	(0.104)
Male	0.003	-0.181***	-0.133***	-0.136**
	(0.042)	(0.040)	(0.037)	(0.048)
Black/African American	-0.046	-0.027	0.221***	-0.415***
	(0.079)	(0.082)	(0.057)	(0.085)
Asian or Hawaiian/Pacific Islander	-0.067	-0.128*	0.149**	-0.138*
	(0.067)	(0.062)	(0.053)	(0.068)
Hispanic	-0.093	-0.112+	0.138*	-0.138
	(0.060)	(0.062)	(0.067)	(0.094)
Other Race	-0.071	-0.102	0.085	-0.105

	(0.068)	(0.063)	(0.055)	(0.074)
Age	0.018	0.059*	-0.034	0.031
	(0.034)	(0.029)	(0.029)	(0.042)
GPA for All High School Courses	-0.071*	-0.061	-0.136***	0.110**
	(0.035)	(0.039)	(0.036)	(0.042)
Senior Year High School SES (2004)	-0.027	-0.078+	-0.061+	-0.028
	(0.051)	(0.044)	(0.036)	(0.052)
Parent Education: Some College	-0.027	0.009	-0.074	-0.114
	(0.066)	(0.063)	(0.051)	(0.079)
Parent Education: Associate's Degree	0.091	0.104	-0.012	-0.065
	(0.070)	(0.071)	(0.058)	(0.078)
Parent Education: Bachelor's Degree	-0.025	0.010	-0.022	-0.104
	(0.086)	(0.071)	(0.062)	(0.090)
Parent Education: Graduate/Professional Degree	-0.055	0.031	0.081	-0.086
	(0.088)	(0.086)	(0.066)	(0.112)
Student Education Expectation: High School	0.177	0.065	-0.372**	-0.473*
	(0.145)	(0.148)	(0.128)	(0.225)
Student Education Expectation: Associate's	-0.152+	-0.188+	-0.143+	0.110
	(0.092)	(0.105)	(0.083)	(0.084)
Student Education Expectation: Bachelor's	-0.046	-0.086	-0.076	0.047
	(0.061)	(0.064)	(0.059)	(0.070)

Student Education Expectation: Beyond Bachelor's	-0.036	-0.140*	0.031	0.079
	(0.064)	(0.062)	(0.060)	(0.079)
Parent Education Expectation: High School	-0.117	-0.383**	-0.019	-0.018
	(0.141)	(0.140)	(0.092)	(0.150)
Parent Education Expectation: Associate's	-0.059	-0.101	0.084	0.250*
	(0.093)	(0.101)	(0.086)	(0.098)
Parent Education Expectation: Bachelor's	-0.019	-0.097*	-0.045	0.051
	(0.067)	(0.045)	(0.045)	(0.060)
Parent Education Expectation: Beyond Bachelor's	-0.076	-0.155**	0.022	0.011
	(0.076)	(0.054)	(0.052)	(0.071)
Rounded Sample Size	8230	8230	8230	8230
R^2	0.039	0.060	0.077	0.085

Standard errors in parentheses; design effects used in each model
(d) for discrete change of dummy variable from 0 to 1
+ p<.10, * p<.05, ** p<.01, *** p<.001
Reference categories are: High School Education; White; Parent Education: No College; Student Education Expectation: Unsure; Parent Education Expectation: Unsure

Table 4.14
Naïve (Multinomial Logistic Regression) Models for Voting and Volunteering

	(1) Never Voted	(2) Voted Once	(3) Voted More than Once	(4) Never Volunteered	(5) Sometimes Volunteered	(6) Often Volunteered
Up to 60 Credit Hours	-0.091***	0.041+	0.050*	-0.000	-0.023	0.023
	(0.023)	(0.021)	(0.022)	(0.024)	(0.020)	(0.019)
More than 60 Credit Hours	-0.159***	0.056*	0.103***	-0.055*	0.010	0.045*
	(0.025)	(0.024)	(0.025)	(0.026)	(0.022)	(0.021)
Associate's Degree/Undergraduate Certificate	-0.131***	0.050*	0.081***	-0.017	0.001	0.016
	(0.023)	(0.021)	(0.022)	(0.023)	(0.020)	(0.019)
Bachelor's Degree	-0.205***	0.082***	0.123***	-0.134***	0.065**	0.069***
	(0.024)	(0.022)	(0.023)	(0.025)	(0.021)	(0.020)
Male	0.055***	-0.051***	-0.004	0.032**	-0.012	-0.020*
	(0.010)	(0.010)	(0.011)	(0.011)	(0.009)	(0.009)
Black/African American	-0.164***	0.078***	0.086***	-0.066***	-0.022	0.088***
	(0.019)	(0.017)	(0.018)	(0.018)	(0.016)	(0.014)
Asian or Hawaiian/Pacific Islander	0.164***	-0.060**	-0.103***	0.001	-0.013	0.012
	(0.016)	(0.019)	(0.020)	(0.019)	(0.016)	(0.016)
Hispanic	0.064***	-0.017	-0.047**	0.026	-0.049**	0.023
	(0.015)	(0.017)	(0.017)	(0.017)	(0.016)	(0.014)

Other Race	0.017	-0.012	-0.005	-0.019	-0.010	0.028
	(0.023)	(0.023)	(0.024)	(0.024)	(0.020)	(0.020)
Age	-0.003	-0.008	0.011	-0.013	0.018*	-0.004
	(0.008)	(0.009)	(0.009)	(0.009)	(0.007)	(0.008)
GPA for All High School Courses	-0.016+	0.012	0.004	-0.038***	0.034***	0.004
	(0.009)	(0.009)	(0.010)	(0.010)	(0.008)	(0.008)
Senior Year High School SES (2004)	-0.071***	0.011	0.059***	-0.027*	0.029**	-0.002
	(0.012)	(0.013)	(0.013)	(0.013)	(0.011)	(0.011)
Parent Education: Some College	-0.005	-0.001	0.006	-0.016	0.003	0.013
	(0.016)	(0.017)	(0.018)	(0.018)	(0.015)	(0.015)
Parent Education: Associate's Degree	0.009	0.005	-0.014	-0.025	0.016	0.009
	(0.019)	(0.021)	(0.021)	(0.021)	(0.018)	(0.019)
Parent Education: Bachelor's Degree	0.010	-0.000	-0.010	-0.039+	0.005	0.034+
	(0.020)	(0.021)	(0.021)	(0.021)	(0.018)	(0.018)
Parent Education: Graduate/Professional Degree	0.036	0.005	-0.042	-0.037	-0.008	0.045*
	(0.025)	(0.026)	(0.027)	(0.027)	(0.022)	(0.022)

Student Education Expectation: High School	0.005	0.014	-0.019	0.085*	-0.133***	0.048
	(0.029)	(0.034)	(0.036)	(0.037)	(0.038)	(0.030)
Student Education Expectation: Associate's	0.003	-0.006	0.003	0.058*	-0.022	-0.036+
	(0.020)	(0.022)	(0.024)	(0.023)	(0.020)	(0.021)
Student Education Expectation: Bachelor's	-0.055**	0.001	0.054**	0.016	-0.023	0.008
	(0.017)	(0.018)	(0.019)	(0.019)	(0.016)	(0.017)
Student Education Expectation: Beyond Bachelor's	-0.066***	-0.004	0.069***	-0.034+	-0.017	0.052**
	(0.018)	(0.019)	(0.020)	(0.020)	(0.017)	(0.017)
Parent Education Expectation: High School	0.069*	-0.074*	0.005	0.013	-0.045	0.032
	(0.027)	(0.033)	(0.035)	(0.033)	(0.032)	(0.029)
Parent Education Expectation: Associate's	0.003	-0.049*	0.047*	-0.011	-0.025	0.036+
	(0.020)	(0.022)	(0.023)	(0.023)	(0.021)	(0.020)
Parent Education Expectation: Bachelor's	-0.010	-0.020	0.030+	-0.019	0.004	0.015
	(0.014)	(0.014)	(0.015)	(0.016)	(0.013)	(0.013)
Parent Education Expectation: Beyond Bachelor's	-0.031*	-0.010	0.041*	-0.038*	0.009	0.029*
	(0.016)	(0.016)	(0.017)	(0.017)	(0.014)	(0.014)

Rounded Sample Size	8220	8220	8220	8210	8210	8210
Log Likelihood: Null	-5232.619	-5232.619	-5232.619	-4625.396	-4625.396	-4625.396
Log Likelihood: Model	-4986.787	-4986.787	-4986.787	-4452.747	-4452.747	-4452.747
Chi-Square	759.125	759.125	759.125	549.404	549.404	549.404
Pseudo R^2	0.047	0.047	0.047	0.037	0.037	0.037

Marginal effects; Standard errors in parentheses; + p<.10, * p<.05, ** p<.01, *** p<.001

Reference categories are: High School Education; White; Parent Education: No College; Student Education Expectation: Unsure; Parent Education Expectation: Unsure

Design effects used for each model

Table 4.15
Propensity Score Weighted Model for Voting and Volunteering

	(1) Never Voted	(2) Voted Once	(3) Voted More than Once	(4) Never Volunteered	(5) Sometimes Volunteered	(6) Often Volunteered
Up to 60 Credit Hours	-0.135**	0.055	0.080*	-0.013	-0.014	0.027
	(0.042)	(0.042)	(0.041)	(0.044)	(0.035)	(0.035)
More than 60 Credit Hours	-0.215***	0.098*	0.116**	-0.051	0.009	0.042
	(0.043)	(0.042)	(0.041)	(0.045)	(0.035)	(0.035)
Associate's Degree/Undergraduate Certificate	-0.166***	0.081*	0.085*	-0.012	-0.005	0.018
	(0.042)	(0.041)	(0.040)	(0.044)	(0.034)	(0.034)
Bachelor's Degree	-0.213***	0.109*	0.104*	-0.103*	0.057	0.046
	(0.047)	(0.044)	(0.042)	(0.048)	(0.037)	(0.036)
Male	0.056*	-0.077***	0.021	-0.004	0.008	-0.004
	(0.022)	(0.020)	(0.019)	(0.021)	(0.016)	(0.017)
Black/African American	-0.242***	0.107***	0.135***	-0.078*	-0.020	0.098***
	(0.044)	(0.031)	(0.033)	(0.036)	(0.029)	(0.027)
Asian or Hawaiian/Pacific Islander	0.154***	-0.066*	-0.089**	0.046	-0.026	-0.020
	(0.029)	(0.032)	(0.031)	(0.032)	(0.025)	(0.025)
Hispanic	0.020	0.016	-0.036	0.018	-0.057*	0.039

	(0.034)	(0.043)	(0.032)	(0.037)	(0.028)	(0.025)
Other Race	-0.010	0.014	-0.004	-0.026	-0.043	0.069**
	(0.035)	(0.034)	(0.032)	(0.035)	(0.027)	(0.027)
Age	-0.005	0.025	-0.020	0.031+	0.001	-0.032*
	(0.015)	(0.016)	(0.015)	(0.017)	(0.012)	(0.013)
GPA for All High School Courses	-0.020	-0.013	0.033+	-0.083***	0.047***	0.035*
	(0.023)	(0.017)	(0.017)	(0.019)	(0.013)	(0.014)
Senior Year High School SES (2004)	-0.094***	-0.007	0.100***	-0.035	0.035+	0.000
	(0.023)	(0.022)	(0.022)	(0.023)	(0.020)	(0.018)
Parent Education: Some College	-0.018	0.051	-0.033	0.042	-0.029	-0.013
	(0.031)	(0.032)	(0.028)	(0.033)	(0.025)	(0.025)
Parent Education: Associate's Degree	0.020	0.019	-0.039	-0.005	0.018	-0.013
	(0.037)	(0.035)	(0.033)	(0.035)	(0.030)	(0.028)
Parent Education: Bachelor's Degree	0.028	0.033	-0.062+	-0.002	-0.028	0.030
	(0.038)	(0.038)	(0.035)	(0.039)	(0.034)	(0.030)
Parent Education: Graduate/Professional Degree	0.034	0.051	-0.085*	0.009	-0.041	0.032
	(0.042)	(0.043)	(0.039)	(0.043)	(0.037)	(0.033)

Student Education Expectation: High School	-0.108+	0.225**	-0.117	0.202+	-0.130	-0.071
	(0.064)	(0.079)	(0.077)	(0.107)	(0.081)	(0.064)
Student Education Expectation: Associate's	-0.077	0.045	0.032	0.041	-0.026	-0.015
	(0.052)	(0.041)	(0.044)	(0.049)	(0.038)	(0.037)
Student Education Expectation: Bachelor's	-0.113**	0.050+	0.063*	-0.016	-0.009	0.025
	(0.034)	(0.030)	(0.032)	(0.035)	(0.027)	(0.027)
Student Education Expectation: Beyond Bachelor's	-0.132***	0.060+	0.072*	-0.033	-0.020	0.052*
	(0.033)	(0.032)	(0.032)	(0.035)	(0.027)	(0.026)
Parent Education Expectation: High School	0.006	-0.008	0.002	-0.058	0.006	0.051
	(0.043)	(0.066)	(0.062)	(0.063)	(0.059)	(0.057)
Parent Education Expectation: Associate's	0.084	-0.134**	0.050	0.014	-0.020	0.006
	(0.052)	(0.047)	(0.044)	(0.054)	(0.043)	(0.040)
Parent Education Expectation: Bachelor's	0.021	-0.031	0.010	0.010	0.007	-0.017
	(0.026)	(0.024)	(0.030)	(0.030)	(0.022)	(0.030)
Parent Education Expectation: Beyond Bachelor's	0.005	-0.024	0.019	-0.010	0.013	-0.003
	(0.033)	(0.028)	(0.033)	(0.034)	(0.027)	(0.030)

Rounded Sample Size	8220	8220	8220	8210	8210	8210
Log Likelihood: Null	-46102.420	-46102.420	-46102.420	-39238.422	-39238.422	-39238.422
Log Likelihood: Model	-42585.450	-42585.450	-42585.450	-37574.759	-37574.759	-37574.759
Chi-Square	373.512	373.512	373.512	292.392	292.392	292.392
Pseudo R^2	0.076	0.076	0.076	0.042	0.042	0.042

Marginal effects; Standard errors in parentheses; + p<.10, * p<.05, ** p<.01, *** p<.001
Reference categories are- High School Education; White; Parent Education: No College; Student Education Expectation: Unsure; Parent Education Expectation: Unsure
Design effects used for each model

APPENDIX A

Physical and Material Well-being

a. Material comforts — things like a desirable home, good food, possessions, conveniences, and increasing income, and security of the future.

b. Health and personal safety — to be physically fit and vigorous, to be free from anxiety and distress, and to avoid bodily harm.

Relations with Other People

c. Relationship with your parents, brothers, sisters, and other relatives — things like communicating, visiting, understanding, doing things, and helping and being helped by them.

d. Having and raising children — this involves being a parent and helping, teaching, and caring for your children.

e. Close relationship with a husband/wife/a person of the opposite sex [*same sex also included in this study due to changes in societal norms*].

f. Close friends — sharing activities, interests, and views; being accepted, visiting, giving and receiving help, love, trust, support, guidance.

Social, Community, and Civic Activities

g. Helping and encouraging others — this includes adults or children other than relatives or close friends; these can be your own efforts or efforts as a member of some church, club, or volunteer group.

h. Participation in activities relating to local and national government and public affairs.

Personal Development and Fulfillment

i. Learning, attending school, improving your understanding, or getting additional knowledge.

j. Understanding yourself and knowing your assets and limitations, knowing what life is all about and making decisions on major life activities; for some people, this includes religious or spiritual experiences; for others, it is an attitude toward life or a philosophy.

k. Work in a job or at home that is interesting, rewarding, worthwhile.

l. Expressing yourself in a creative manner in music, art, writing, photography, practical activities, or in leisure-time activities.

Recreation

m. Socializing — meeting other people, doing things with them, and giving or attending parties.

n. Reading, listening to music, or observing sporting events or entertainment.

o. Participation in active recreation — such as sports, traveling and sightseeing, playing games or cards, singing, dancing, playing an instrument, acting, and other such activities.

(Flanagan, 1978, p.141)

APPENDIX B

Table B.1
Variables Used in Study: ELS Survey Items

Independent Variables (BY, F1, F2)	ELS Survey Item(s)	Contributions to Dependent Variables (F3)	ELS Survey Item(s)
Age	F1DOB_R	Whether R supervises other in current/most recent job	F3B20
Race/Ethnicity	F1RACE	Level of autonomy in current/most recent job	F3B23
High School Socioeconomic Status (SES)	F1SES1R	Aspects of current/most recent job: Job security	F3B25A
Sex	F1SEX	Aspects of current/most recent job: Opportunity to learn new things	F3B25B
Parent Education	F1PARED	Aspects of current/most recent job: New challenges	F3B25D
Parent Educational Expectations	BYP81	Aspects of current/most recent job: Useful for society	F3B25F
Student Educational Expectations	F1STEXP	Aspects of current/most recent job: Time for leisure activities	F3B25E
High School GPA	F1RGP	Aspects of current/most recent job: Work-family balance	F3B25G
		Values: Having strong friendships	F3D53C
		Values: Helping other people in community	F3D53D
		Values: Working to correct social and economic inequalities	F3D53G
		Values: Being an expert in field of work	F3D53J
		Values: Having a good education	F3D53K
		Values: Having right person to marry/happy family life	F3D53A
		Values: Having children	F3D53H
		Voting Behaviors	F3D37; F3D38; F3D39
		Volunteering Behaviors	F3D40; F3D42
		Educational Attainment	F3ATTAINMENT; F3TZPOSTERN

APPENDIX C

Table C.1

Polychoric Correlation Coefficients Among EFA Variables

	F3B20	F3B23	F3B25A	F3B25B	F3B25D	F3B25E	F3B25F	F3B25G	F3D53A	F3D53C	F3D53D	F3D53G	F3D53H	F3D53J	F3D53K
F3B20	1.0000														
F3B23	0.3168	1.0000													
F3B25A	0.2107	0.1987	1.0000												
F3B25B	0.2120	0.2640	0.4972	1.0000											
F3B25D	0.2413	0.2791	0.4344	0.8268	1.0000										
F3B25E	-0.0236	0.1824	0.3132	0.2965	0.2717	1.0000									
F3B25F	0.1217	0.2025	0.3987	0.5941	0.6065	0.3882	1.0000								
F3B25G	-0.0184	0.1826	0.3816	0.3950	0.3474	0.6962	0.4851	1.0000							
F3D53A	0.0129	0.0294	0.1208	0.1137	0.0956	0.0491	0.1164	0.1028	1.0000						
F3D53C	0.0580	0.0607	0.0769	0.1030	0.1098	0.0934	0.1138	0.0864	0.3493	1.0000					
F3D53D	0.0252	0.0345	0.0099	0.0879	0.0930	0.0296	0.2050	0.1026	0.2374	0.4207	1.0000				
F3D53G	0.0322	-0.0196	0.0102	0.0554	0.0582	0.0210	0.1612	0.0740	0.1063	0.2192	0.5771	1.0000			
F3D53H	0.0293	0.0226	0.1174	0.1094	0.1058	0.0490	0.1083	0.1110	0.6442	0.2309	0.2491	0.1577	1.0000		
F3D53J	0.1069	0.0722	0.0764	0.1791	0.1788	0.0264	0.1560	0.0550	0.1131	0.1684	0.3005	0.3380	0.1071	1.0000	
F3D53K	-0.0188	-0.0374	0.0414	0.0885	0.0866	-0.0009	0.1603	0.0674	0.1997	0.2210	0.3781	0.3850	0.2069	0.5557	1.0000

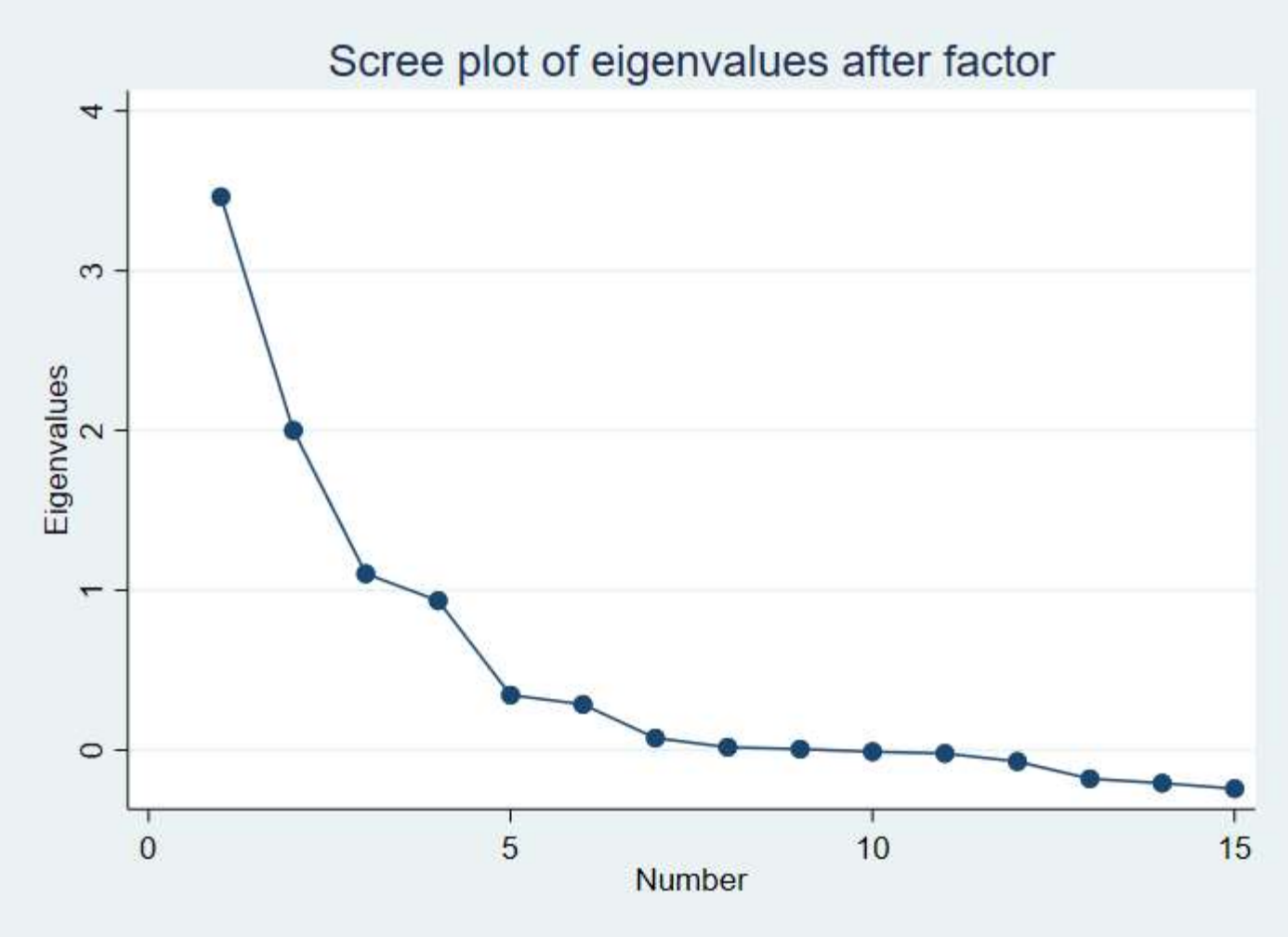

Figure C.1
Scree Plot of Eigenvalues for EFA

APPENDIX D

Table D.1

Propensity Scores Based on Covariates in Model

Outcome	Level of Treatment	Educational Attainment Treatment Effect	SD	Demographics Treatment Effect	SD	Academic Achievement Treatment Effect	SD
Benefits of Job/Career	High School	0.047	0.040	0.035	0.045	0.036	0.047
	Up to 60 Credit Hours	-0.202***	0.051	-0.190**	0.055	-0.195***	0.057
	More than 60 Credit Hours	-0.256***	0.055	-0.244**	0.060	-0.258***	0.074
	Associate's Degree/Undergraduate Certificate	0.022	0.048	0.032	0.053	0.033	0.056
	Bachelor's Degree	0.045	0.044	0.057	0.050	0.125	0.096
Work-Life Balance	High School	0.086*	0.041	0.107*	0.044	0.102*	0.046
	Up to 60 Credit Hours	-0.192***	0.052	-0.212***	0.054	-0.216***	0.057
	More than 60 Credit Hours	-0.157**	0.055	-0.187**	0.059	-0.167*	0.073
	Associate's Degree/Undergraduate Certificate	-0.027	0.050	-0.059	0.053	-0.051	0.056
	Bachelor's Degree	-0.066	0.045	-0.085	0.050	0.051	0.120
Social and Educational Values	High School	-0.133***	0.041	-0.104*	0.044	-0.108*	0.048
	Up to 60 Credit Hours	0.062	0.049	0.033	0.050	0.023	0.055
	More than 60 Credit Hours	0.163**	0.052	0.141**	0.054	0.205***	0.061
	Associate's Degree/Undergraduate Certificate	0.164***	0.048	0.131**	0.050	0.144**	0.055
	Bachelor's Degree	0.171***	0.044	0.171***	0.048	0.266***	0.074
Marriage and Children	High School	-0.073	0.049	-0.069	0.054	-0.056	0.062
	Up to 60 Credit Hours	0.023	0.060	0.019	0.064	0.011	0.071
	More than 60 Credit Hours	0.000	0.065	-0.003	0.071	-0.028	0.087
	Associate's Degree/Undergraduate Certificate	0.072	0.057	0.044	0.063	0.024	0.071
	Bachelor's Degree	0.139**	0.053	0.108+	0.060	-0.150	0.208
Voting Behavior	High School	1.651***	0.038	1.649***	0.038	1.638***	0.041
	Up to 60 Credit Hours	0.248***	0.046	0.250***	0.047	0.256***	0.050
	More than 60 Credit Hours	0.424***	0.050	0.444***	0.051	0.419***	0.062
	Associate's Degree/Undergraduate Certificate	0.331***	0.045	0.324***	0.046	0.326***	0.050
	Bachelor's Degree	0.532***	0.042	0.542***	0.043	0.471***	0.078
Volunteering Behavior	High School	1.418***	0.034	1.441***	0.038	1.439***	0.042
	Up to 60 Credit Hours	0.084*	0.042	0.061	0.045	0.057	0.049
	More than 60 Credit Hours	0.234***	0.047	0.220***	0.051	0.149*	0.061
	Associate's Degree/Undergraduate Certificate	0.108**	0.041	0.083+	0.045	0.059	0.049
	Bachelor's Degree	0.366***	0.038	0.349***	0.043	0.271*	0.108

Table D.1 continues onto second page with the fourth and fifth columns, representing the fourth and fifth iterations of variables used

Table D.1 Continued
Propensity Scores Based on Covariates in Model (Continued)

Outcome	Level of Treatment	Parent Characteristics		Educational Expectations	
		Treatment Effect	SD	Treatment Effect	SD
Benefits of Job/Career	High School	0.028	0.051	-0.020	0.064
	Up to 60 Credit Hours	-0.187**	0.060	-0.139+	0.072
	More than 60 Credit Hours	-0.243**	0.080	-0.129	0.090
	Associate's Degree/Undergraduate Certificate	0.041	0.059	0.093	0.071
	Bachelor's Degree	0.149	0.128	0.166	0.200
Work-Life Balance	High School	0.106*	0.048	0.059	0.057
	Up to 60 Credit Hours	-0.220***	0.058	-0.173**	0.066
	More than 60 Credit Hours	-0.152*	0.077	-0.061	0.088
	Associate's Degree/Undergraduate Certificate	-0.053	0.057	0.000	0.065
	Bachelor's Degree	0.146	0.158	0.222	0.224
Social and Educational Values	High School	-0.114*	0.049	-0.074	0.051
	Up to 60 Credit Hours	0.029	0.056	-0.011	0.057
	More than 60 Credit Hours	0.213***	0.064	0.173*	0.068
	Associate's Degree/Undergraduate Certificate	0.151**	0.056	0.119*	0.058
	Bachelor's Degree	0.323**	0.113	0.277*	0.136
Marriage and Children	High School	-0.079	0.067	-0.055	0.067
	Up to 60 Credit Hours	0.034	0.076	0.011	0.076
	More than 60 Credit Hours	-0.015	0.094	0.001	0.094
	Associate's Degree/Undergraduate Certificate	0.048	0.076	0.020	0.076
	Bachelor's Degree	-0.137	0.276	-0.305	0.389
Voting Behavior	High School	1.667***	0.045	1.717***	0.055
	Up to 60 Credit Hours	0.227***	0.053	0.177**	0.061
	More than 60 Credit Hours	0.360***	0.069	0.308***	0.078
	Associate's Degree/Undergraduate Certificate	0.295***	0.053	0.251***	0.061
	Bachelor's Degree	0.359**	0.117	0.251+	0.139
Volunteering Behavior	High School	1.442***	0.044	1.514***	0.052
	Up to 60 Credit Hours	0.054	0.051	-0.018	0.058
	More than 60 Credit Hours	0.131*	0.066	0.049	0.075
	Associate's Degree/Undergraduate Certificate	0.056	0.051	-0.009	0.059
	Bachelor's Degree	0.181	0.141	0.003	0.173

Note: Each column of covariates contains the covariates from the previous column
+ p<.10, * p<.05, ** p<.01, *** p<.001

APPENDIX E

Table E.1

Balancing Scores for Factors 1-4 (N≈8,230)

	Standardized Differences	
Variables	Raw	Weighted
Up to 60 Credit Hours		
Male	-0.260	-0.007
Black/African American	0.114	0.012
Asian or Hawaiian/Pacific Islander	0.117	0.059
Hispanic	0.054	0.013
Other Race	-0.059	-0.030
GPA for All High School Courses	0.319	0.123
Age	-0.206	-0.030
Senior Year High School SES	0.352	0.087
Parent Education: Some College	-0.025	-0.030
Parent Education: Associate's Degree	0.060	-0.011
Parent Education: Bachelor's Degree	0.184	-0.008
Parent Education: Graduate or Professional Degree	0.185	0.068
Student Education Expectations: High School	-0.473	-0.014
Student Education Expectations: Associate's	-0.173	-0.040
Student Education Expectations: Bachelor's	0.406	-0.003

Student Education Expectations: Beyond Bachelor's	0.358	0.048
Parent Education Expectations: High School	-0.471	-0.028
Parent Education Expectations: Associate's	-0.265	-0.017
Parent Education Expectations: Bachelor's	0.170	0.037
Parent Education Expectations: Beyond Bachelor's	0.276	0.002
<u>More than 60 Credit Hours</u>		
Male	-0.290	-0.023
Black/African American	0.043	-0.004
Asian or Hawaiian/Pacific Islander	0.316	0.035
Hispanic	-0.099	0.009
Other Race	-0.138	-0.026
GPA for All High School Courses	1.066	-0.009
Age	-0.393	-0.032
Senior Year High School SES	0.802	0.047
Parent Education: Some College	-0.138	0.014
Parent Education: Associate's Degree	-0.059	0.053
Parent Education: Bachelor's Degree	0.421	-0.005
Parent Education: Graduate or Professional Degree	0.465	0.004
Student Education Expectations: High School	-0.611	-0.017
Student Education Expectations: Associate's	-0.549	0.065
Student Education Expectations: Bachelor's	0.414	-0.011
Student Education Expectations: Beyond Bachelor's	0.867	-0.025
Parent Education Expectations: High School	-0.604	0.040

Parent Education Expectations: Associate's	-0.477	-0.018
Parent Education Expectations: Bachelor's	0.176	0.047
Parent Education Expectations: Beyond Bachelor's	0.578	-0.068
Associate's Degree/Undergraduate Certificate		
Male	-0.477	0.000
Black/African American	0.068	0.019
Asian or Hawaiian/Pacific Islander	0.144	0.052
Hispanic	-0.019	0.021
Other Race	-0.102	-0.024
GPA for All High School Courses	0.686	0.110
Age	-0.262	-0.016
Senior Year High School SES	0.417	0.087
Parent Education: Some College	-0.046	-0.017
Parent Education: Associate's Degree	0.056	-0.026
Parent Education: Bachelor's Degree	0.207	-0.011
Parent Education: Graduate or Professional Degree	0.209	0.069
Student Education Expectations: High School	-0.520	-0.003
Student Education Expectations: Associate's	-0.098	-0.056
Student Education Expectations: Bachelor's	0.354	-0.011
Student Education Expectations: Beyond Bachelor's	0.430	0.052
Parent Education Expectations: High School	-0.474	-0.031
Parent Education Expectations: Associate's	-0.256	-0.032
Parent Education Expectations: Bachelor's	0.196	0.036

Parent Education Expectations: Beyond Bachelor's	0.248	0.021
Bachelor's Degree		
Male	-0.352	-0.293
Black/African American	-0.139	0.545
Asian or Hawaiian/Pacific Islander	0.311	-0.010
Hispanic	-0.233	-0.126
Other Race	-0.161	-0.137
GPA for All High School Courses	1.762	-0.592
Age	-0.455	0.476
Senior Year High School SES	1.217	-0.379
Parent Education: Some College	-0.258	0.233
Parent Education: Associate's Degree	-0.121	-0.118
Parent Education: Bachelor's Degree	0.477	-0.212
Parent Education: Graduate or Professional Degree	0.681	-0.093
Student Education Expectations: High School	-0.677	0.549
Student Education Expectations: Associate's	-0.754	-0.044
Student Education Expectations: Bachelor's	0.431	-0.308
Student Education Expectations: Beyond Bachelor's	1.079	-0.190
Parent Education Expectations: High School	-0.678	-0.073
Parent Education Expectations: Associate's	-0.654	0.214
Parent Education Expectations: Bachelor's	0.246	-0.270
Parent Education Expectations: Beyond Bachelor's	0.696	-0.092

Note. All listed scores are in comparison to the control treatment group: No College

Table E.2

Balancing Scores for Voting Behavior (N≈8,220)

	Standardized Differences	
Variables	Raw	Weighted
Up to 60 Credit Hours		
Male	-0.260	-0.007
Black/African American	0.112	0.013
Asian or Hawaiian/Pacific Islander	0.117	0.059
Hispanic	0.057	0.012
Other Race	-0.062	-0.029
GPA for All High School Courses	0.318	0.121
Age	-0.209	-0.028
Senior Year High School SES	0.354	0.085
Parent Education: Some College	-0.028	-0.028
Parent Education: Associate's Degree	0.059	-0.010
Parent Education: Bachelor's Degree	0.190	-0.013
Parent Education: Graduate or Professional Degree	0.185	0.069
Student Education Expectations: High School	-0.468	-0.011
Student Education Expectations: Associate's	-0.174	-0.039
Student Education Expectations: Bachelor's	0.403	-0.001
Student Education Expectations: Beyond Bachelor's	0.361	0.044
Parent Education Expectations: High School	-0.469	-0.025
Parent Education Expectations: Associate's	-0.267	-0.017
Parent Education Expectations: Bachelor's	0.167	0.039

Parent Education Expectations: Beyond Bachelor's	0.274	0.002
<u>More than 60 Credit Hours</u>		
Male	-0.290	-0.023
Black/African American	0.041	-0.004
Asian or Hawaiian/Pacific Islander	0.315	0.035
Hispanic	-0.097	0.009
Other Race	-0.139	-0.025
GPA for All High School Courses	1.065	-0.010
Age	-0.395	-0.030
Senior Year High School SES	0.803	0.046
Parent Education: Some College	-0.141	0.016
Parent Education: Associate's Degree	-0.061	0.054
Parent Education: Bachelor's Degree	0.428	-0.009
Parent Education: Graduate or Professional Degree	0.464	0.005
Student Education Expectations: High School	-0.606	-0.015
Student Education Expectations: Associate's	-0.551	0.065
Student Education Expectations: Bachelor's	0.412	-0.009
Student Education Expectations: Beyond Bachelor's	0.871	-0.029
Parent Education Expectations: High School	-0.603	0.041
Parent Education Expectations: Associate's	-0.479	-0.017
Parent Education Expectations: Bachelor's	0.173	0.050
Parent Education Expectations: Beyond Bachelor's	0.577	-0.068

Associate's Degree/Undergraduate Certificate		
Male	-0.475	0.000
Black/African American	0.066	0.020
Asian or Hawaiian/Pacific Islander	0.144	0.051
Hispanic	-0.016	0.020
Other Race	-0.105	-0.023
GPA for All High School Courses	0.684	0.108
Age	-0.264	-0.014
Senior Year High School SES	0.417	0.085
Parent Education: Some College	-0.051	-0.015
Parent Education: Associate’s Degree	0.054	-0.024
Parent Education: Bachelor’s Degree	0.214	-0.017
Parent Education: Graduate or Professional Degree	0.209	0.070
Student Education Expectations: High School	-0.515	0.000
Student Education Expectations: Associate’s	-0.102	-0.056
Student Education Expectations: Bachelor’s	0.353	-0.009
Student Education Expectations: Beyond Bachelor’s	0.434	0.048
Parent Education Expectations: High School	-0.472	-0.029
Parent Education Expectations: Associate’s	-0.257	-0.032
Parent Education Expectations: Bachelor’s	0.192	0.039
Parent Education Expectations: Beyond Bachelor’s	0.245	0.020

Bachelor's Degree		
Male	-0.351	-0.291
Black/African American	-0.141	0.541
Asian or Hawaiian/Pacific Islander	0.309	-0.009
Hispanic	-0.230	-0.125
Other Race	-0.163	-0.133
GPA for All High School Courses	1.760	-0.587
Age	-0.456	0.474
Senior Year High School SES	1.218	-0.378
Parent Education: Some College	-0.260	0.230
Parent Education: Associate's Degree	-0.122	-0.116
Parent Education: Bachelor's Degree	0.484	-0.214
Parent Education: Graduate or Professional Degree	0.680	-0.091
Student Education Expectations: High School	-0.673	0.546
Student Education Expectations: Associate's	-0.756	-0.042
Student Education Expectations: Bachelor's	0.430	-0.304
Student Education Expectations: Beyond Bachelor's	1.082	-0.192
Parent Education Expectations: High School	-0.677	-0.072
Parent Education Expectations: Associate's	-0.656	0.215
Parent Education Expectations: Bachelor's	0.243	-0.266
Parent Education Expectations: Beyond Bachelor's	0.696	-0.091

Note. All listed scores are in comparison to the control treatment group: No College

Table E.3

Balancing Scores for Volunteering Behavior (N≈8,210)

	Standardized Differences	
Variables	Raw	Weighted
Up to 60 Credit Hours		
Male	-0.259	-0.004
Black/African American	0.113	0.011
Asian or Hawaiian/Pacific Islander	0.122	0.068
Hispanic	0.054	0.013
Other Race	-0.059	-0.031
GPA for All High School Courses	0.319	0.124
Age	-0.204	-0.027
Senior Year High School SES	0.353	0.088
Parent Education: Some College	-0.025	-0.031
Parent Education: Associate's Degree	0.058	-0.011
Parent Education: Bachelor's Degree	0.184	-0.009
Parent Education: Graduate or Professional Degree	0.189	0.074
Student Education Expectations: High School	-0.474	-0.015
Student Education Expectations: Associate's	-0.173	-0.041
Student Education Expectations: Bachelor's	0.409	0.001
Student Education Expectations: Beyond Bachelor's	0.357	0.047
Parent Education Expectations: High School	-0.471	-0.028
Parent Education Expectations: Associate's	-0.266	-0.019
Parent Education Expectations: Bachelor's	0.171	0.040

Parent Education Expectations: Beyond Bachelor's	0.275	0.002
<u>More than 60 Credit Hours</u>		
Male	-0.291	-0.021
Black/African American	0.040	-0.003
Asian or Hawaiian/Pacific Islander	0.323	0.043
Hispanic	-0.099	0.010
Other Race	-0.138	-0.028
GPA for All High School Courses	1.070	-0.010
Age	-0.391	-0.027
Senior Year High School SES	0.808	0.048
Parent Education: Some College	-0.140	0.014
Parent Education: Associate's Degree	-0.059	0.053
Parent Education: Bachelor's Degree	0.422	-0.006
Parent Education: Graduate or Professional Degree	0.471	0.009
Student Education Expectations: High School	-0.611	-0.017
Student Education Expectations: Associate's	-0.549	0.066
Student Education Expectations: Bachelor's	0.416	-0.010
Student Education Expectations: Beyond Bachelor's	0.867	-0.027
Parent Education Expectations: High School	-0.605	0.039
Parent Education Expectations: Associate's	-0.477	-0.018
Parent Education Expectations: Bachelor's	0.180	0.051
Parent Education Expectations: Beyond Bachelor's	0.575	-0.074

Associate's Degree/Undergraduate Certificate		
Male	-0.477	0.003
Black/African American	0.068	0.018
Asian or Hawaiian/Pacific Islander	0.151	0.060
Hispanic	-0.018	0.021
Other Race	-0.102	-0.025
GPA for All High School Courses	0.686	0.111
Age	-0.261	-0.013
Senior Year High School SES	0.417	0.087
Parent Education: Some College	-0.047	-0.018
Parent Education: Associate’s Degree	0.055	-0.026
Parent Education: Bachelor’s Degree	0.206	-0.012
Parent Education: Graduate or Professional Degree	0.216	0.075
Student Education Expectations: High School	-0.520	-0.003
Student Education Expectations: Associate’s	-0.099	-0.058
Student Education Expectations: Bachelor’s	0.357	-0.008
Student Education Expectations: Beyond Bachelor’s	0.429	0.052
Parent Education Expectations: High School	-0.474	-0.031
Parent Education Expectations: Associate’s	-0.255	-0.033
Parent Education Expectations: Bachelor’s	0.196	0.038
Parent Education Expectations: Beyond Bachelor’s	0.248	0.021
Bachelor's Degree		
Male	-0.351	-0.292

Black/African American	-0.142	0.548
Asian or Hawaiian/Pacific Islander	0.318	-0.004
Hispanic	-0.233	-0.127
Other Race	-0.161	-0.140
GPA for All High School Courses	1.762	-0.595
Age	-0.455	0.481
Senior Year High School SES	1.218	-0.382
Parent Education: Some College	-0.258	0.232
Parent Education: Associate's Degree	-0.121	-0.120
Parent Education: Bachelor's Degree	0.477	-0.214
Parent Education: Graduate or Professional Degree	0.685	-0.089
Student Education Expectations: High School	-0.678	0.551
Student Education Expectations: Associate's	-0.754	-0.048
Student Education Expectations: Bachelor's	0.434	-0.306
Student Education Expectations: Beyond Bachelor's	1.079	-0.193
Parent Education Expectations: High School	-0.679	-0.075
Parent Education Expectations: Associate's	-0.654	0.214
Parent Education Expectations: Bachelor's	0.249	-0.270
Parent Education Expectations: Beyond Bachelor's	0.694	-0.092

Note. All listed scores are in comparison to the control treatment group: No College